Supporting Information

Appendix S1

Expanded Materials and Methods

Appendix S1.A. Local Sites. We obtained data on the local species composition of 123 sites throughout the range of Hylidae (Tables S1–S3). Our major source of data was published studies of the amphibian faunas of local sites. We focused on well-studied site, typically of several km^2 in size, that represent a single biome or habitat (e.g. tropical lowland rainforest), but include multiple microhabitats (e.g. forest, stream edge, pond). We generally excluded sites spanning multiple biomes, and from poorly known regions in which the observed hylid richness was much lower than for other sites in the same region (possibly reflecting poor sampling or human impacts). In some cases, we also included species lists from national parks or reserves, particularly for regions where we could corroborate these lists with published range maps (e.g. U.S., Australia). For some areas having few obvious sites, we picked localities where large numbers of hylid species have been collected, based on literature or museum records. For areas with very low hylid diversity (e.g., Europe, Asia, Western North America), we used museum records.

For most analyses, we used a single, well-studied locality to represent each major biogeographic region (Table 1), in order to reduce potential problems of uneven numbers of sites among biogeographic regions, spatial autocorrelation, and inadequately surveyed sites. For a given region, we used the site with the maximum local diversity of hylids within that region. Although this could lead to our analysis being influenced by outliers, we found that for each region, the site with the second highest diversity generally has diversity very similar to that of the site with the highest diversity (e.g. the maximum diversity for the Amazon region is 36 at Santa Cecilia, Ecuador, but Cocha Cashu, Manu National Park, Peru has 35; Table S1). For regions in which there are >1 sites with the same maximum diversity, we either used the more well studied site or one that was centrally located within the region. We then confirmed that these focal sites did not show spatial autocorrelation in species richness (Appendix S1.B). We also conducted some analyses using sites representing the mean richness for each region (see Appendix S1.L).

We considered 12 major biogeographic regions. Six correspond to major large-scale regions where hylids occur, exclusive of South America (North America [north of Mexico], Middle America [Mexico to Panama], the West Indies, Europe [including north Africa and the Middle East], Asia, Australia). We divided South America into six regions (Amazon, Andes, Atlantic rainforest, Cerrado, Chocó, and Guyana highlands) based on the standard domains used by Duellman (1999; see his Fig. 5:3) and previous authors, but with the following modifications: (i) regions without hylids were excluded, (ii) the Caribbean Coastal Forest and Llanos regions were included within the Amazonia-Guyana region (Amazonia hereafter), as they have relatively few endemic hylid species and have hylid faunas very similar to the Amazon region, (iii) the Guyanan highlands were treated as separate from Amazonia, given their many endemic hylid species and genera, and (iv) the four contiguous grassland regions in southern South America were combined (Cerrado, Chaco, Monte, Pampas; referred to as Cerrado hereafter for brevity), given that only a limited number of regions can be used in likelihood analysis of ancestral areas (see Appendix S1.E). We also performed a limited set of analyses in which some of these regions were subdivided (Appendix S1.M), and confirmed that our main results were not overturned by doing so. The number of regions was somewhat limited due to the limitations of our method for biogeographic reconstruction (see below). Nevertheless, the regions used seem to correspond to major areas of endemicity for hylids and other amphibian species (e.g. Duellman 1999).

We acknowledge that there is considerable debate about what constitutes a community (e.g. Ricklefs 2008; Brooker *et al.* 2009). Here we use "community" simply as the assemblage of species occurring at a given local site. Given the size and dispersal ability of hylids and the general scale of sites, all hylid species should have the potential to interact within these sites. For example, a single species may occur in more than one habitat (e.g., both pond and forest), and a single individual may occur in multiple habitats over the course of a single day. However, species within a site may partition microhabitats and resources in such a way that they may or may not actually interact or compete (e.g., sets of species utilizing ponds vs. streams as breeding sites). Our definition of most sites follows from previous studies of amphibians (e.g. Duellman 1978, 1988, 2001, 2005; Moen *et al.* 2009) and our goal is to understand variation in richness between sites at this general spatial scale.

We determined the latitude and longitude of each locality from the original literature sources (Table S2). Prior to analysis, we confirmed that the elevation for each site (and associated climatic data) was broadly consistent with values reported in the literature (when available) for that locality. For a few larger sites that are not as clearly defined (e.g., larger national parks), we selected a given point within that larger site for georeferencing, based on additional locality information and/or by choosing sites within the known elevational ranges of the relevant species. However, these localities were not used to represent any regions in the main analyses of the paper.

For some sites, the exact spatial extent was not clearly defined by the original authors. However, we found that for almost all regions, the maximum local richness is similar across multiple sites, regardless of their area. This strongly suggests that patterns of local richness among regions are not simply the result of differences in area of local sites.

Appendix S1.B. Spatial Autocorrelation of Sites. We conducted analyses using SAM (Spatial Analysis in Macroecology; Rangel *et al.* 2010) to test whether species richness values of the 12 focal sites are potentially similar due to geographic proximity alone. We used Moran's I test, including 1,000 randomized replicates to generate a 95% confidence interval and then evaluated whether observed values of I were more positive or negative than expected (and whether they fell outside the 95% confidence interval). We used a geographic coordinate matrix with six distance classes and with all options set to defaults for SAM. The results showed no significant spatial autocorrelation in species richness among sites ($P > 0.312$ for all six classes, all values outside the 95% confidence interval). Results were generally similar for the potential correlates of species richness including climatic variables and summed clade ages (described below).

Appendix S1.C. Selection of Climatic Variables. We initially chose to use annual mean temperature (Bio1) and annual precipitation (Bio12) as two obvious and intuitive descriptors of climate. These two variables also showed significant relationships with local species richness, when all 123 sites are considered (see Results). Other variables, such as temperature seasonality (Bio4) and precipitation seasonality (Bio15) showed substantially weaker relationships with local richness than Bio1 and Bio12 (Bio4: $r^2 = 0.194$; $P < 0.0001$; Bio15: $r^2 = 0.031$; $P = 0.0525$).

We also conducted principal components analysis (PCA) of all 19 climatic variables simultaneously, using data from all 123 local sites. PCA was conducted with JMP version 7. We found that PC1 explained 47.3% of the climatic variation among sites, and was significantly correlated with local species richness (see Results). PCs 2–4 explained 20.6, 10.8, and 8.9% of the remaining variance, and showed only weak relationships with local richness (PC2: $r^2 = 0.004$; $P = 0.475$; PC3: $r^2 = 0.051$; $P = 0.012$; PC4: $r^2 = 0.006$; $P = 0.408$). These PCs were not considered further. Eigenvectors for PC1 (Table S10) indicate that sites with high values for PC1 have relatively high annual mean temperatures (Bio1), warm temperatures in their coldest (Bio6, Bio11) and driest (Bio9) periods, limited temperature seasonality and annual range (Bio4, Bio7) and high isothermality (Bio3), and high annual precipitation (Bio12). Localities with the highest values for PC1 typically correspond to wet, lowland, tropical rainforest sites.

Appendix S1.D. Divergence-Time Estimation. We performed Bayesian divergence time estimation using BEAST version 1.4.7 (Drummond & Rambaut 2007). In order to avoid repeating the time-intensive search for the best topology, we used the estimated maximum likelihood tree (Wiens *et al.* 2010a) as a constraint in the dating analyses. We used separate partitions within and between genes, and utilized the GTR + I + Γ model (generalized time reversible with parameters for invariant sites and gamma distribution of rates for variable sites) for each partition (based on Wiens et al. 2010a). Divergence times were estimated under the uncorrelated relaxed-clock tree model (Drummond et al. 2006) with a Yule process speciation prior and Jeffrey's priors on the substitution model parameters. Lognormal date priors were placed on the root of the tree, with a broad prior distribution (lognormal standard deviation of 0.25) to allow for the possibility of substantial rate variance.

We used the following 10 fossil calibration points in estimating dates on the chronogram, including five in the ingroup and five among the outgroups. (i) Crown-group age of clade consisting of pipoids, pelobatoids, and neobatrachians is at least 144 Myo (Million years old), given the fossil taxon *Rhadinosteus parvus* (ostensibly a rhinophrynid, but clearly a pipoid) from the Late Jurassic (Tithonian; Rocek 2000). (ii) Crown-group age of *Caudiverbera* (= *Calyptocephalella*) and Myobatrachidae, at least 61.0 Myo, given fossil *Caudiverbera* (= *Calyptocephalella*) from the Early Paleocene (Baez 2000). (iii) Crown-group age of Bufonidae at least 23.8 Myo, given fossil *Bufo* from the Early Miocene (Rocek & Rage 2000), and that *Bufo* is nested inside of Bufonidae. (iv) Crown-group age of Ranidae + Microhylidae (*Rana catesbiana* and *Gastrophryne carolinensis*) at least 33.7 Myo, given fossil *Rana* from the Late Eocene (Rocek & Rage 2000). (v) Stem-group age of Eleutherodactylidae, at least 35 Myo, given an amber-preserved specimen of *Eleutherodactylus* (sensu lato) from the La Toca formation in the Dominican Republic, with an estimated age from 35–40 Myo (Poinar & Cannatella 1987). (vi) Crown-group age of clade of Pelodryadinae + Phyllomedusinae within Hylidae, at least 28 Myo, given that the last terrestrial connection between Australia and South America was sundered at least 28 Myo (Sanmartin & Ronquist 2004). (vii) Crown-group age of *Acris-Pseudacris* clade, at least 15 Myo; Holman (2003) suggested that the extinct fossil taxon *Acris barbouri* is likely the sister group to extant *Acris* species and is at least 15 Myo (end of Miocene Hemingfordian North American Land Mammal Age; NALMA). Thus, the split between *Acris* and *Pseudacris* is at least 15 Myo. Various *Pseudacris* fossils are known from the middle Miocene Barstovian of North America (~12–15 Myo; Holman 2003), but given that these fossils cannot be assigned confidently to clades within *Pseudacris* we did not use this information (and given that the *Acris* fossils already show the *Acris-Pseudacris* clade to be at least 15 Myo). (viii) Crown-group age of Asian and European *Hyla* clade, at least 16 Myo; given fossil *Hyla* similar to extant *H. arborea* and *H. meridionalis* in the Lower Miocene of Austria (~16 Myo; Sanchiz 1998). We assume that these *Hyla* are closely related to *Hyla* presently extant in Europe. However, we cannot assume that these fossils are younger than the crown-group age of the extant European species. We assume instead that the crown group of the clade of European and Asian *Hyla* is at least 16 Myo based on these European fossils. (ix) Crown-group age of *H. squirella-H. gratiosa-H. cinerea* clade, at least 15 Myo; *H. goini* is a fossil species from Miocene Hemingfordian NALMA (15–19 Myo) thought to be closely related to, if not actually conspecific with, extant *H. squirella* (Holman 2003). *Hyla miofloridana* (Miocene, Hemingfordian NALMA; 15–19 Myo) is similar to *H. gratiosa* (Holman 2003). In our phylogeny, *H. cinerea, H. gratiosa,* and *H. squirella* form a clade. Thus, we assume that the crown group age of this clade is at least 15 Myo. (x) Stem-group age of *H. avivoca-H. chrysocelis-H. versicolor* clade; *H. miocenica* is thought to be closely related to *H. chrysocelis* and *H. versicolor* and occurs in the early Miocene Barstovian (14–16 Myo; Holman 2003). In our phylogeny *H. avivoca*, *H. chrysocelis*, and *H. versicolor* form a clade. We assume that the stem group age of these three species is at least 14 Myo.

We also considered three possible root ages for the tree, where the root consists of the crown group including Pipoidea + Pelobatoidea + Neobatrachia. Roelants et al. (2007) estimated this clade to be ~230 Myo, using MultiDivTime (Thorne & Kishino 2002). Wiens (2007) estimated ages of 155.3, 183.0, and 221.43 Myo for the equivalent clade using penalized likelihood analysis with r8s (Sanderson 2003), depending on the root age of the tree. In the present analyses, three root ages for the tree were used: the youngest of these dates (155.3 Myo), the oldest (~230 Myo) and a date that is intermediate between these two (192.65 Myo). However, given that these three root ages gave similar clade ages within Hylidae, all analyses were based on the intermediate age (192.65 Myo).

Appendix S1.E. Biogeographic Reconstructions. The timing and pattern of colonization of each region was estimated using LAGRANGE (Ree & Smith 2008). Current versions of LAGRANGE allow fewer regions (~8) than the number of interest here (~12). We therefore performed two analyses. In the first analysis, South America was treated as a single area, and the six other regions were each treated as separate areas (results in Appendix S2.A). In the second (Appendix S2.B), South America was divided up into the six regions described above, and only two regions outside of South America were used (Australia; Northern Hemisphere regions [Middle America, West Indies, North America, Europe, and Asia]). We combined the results of these two analyses to infer biogeographic patterns both in South America and in other areas. This combination was straightforward, as >90% of all species outside of South America are clearly the result of only two colonization events: the colonization of Australia by Pelodryadinae and the colonization of Middle America, North America, Europe, and Asia by Hylini (Wiens *et al.* 2006).

Species were assigned to regions based on range maps and descriptions of distributions in the database of the Global Amphibian Assessment (www.globalamphibians.org). Several species had ranges extending into two or more areas, but such multi-state taxa are easily incorporated in LAGRANGE. The division between some areas was necessarily arbitrary. For example, species were considered as occurring in the Andes if their ranges extended to >1000 m in elevation (given our observation that many endemic Andean species occur at >1,000 m), but many species had ranges that extended both above and below 1,000 m. Similarly, the distinction between the Atlantic forest and Cerrado regions in southern Brazil is not always clear. We assigned species to these two regions based partly on range maps, but also depending on descriptions of habitat (i.e. forest species assigned to Atlantic forest, grassland species to Cerrado).

For analyses using LAGRANGE, we created a matrix of geographically adjacent regions, such that direct dispersal between non-adjacent regions was not allowed. For example, transitions from Middle America to Europe or Asia must pass through North America. For transitions to Australia, we assumed that these occurred through South America, but we considered direct dispersal from any region in South America to be theoretically possible, excluding the landlocked Andes mountains and Guyanan highlands. Although the Amazon rainforest and Atlantic forest are presently not adjacent (but only barely), we nevertheless allowed dispersal between these two regions of rainforest habitat. We did not place restrictions on the temporal pattern of dispersal between regions.

For many branches, LAGRANGE estimated more than one region or combination of regions as being possible (i.e. within two log-likelihood units of the optimal solution). For a given branch, we considered a given region to be unambiguously reconstructed if all the possible reconstructions included this region, either alone or in combination with other regions.

Appendix S1.F. Biogeography and Local Richness. We combined the biogeographic reconstructions with divergence-time estimates to determine to what extent the time that hylids have been present in each region determines their patterns of local diversity (i.e., the time-for-speciation effect; review in Stephens & Wiens 2003). We used two main approaches to quantify the timing of colonization of hylids in each region. Both have their own advantages and disadvantages, but both showed a significant relationship between the local richness of each region and time. Most localities within a region should share similar values for these temporal indices (especially given that our biogeographic reconstruction methods are based on these same regions). Therefore, we only included the most diverse locality within each region for these analyses (but see Appendix S1.L)

First, we tested the relationship between the local richness of hylids in each region and how long hylids have been present in each region, based on the oldest reconstructed occurrence of hylids in each region (the oldest clade unambiguously reconstructed as present in that region). In some ways, this approach is the most conservative. However, this approach effectively assumes that only the first colonization of each region is relevant to explaining hylid species richness there, and the possible impact of multiple colonizations of the region is ignored.

Second, to better account for the impact of multiple colonizations of a given region by different clades at different points of time on richness, we tested the relationship between local richness and how long each clade has been present in each region, summed across clades. For this analysis, we determined the oldest occurrence of each clade in each region, and then summed these values across clades to estimate the overall time that hylids have been present in each region. One might be tempted to suggest that these colonization times should be averaged across clades rather than summed. However, doing so effectively eliminates the very information on colonizations by multiple clades that this approach was designed to incorporate. Furthermore, the number of clades alone is not the sole determinant of local richness, as their timing in each region is important as well. We found that local richness is uncorrelated with the number of clades (r^2 = 0.232; P = 0.113) and mean clade age also shows a significant relationship with local richness (r^2 = 0.416; P = 0.024). There is a significant relationship between summed clade ages and number of clades in a region (r^2 = 0.389; P = 0.030), but this significant relationship disappears when the two regions with single species (Asia, Europe) are eliminated (r^2 = 0.268; P = 0.125), and the strong relationship between summed clade ages and richness remains (r^2 = 0.643; P = 0.005). Thus, consideration of summed clade ages offers valuable information that is potentially independent of the number of clades alone (although this approach is useful specifically because it incorporates information from multiple clades). We note that this approach does not, however, incorporate colonization events that are older than the origins of the major clades used.

As a potential third approach we estimated the total amount of time that hylids have been present in each region, based on the summed lengths of the terminal and internal branches reconstructed unambiguously as occurring in that region across all clades. However, this approach is potentially influenced by both the total number of species in each region and by the number of species sampled in each region. Therefore, we do not emphasize this approach here, but we note that it gives similar results to the other two approaches, especially the summed clade ages (first colonization: r^2 = 0.454; P = 0.0162; summed clade ages: r^2 = 0.705; P = 0.0006; total time: r^2 = 0.648; P = 0.0016)

The second approach required dividing hylids into major clades. We used the following clades: (i) subfamily Pelodryadinae, (ii) the subfamily Phyllomedusinae, (iii) the tribe Cophomantini, (iv) the *Dendropsophus* clade (*Dendropsophus* and *Xenohyla*), (v) the *Scinax* clade (*Scinax* and *Sphaenorhynchus*), (vi) the *Pseudis* clade (*Scarthyla, Pseudis, Lysapsus*, and *Podonectes*), (vii) the tribe Lophiohylini, and (viii) the tribe Hylini. Each of these clades is supported as monophyletic (Wiens *et al.* 2010a) and the species composition of each is relatively unambiguous. Together, these eight clades include all known hylid species. Admittedly, there are many ways that hylids could be divided into clades, but this set of clades is the most practical for several reasons. For example, the Pelodryadinae and Hylini occur primarily in Australia and Middle America, respectively, and are logical units.

One important limitation of these analyses is that they may be influenced by the ambiguity of the biogeographic reconstructions. For example, the Cerrado and Atlantic rainforest regions appear to have been colonized relatively recently, but this may reflect the ambiguity at many nodes because of the frequent dispersals between these two regions and between these regions and Amazonia.

Appendix S1.G. Climate and Diversification Rates. A relationship between climate and local richness may be explained by higher rates of diversification in the more species-rich climatic conditions. We estimated the diversification rate for each genus given the total number of described species (Amphibiaweb; http://amphibiaweb.org/) and estimated age (from our chronogram). We used stem-group ages (which are similar to crown-group ages but can be accurately estimated with fewer species), and the method-of-moments estimator of diversification rates (Magallón & Sanderson 2001). This estimator includes a parameter (*e*) for the (unknown) rate of extinction relative to the rate of speciation. We initially used a low, medium, and high value (e = 0, 0.45, 0.90), but different values gave similar results, and only results using e = 0.45 are presented. Preliminary analyses showed that diversification rates of genera are significantly related to their species richness (r^2 = 0.275, P = 0.0001) but not their age (r^2= 0.049; P = 0.1285), suggesting that comparisons of these rates are relevant for understanding richness patterns, and are not compromised by potentially faster rates in younger clades. Further, we are interested in the net accumulation of species from the time of origin of the clade to the present day (net diversification), and not instantaneous rates of speciation and extinction. Information on climatic data for genera is provided in the main text.

Appendix S1.H. Climate, Time, and Local Richness. We used our climatic reconstructions to test if the observed relationships between local richness and climate are ultimately related to greater time-for-speciation in environments that have been inhabited longer (as opposed to climate-diversity relationship being caused by the influence of climate on diversification (speciation - extinction)). We focused on PC1, given that this variable shows the strongest relationships between climate and local richness (see Results). PC1 for local sites and PC1 for species are based on separate analyses, but they are based on the same climatic variables and yield very similar eigenvectors (compare Tables S10, S11)

To evaluate whether time drives the climate-diversity relationship, we first divided the observed range of PC1 into 14 bins of equal size (range), based on the range of observed PC1 values among local sites (-8–6). We then determined the mean richness of local sites that occur in each bin (Table S12). We found a strong relationship between mean local richness and PC1 using this approach ($r^2 = 0.864$; $P < 0.0001$), demonstrating that the climate-diversity relationship is not obfuscated by binning. We acknowledge that the number of bins is somewhat arbitrary.

We then used the reconstructions for PC1 across the tree to determine the age of the oldest clade occurring in a given climatic zone (bin), for each of the eight major clades. We used reconstructed values for internal nodes only and did not directly incorporate values in extant species. In a few cases, a single, relatively old branch spanned >1 bins, and the age of the this clade was used for both bins. Given that most clades span a broad range of values for PC1 (indicating multiple colonizations of each climatic zones by different hylid clades), we summed our time estimates for each band across clades to obtain an index of the overall time that each band has been occupied by hylids. Thus, climatic zones that have been colonized by multiple clades should have higher values than those colonized by a single clade, all other things being equal. We used linear regression to test for a relationship between the estimated time and mean richness for each bin.

Overall, this approach has some important limitations that should be noted. First, the analysis is based on species mean values, and the reconstructed values do not reflect the whole range of their ancestral or current climatic distributions. These differences between mean values and actual climatic distributions could be important in determining local species richness patterns (even if the reconstructions of ancestral mean values are completely accurate, which is also debatable). Second, the climate-diversity relationship is only moderately strong in hylids and may vary among regions (e.g., tropical rainforest sites in different regions may differ in richness by two or three-fold), and this regional variation is not directly incorporated. Third, some estimates of time for some bands may reflect common ancestry rather than independent colonization. Similarly, colonizations older than the age of these eight clades are not counted. Nevertheless, despite the various limitations of this approach, it may provide useful information beyond the reconstructed climatic distributions of the major clades. Further phylogenetic exploration of the causes of the climate-diversity relationship should be an important area for future research.

Appendix S1.I. Diversification Rates and Local Richness in Allopatric and Sympatric Clades. We tested the hypothesis that clades that do not co-occur with other hylid clades will have higher rates of diversification (all other things being equal, a higher local density of clades will lead to a higher local density of species). Two major hylid clades are either partially or entirely allopatric with respect to other hylid clades. Pelodryadines are the only hylids occurring in Australia and New Guinea. The tribe Hylini is the only clade of hylids occurring in North America, Europe, and Asia, and in many communities in Middle America. In many other communities in Middle America, particularly those in the tropical lowlands, hyliines co-occur with some of species of other hylid clades. However, even in Middle America, hyliines make up ~80% of hylid diversity, and appear to have colonized Middle America much earlier than other hylid clades (Moen *et al.* 2009). Therefore, we assigned Hylini to the allopatric category. The six other clades each occur with one or more other hylid clades in South America in most communities (Table S3). Given the estimated stem-group ages and species richness of these clades (Table 2), we then estimated the diversification rates for these eight clades as described for genera (Table 2), using the method-of-moments estimator (Magallón & Sanderson 2001). We then compared the allopatric and sympatric rates using a one-tailed non-parametric Mann-Whitney U test and using phylogenetic generalized least squares (Martins & Hansen 1997). This latter method allows testing of relationships between continuous and categorical variables in a phylogenetic context. We report the results using stem-group ages with $e = 0.45$, but use of crown-group ages and other values of e gave generally similar results. These diversification rates were also strongly related to clade richness ($r^2 = 0.794$; $P = 0.003$) but not clade age ($r^2 = 0.112$; $P = 0.4181$), suggesting that these rates are relevant to explaining species richness patterns among clades.

We used higher clades for these analyses (rather than genera) because one of the two allopatric clades (Pelodryadinae) effectively consists of a single genus and cannot readily be subdivided. Further, we expect to see the strongest effects at the level of these major allopatric clades, and not necessarily within them.

To address the robustness of our results to an alternate approach, we also conducted a set of analyses using the BiSSE method (Binary-state Speciation Extinction) of Maddison et al. (2007), as implemented in Mesquite version 2.52 (Maddison & Maddison 2007). This method can test the effect of a trait on diversification rates using the entire tree. We used our time-calibrated phylogeny for 362 taxa to whether the likelihood estimate of net diversification rates was significantly improved by allowing for different rates in sympatric vs. allopatric clades (with sympatry vs. allopatry treated as a binary variable, as described above). We found no significant difference (ln likelihoods basically identical), confirming the results from PGLS analyses. However, this analysis may be compromised by incomplete sampling (<50%) of hylid species in our phylogeny (Wiens *et al.* 2010a). We therefore performed another analysis in which described but unsampled species were added to their respective genera (with their placement within genera being arbitrary), and branch lengths were then re-estimated in Mesquite (using the ultrametricize option and constraining ages of major clades and genera to those from the original chronogram). The final tree contained 902 hylid species (all described species plus several undescribed taxa included in our phylogeny). BiSSE analyses on this expanded tree confirmed that net diversification rates are higher in allopatric clades when these rates are estimated separately (sympatric rate = 0.04615; allopatric rate = 0.0570), but that the overall ln likelihood is not significantly different from a model in which rates are set to be equal (3214.17 under both models).

We also tested whether sympatry between major clades influenced patterns of within-clade diversification over time. Previous authors (e.g. Phillimore & Price 2008) have suggested that diversification rates will decrease over time due to an increasing density of species within a clade, and have used the gamma statistic (Pybus & Harvey 2000) to test for slowing diversification (with strongly negative values of gamma indicating a significant slowdown relative to a model of constant diversification over time). In theory, sympatry between clades should also increase decrease diversification over time, as sympatry between clades could contribute significantly to increasing the density of species and decreasing opportunities for niche expansion and subsequent evolutionary radiation. Using our time-calibrated phylogeny, we quantified gamma in each of the eight major clades of hylids, and tested whether gamma was significantly negative. However, our phylogeny includes only a fraction of the species for most clades (Table S9). Therefore, we also used simulations (based on the known number of described species in each clade and a model of diversification with constant rates and speciation only) to generate expected critical values for significantly negative gamma, given the known number of species in the clade and the number of species sampled. To correct for incomplete sampling in our comparisons of gamma between clades, we used the difference between the observed gamma and the critical value as our index (with negative values indicating gamma values more negative than expected; Table S9). We used the one-tailed Mann-Whitney test to evaluate whether this index was more strongly negative in the six sympatric clades relative to the two largely allopatric clades. All simulations and estimates of gamma were conducted in the R package LASER (Rabosky 2006). We acknowledge that this approach has some limitations. For example, limited taxon sampling can potentially lead to estimating significantly negative values of gamma for simulated data generated under the constant rates model, even when using the simulation approach applied here (Monte-Carlo constant-rates test; Cusimano & Renner 2010). However, we found no relationship between the proportion of species sampled from each clade and the clade's corrected index for gamma ($r^2 = 0.050$; $P = 0.5945$).

We also tested whether the maximum local richness of clades was higher in clades that are primarily allopatric versus sympatric relative to other clades. We determined the maximum local diversity of each of the eight clades (Table 2) from our survey of local communities (Table S3), and assigned Hylini and Pelodryadinae to the allopatric category. We used the one-tailed Mann-Whitney U test but not the phylogenetic test here, given that the maximum local diversity of a clade is not a trait that evolves on a tree.

Appendix S1.J. Body-Size Variation. We tested the hypothesis that greater phenotypic diversity among species might permit the co-existence of larger numbers of species in a local community. A previous morphometric analysis of hylids (Moen et al. 2009), including 14 variables for representatives of all hylid genera, showed that body-size (principal component 1; PC1) explains >90% of overall morphometric variation among hylids. Other principal components each accounted for less than 2.5% of the variation. Furthermore, previous dietary studies of hylids (e.g. Duellman 2005; Moen & Wiens 2009) suggest that hylids are generalist predators in which body size determines prey size and the specific prey that are eaten. Therefore, body size appears to be a critical variable in determining dietary resource use and resource overlap in hylids, and in describing overall phenotypic variation. We used the maximum snout-vent length (SVL) reported in the males of each species as a measure of body size. SVL and PC1 are strongly correlated among hylids ($r = 0.991$; Moen *et al.* 2009), and SVL is frequently reported for hylid species (whereas PC1 is particular to a given study). Furthermore, given their conspicuous calling behavior, male hylids seem to be collected more frequently than females. Body sizes are generally similar between males and females of a given hylid species, but not identical (e.g. Duellman 1978, 2001, 2005). Given that average adult body sizes for species are not always reported for hylids, we focused on maximum sizes. We obtained data on maximum male SVL (SVL hereafter) for almost every described species in the 123 communities that we surveyed (Table S3). Literature sources for body-size data are given after Table S7.

The maximum body size reported for a species might not match their body size in a given local community. However, species with small maximum SVL will be small in all communities. Further, geographic variation in SVL in hylids appears to be limited relative to overall variation in body size (Moen *et al.* 2009).

We used linear regression to test the hypothesis that maximum SVL (among species) and the range of SVLs among species were greater in more diverse communities, and the minimum SVL is smaller in more diverse communities (Table S8). However, given stochastic sampling of species, we would expect, the minimum, maximum, and range of SVL to all be more extreme in more diverse communities. To partially account for this, we excluded communities with less than 3 species, leaving 89 species for this analysis.

In addition, we created a null distribution of test statistics for the regression that accounts for artifacts due to random sampling of body sizes, and we used this null distribution to assess the statistical significance of our results. To create this distribution, we first constructed random “communities” in which species were randomly sampled with replacement from all hylids for which maximum male SVL was available (757 species; combining our lists of species from the phylogeny and from local communities); these null communities give an expected distribution of body sizes that would result from random sampling. Ten thousand null communities were constructed for all sizes of communities between 1 and 36 species (i.e. the observed range of local richness). Second, we constructed 10,000 random vectors of 89 communities (with the distribution of sizes corresponding to those in our actual data) by taking random samples of the previously simulated communities. Third, we conducted linear regressions of log(species number) versus body size range/min./max. on these random vectors of communities to create a distribution of test statistics (in this case, the t-value). Finally, we compared the test statistic from our actual data to this null distribution to obtain a *P*-value. Again, the idea here was to ask what kind of regression results one would get from a sample of communities in which the body sizes are only a consequence of randomly sampling species of hylids for each community. In summary, these simulations account for the fact that random sampling by itself will lead to a larger range of body sizes in large communities. The results of these simulations confirm that the observed relationship between the range of body sizes in communities and their richness is not merely an artfifact of sampling ($P = 0.0152$).

Appendix S1.K. Average Diversification Rates in Communities. Local richness may depend upon the diversification rates of the clades that are present. For example, a given community may have high richness because it is dominated by one or more rapidly diversifying clades, especially if ecological conditions in that region or locality favor higher speciation rates. To test this hypothesis, we first estimated the diversification rate for each hylid genus (Table S6), as described above. We then came up with a weighted average diversification rate for each of the 12 focal localities with maximum richness in each region, by adding the diversification rates for each species of each genus, and dividing by the total number of species in each community. We then tested the hypothesis that average rates of diversification will be higher in more diverse communities using linear regression.

We acknowledge some limitations of this approach. First, the overall diversification rate for a wide-ranging genus may not reflect its diversification rate in the area of the local community. Second, our estimate does not address temporal variation in diversification rates within clades (although these are not necessarily of interest here). Third, we assume a similar relative extinction rate (*e*) across the tree (a standard assumption). Despite these limitations, the results of these analyses are corroborated by those showing a lack of relationship between climate and diversification rates and larger-scale analyses showing that diversification rates are lower where multiple clades co-exist.

Appendix S1.L. Analyses of Sites Representing Mean Richness. For these analyses, we determined the mean local species richness of each the 12 regions based on our sampled sites. We then selected the site with the value closest to that mean in that region. For North America and Middle America, multiple sites had values equivalent to the mean richness; in these cases, we chose representative sites at low elevations that are centrally located within each region. Several regions had only a single site available (Chocoan, Guyana highlands) or all sampled sites already had equivalent richness (Asia, Europe, West Indies). The sites selected and their basic properties are shown in Table S13.

The results show that richness of these communities is not correlated with any of the environmental variables considered (temperature: $r^2 = 0.082$; $P = 0.366$; precipitation: $r^2 = 0.207$; $P = 0.132$; PC1: $r^2 = 0.161$; $P = 0.195$). Local richness is correlated with the summed clade ages for the region ($r^2 = 0.439$; $P = 0.019$), but not the timing of first colonization ($r^2 = 0.199$; $P = 0.146$). Like the results for maximum local richness, these results also show stronger relationships between summed clade ages and diversity than between climate and diversity. However, we strongly prefer those analyses using maximum richness, as there seems to be some obvious distortion using communities representing the mean richness. For example, using mean richness, southeastern Brazil has much higher local richness than any other region, including Amazonia. However, this is not necessarily because richness is generally higher there, but rather because we were more cautious about including low-diversity sites in southeastern Brazil, given the possibility that sites there were not adequately sampled. In fact, when southeastern Brazil is removed from the analysis, the relationship between the timing of first colonization and mean local richness becomes significant (r^2 = 0.457; P = 0.022). In addition, our definition of the Amazonian region includes some parts with relatively low richness (e.g. llanos grasslandss). Thus, use of mean richness within a region may be more subject to the vagaries of regional delimitation and sampling.

Appendix S1.M. Sensitivity to Regional Delimitation. We also performed a series of analyses addressing the sensitivity of our results to how regions were delimited. In general the number of regions we used was determined by the limited number of regions that could be included in biogeographic analyses using LAGRANGE. Nevertheless, we also performed an analysis in which some regions were subdivided and the maximum local richness within each subdivision was used. A total of 19 regions were used (Table S14). We subdivided Amazonia into Western Amazonia (arbitrarily delimited as occurring in those countries bordering the Andes), Eastern Amazonia, and the llanos (tropical grasslands in Colombia and Venezuela). We subdivided the Cerrado region into Cerrado, Chaco, and Pampean Monte (following Duellman 1999). We subdivided Australia into Australia and New Guinea, Middle America into Mexico and Lower Central America and North America into Eastern North

America (east of the Rocky Mountains) and Western North America. Regions with single or very few localities were not subdivided (e.g., Guyana, Southeastern Brazil) nor were regions that were basically invariant in local richness (e.g., Asia, Europe, West Indies).

These analyses show significant relationships between local richness and climatic variables (temperature: $r^2 = 0.267$; $P = 0.024$; precipitation: $r^2 = 0.208$; $P = 0.050$; PC1: $r^2 = 0.235$; $P = 0.035$), which are generally similar to those from analyzing the original 12 regions. There is also a significant relationship between local richness and time ($r^2 = 0.221$; $P = 0.042$: for hylids overall; $r^2 = 0.331$; $P = 0.010$: for summed clade ages). However, these latter relationships are greatly weakened relative to the analysis of the original 12 regions. This weakening seems to occur for two reasons. First, the Llanos region is nested inside of Amazonia, and is treated as such for clade ages. However, this dry grassland region has low diversity relative to rainforest sites, and removing this data point dramatically strengthens this relationship ($r^2 = 0.369$; $P = 0.008$: hylids overall; $r^2 = 0.575$; $P = 0.003$: summed clades). Second, the timing of colonization of different subregions may differ from that of the overall regions. Unfortunately, this is difficult to address, given that the number of regions that can be used in current likelihood-based biogeographic reconstructions is limited.

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Table S1. The 123 local sites considered in this study, including the biogeographic region in which they occur, number of species, and the source describing their hylid composition. Literature sources cited are listed immediately following the table. The 12 regions are abbreviated as follows: AMA = Amazon Basin; ANDES = Andes; ASIA = Asia; AUS = Australia; CERR = Cerrado and adjacent grasslands; CHOCO = Chocoan region; EUR = Europe and adjacent Palearctic areas; GUY = Guyanan highlands; MA = Middle America; NA = North America; SEB = Atlantic rainforest of southeastern Brazil; WIN = West Indies.

Location	Region	Species	Source
Brazil: Manaus INPA	AMA	16	Zimmerman and Rodrigues (1990)
Brazil: Para: Belem	AMA	23	Crump (1971)
Ecuador: Napo: Santa Cecilia	AMA	36	Duellman (1978)
Peru: Huanoco: Panguana	AMA	21	Toft and Duellman (1979); Aichinger (1987)
Peru: Loreto: Teniente Lopez	AMA	26	Duellman and Mendelson (1995)
Peru: Madre de Dios: Manu	AMA	35	Rodriguez and Cadle

National Park (Cocha Cashu)			(1990)
Peru: Madre de Dios: Cuzco Amazonico Reserve	AMA	31	Duellman (2005)
Venezuela: Bolivar: El Manteco	AMA	11	Hoogmoed and Gorzula (1979)
Venezuela: Gaurico: Hato Masaguaral	AMA	5	Staton and Dixon (1977)
Venezuela: La Escalera Region	AMA	16	Duellman (1997)
Venezula: Sierra de Lema	AMA	6	Duellman (1997)
Argentina: La Rioja: Chilecito	ANDES	1	Cei (1980)
Colombia: Boyaca: Parama de la Rusia	ANDES	1	Duellman (1988)
Ecuador: Napo: Rio Salado	ANDES	7	Duellman (1988)
Ecuador: Pichincha: Quebrada Zapadores	ANDES	1	Duellman (1988)
Peru: Cuzco: Rio Cosnipata	ANDES	3	Duellman (1988)
China: Fujian Prov.: Kuliang, near Fuzhou	ASIA	1	Museum data (MVZ)

China: Guangdong Prov.: Tai-Yong, E Kwantun	ASIA	1	Museum data (MVZ)
China: Guangdong Prov:Yim-Na-San	ASIA	1	Museum data (MVZ)
China: Guangdong: Dinghushan: Cha Chang	ASIA	1	Museum data (MCZ)
China: Jiangxi: Hong-San, SE Kiangsi Prov.	ASIA	1	Museum data (MVZ)
China: Yunnan Province, Nu Jiang Prefecture	ASIA	1	Museum data (CAS)
China: Yunnan, Baoshan Prefecture, Qushi	ASIA	1	Museum data (CAS)
Japan: Kanagawa: Odawara City	ASIA	1	Museum data (LACM)
Japan: Miyagi Pref.: Honshu: near Takayama	ASIA	1	Museum data (MVZ)
Korea: Kyonggi Prov.; Mt. Buckak, near Seou	ASIA	1	Museum data (MVZ)
Myanmar: Chin State: Falam Township, Lon Pi	ASIA	1	Museum data (CAS)
Australia: New South Wales:	AUS	2	Swan and Foster (2005)

Mutawintji National Park			
Australia: New South Wales: Northern Yengo National Park	AUS	6	http://www.nationalparks.nsw.gov.au/npws.nsf/content/yengo_nth_vertebrate_fauna
Australia: Northern Territory: Kakadu National Park	AUS	15	Finlayson et al. (2006)
Australia: Northern Territory: Nitmiluk National Park	AUS	17	http://www.nt.gov.au/nreta/parks/manage/pdf/nnps4_values.pdf
Australia: Queensland: Lamington National Park	AUS	14	Hero (2006)
Australia: Queensland: Townsville	AUS	12	OzCam (http://www.ozcam.gov.au/); C. Hoskin (pers. comm.)
Australia: Queensland: Cairns	AUS	14	OzCam (http://www.ozcam.gov.au/); C. Hoskin (pers. comm.)
Australia: Queensland: Kuranda	AUS	14	C. Hoskin (pers. comm.)

Australia: Queensland: Dinden Forest Reserve	AUS	15	C. Hoskin (pers. comm.)
Australia: Queensland: Wooroonooran National Park	AUS	8	C. Hoskin (pers. comm.)
New Guinea: Lakekamu Basin, Ivimka Research Station	AUS	9	Allison et al. (1998)
New Guinea: Utai	AUS	6	Austin et al. (2008)
Argentina: Buenos Aires: Bahia Blanca	CER	1	Cei (1980)
Argentina: Cordoba: Capilla de Monte	CER	1	Cei (1980)
Argentina: Parque Nacional Chaco	CER	10	Cespedez et al. (2001)
Brazil: Goias: Espora Power Plant	CER	16	Vaz-Selva et al. (2007)
Brazil: Mato Grosso: Dardanelos Dam	CER	20	Sao Pedro et al. (2009)
Brazil: Rio Grande do Sul: Parque Nacional Aparados da Serra	CER	16	Deiques et al. (2007)
Brazil: Tocantins: Lajeado, Luis	CER	17	Brandao and Peres (2001)

Eduardo Magalhaes Dam			
Uruguay: Montevideo: Pajas Blancas	CER	5	Nunez et al. (2004)
Uruguay: Salto: El Espinillar	CER	9	Nunez et al. (2004)
Ecuador: Los Rios: Rio Palenque Biological Station	CHOCO	10	Duellman (1988)
France: Provence-Alpes-Cote-d'Azur; 3 mi W	EUR	1	Museum data (MVZ)
Georgia; ca. 10 km SSE Borzhomi	EUR	1	Museum data (MVZ)
Germany: Rostock, Mecklenburg	EUR	1	Museum data (MVZ)
Hungary: Budapest	EUR	1	Museum data (MVZ)
Morocco: Settat; Ben-Slimane, 5 km N of	EUR	1	Museum data (USNM)
Spain: Andalusia: Cadiz Prov.: Benalup de Sidonia	EUR	1	Museum data (MVZ)
Ukraine: Kiev	EUR	1	Museum data (CM)
Venezuela: Gran Sabana	GUY	8	Duellman (1997)
Costa Rica: Cartago: Moravia	MA	11	Duellman (2001)
Costa Rica: Heredia: La Selva	MA	12	Scott et al. (1983)

Costa Rica: Heredia: Volcan Barba	MA	5	Duellman (2001)
Costa Rica: Las Canas: Finca Taboga	MA	6	Scott et al. (1983)
Costa Rica: Puntarenas: Las Cruces	MA	10	Scott et al. (1983)
Costa Rica: Puntarenas: Rincon de Osa	MA	11	Scott et al. (1983)
Guatemala: El Peten: Tikal	MA	8	Lee (1996)
Honduras: Atlantida: La Ceiba	MA	6	McCranie and Wilson (2002)
Honduras: Atlantida: Quebrada de Oro	MA	4	McCranie and Wilson (2002)
Honduras: Copan: Laguna de Cerro	MA	8	McCranie and Wilson (2002)
Honduras: Copan: Quebrada Grande	MA	8	McCranie and Wilson (2002)
Honduras: Gracias de Dios: Barra Patuka	MA	7	McCranie and Wilson (2002)
Mexico: Chiapas: Rayon Mescalapan	MA	6	Duellman (2001)

Mexico: Distrito Federal: Lago Xochimilco	MA	1	Duellman (2001)
Mexico: Durango: El Salto	MA	1	Duellman (2001)
Mexico: Guerrero: Puerto del Gallo	MA	8	Duellman (2001)
Mexico: Hidalgo: El Chico	MA	3	Duellman (2001)
Mexico: Jalisco: Chamela	MA	8	Ramirez-Bautista (1994)
Mexico: Michoachan: Nueva Italia	MA	5	Duellman (2001)
Mexico: Oaxaca: Puerto Escondido	MA	6	Duellman (2001)
Mexico: Oaxaca: San Gabriel Mixtepec	MA	8	Duellman (2001)
Mexico: Oaxaca: Tehuantepec	MA	4	Duellman (2001)
Mexico: Oaxaca: Tuxtepec	MA	8	Duellman (2001)
Mexico: Oaxaca: Vista Hermosa	MA	9	Duellman (2001)
Mexico: Puebla: 14.4 km W Huachinango	MA	4	Duellman (2001)
Mexico: Sinaloa: Mazatlan	MA	5	Duellman (2001)
Mexico: Sonora: Alamos	MA	3	Duellman (2001)
Mexico: Veracruz: Acultzingo (1	MA	4	Duellman (2001)

km W)			
Mexico: Veracruz: Cuatlapan	MA	9	Duellman (2001)
Mexico: Veracruz: Estacion Los Tuxtlas	MA	8	Vogt et al. (1997)
Mexico: Veracruz: Huatusco (3k SW)	MA	7	Duellman (2001)
Mexico: Veracruz: Mata de Oscuara	MA	4	Duellman (2001)
Mexico: Veracruz: Volcan San Martin	MA	6	Duellman (2001)
Mexico: Yucatan: Piste	MA	7	Lee (1996)
Panama: Barro Colorado Island	MA	10	Rand and Myers (1990)
Panama: Cocle: El Valle	MA	9	Duellman (2001)
Panama: Colon: Achiote	MA	7	Duellman (2001)
Panama: Darien:Rio Tuira at Rio Mono	MA	7	Duellman (2001)
USA: California: Contra Costa Co.; 1 mi NW Alamo	NA	1	Museum data (MVZ)
USA: California: San Diego Co.: Spring, Pine Mountain	NA	2	Museum data (MVZ)
USA: Colorado: Commanche	NA	1	http://www.npwrc.usgs.

National Grassland			gov/resource/herps/comaherp/index.htm
USA: Florida: Everglades National Park	NA	4	http://www.nps.gov/archive/ever/eco/herps.htm
USA: Florida: Timucuan Ecological and Historic Preserve	NA	7	Tuberville et al. (2005)
USA: Georgia: Okeefenokee Swamp	NA	10	http://fl.biology.usgs.gov/armi/Okefenokee/Okefenokee_Tables/okefenokee_tables.html
USA: Georgia: Okmulgee National Monument	NA	9	Tuberville et al. (2005)
USA: North Carolina: Moores Creek National Battlefield	NA	10	Tuberville et al. (2005)
USA: North Dakota: Badlands National Park	NA	1	http://www.nps.gov/archive/badl/exp/rept-amph.htm
USA: Ohio: Cuyahoga Valley National Park	NA	3	http://www.nps.gov/cuva/naturescience/amphibians.htm
USA: South Carolina: Congaree	NA	12	Tuberville et al. (2005)

Swamp National Monument			
USA: South Carolina: Savanna River Ecology Laboratory	NA	12	Gibbons and Semlitsch (1991)
USA: South Dakota: Sand Lake National Wildlife Refuge	NA	3	http://www.npwrc.usgs.gov/resource/wildlife/sandlake/herp.htm
USA: Tennessee: Great Smoky Mountains National Park	NA	4	http://www.dlia.org/atbi/species/Animalia/Chordata/Amphibia/Anura/Hylidae/index.shtml
USA: Texas: Padre Island National Seashore	NA	2	http://www.nps.gov/pais/naturescience/amphibians.htm
USA: Utah: Zion National Park	NA	1	http://www.nps.gov/zion/naturescience/reptiles.htm
USA: Virginia: Shenandoah National Park	NA	4	http://www.nps.gov/shen/naturescience/upload/Amphibians_of_Shenandoah_National_Park.pdf
USA: Washington: Pierce Co.	NA	1	Museum data (MVZ)

Parkland, Wake Lake			
USA: Wyoming: Yellowstone National Park	NA	1	http://www.nps.gov/yell/naturescience/reptiles.htm
Brazil: Bahia: Estacion VeraCruz	SEB	28	Silvano and Pimenta (2003)
Brazil: Bahia: Zumbidos Palmares	SEB	20	Silvano and Pimenta (2003)
Brazil: Boriacea	SEB	26	Heyer et al. (1990)
Dominican Republic: Samana: Laguna	WIN	3	Museum data (USNM)
Dominican Republic: Samana: Rio San Juan	WIN	3	Museum data (USNM)
Haiti: Ouest: Furcy	WIN	3	Museum data (USNM)
Jamaica, Manchester Parish, Mandeville	WIN	3	Museum data (USNM)
Jamaica, Quick Step	WIN	3	Museum data (USNM)
Jamaica: Trelany Parish: Windsor	WIN	3	Museum data (USNM)

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Table S2. The 123 local communities considered in this study, including the latitude, longitude, elevation (m above sea level), annual mean temperature (º C), and annual precipitation (mm).

Location	Latitude	Longitude	Elevation	Annual mean temp.	Annual precipitation
Brazil: Manaus, INPA	-3.217	-60.033	27	27.4	2381
Brazil: Para: Belem	-1.350	-48.500	4	26.9	2728
Ecuador: Napo: Santa Cecilia	0.050	-76.983	327	25.4	3670
Peru: Huanoco: Panguana	-9.617	-74.933	269	25.7	2179
Peru: Loreto: Teniente Lopez	-2.594	-76.116	211	25.1	2978
Peru: Madre de Dios: Manu National Park (Cocha Cashu)	-11.900	-71.367	343	25.1	3031
Peru: Madre de Dios: Cuzco Amazonico Reserve	-12.550	-69.050	175	25.6	2479
Venezuela: Bolivar: El Manteco	7.417	-62.350	238	26.0	1263
Venezuela: Gaurico: Hato Masaguaral	8.550	-67.583	67	27.5	1336
Venezuela: La Escalera Region	6.617	-61.550	151	26.5	1730
Venezula: Sierra de Lema	6.000	-61.383	776	22.9	2155

Argentina: La Rioja: Chilecito	-29.167	-67.500	1125	18.5	280
Colombia: Boyaca: Parama de la Rusia	5.900	-73.200	2466	15.3	1556
Ecuador: Napo: Rio Salado	-0.196	-77.729	1425	19.8	2742
Ecuador: Pichincha: Quebrada Zapadores	-0.288	-78.779	2034	16.7	2276
Peru: Cuzco: Rio Cosnipata	-13.104	-71.321	1694	18.4	1814
China: Fujian Prov.: Kuliang, near Fuzhou	26.100	119.383	458	16.8	1457
China: Guangdong Prov.: Tai-Yong, E Kwantun	23.622	115.993	666	17.6	1718
China: Guangdong Prov:Yim-Na-San	24.417	116.400	596	18.3	1659
China: Guangdong: Dinghushan: Cha Chang	23.167	112.533	374	19.8	1674
China: Jiangxi: Hong-San, SE Kiangsi Prov.	28.100	117.433	528	15.5	1911
China: Yunnan Province, Nu Jiang Prefecture	26.812	98.886	1292	18.1	1493
China: Yunnan, Baoshan Prefecture, Qushi	25.2833	98.600	1466	16.6	1449

Japan: Kanagawa: Odawara City	35.254	139.148	68	14.5	1814
Japan: Miyagi Pref.: Honshu: Takayama, near	38.297	141.073	17	11.1	1274
Korea: Kyonggi Prov.; Mt. Buckak, near Seou	37.5667	127.000	33	10.4	1332
Myanmar: Chin State: Falam Township, Lon Pi	22.877	93.628	1866	15.5	2078
Australia: New South Wales: Mutawintji National Park	-31.283	142.250	193	19.3	283
Australia: New South Wales: Northern Yengo National Park	-33.033	150.783	179	17.2	1016
Australia: Northern Territory: Kakadu National Park	-12.683	132.483	12	28.0	1767
Australia: Northern Territory: Nitmiluk National Park	-14.109	132.255	266	26.7	1417
Australia: Queensland: Lamington National Park	-28.146	153.113	648	16.6	1749
Australia: Queensland:Townsville	-19.267	146.817	5	24.4	1333
Australia: Queensland: Cairns	-16.917	145.767	8	24.9	2868

Australia: Queensland: Kuranda	-16.817	145.650	379	22.6	2731
Australia: Queensland: Dinden Forest Reserve	-16.960	145.649	518	22.0	2739
Australia: Queensland: Wooroonooran National Park	-17.400	145.820	1471	16.0	4431
New Guinea: Lakekamu Basin, Ivimka Research Station	-7.735	146.496	124	26.7	1835
New Guinea: Utai	-3.396	141.583	229	25.6	2636
Argentina: Buenos Aires: Bahia Blanca	-38.717	-62.283	20	16.2	642
Argentina: Cordoba: Capilla de Monte	-30.850	-64.517	976	14.9	729
Argentina: Parque Nacional Chaco	-27.967	-59.583	57	21.5	1336
Brazil: Goias: Espora Power Plant	-18.674	-51.881	574	24.2	1913
Brazil: Mato Grosso: Dardanelos Dam	-10.000	-60.000	201	24.4	2256
Brazil: Rio Grande do Sul: PN Aparados da Serra	-29.183	-50.083	961	14.7	1888
Brazil: Tocantins: Lajeado, Luis	-21.017	-46.933	934	19.6	1740

Eduardo Magalhaes Dam					
Uruguay: Montevideo: Pajas Blancas	-34.867	-56.367	0	17.0	988
Uruguay: Salto: El Espinillar	-30.933	-57.867	35	19.6	1434
Ecuador: Los Rios: Rio Palenque Biological Station	-0.180	-79.183	485	23.8	3463
France: Provence-Alpes-Cote-d'Azur; 3 mi W	43.550	6.957	1	14.3	900
Georgia; ca. 10 km SSE Borzhomi	43.883	40.083	1249	6.5	1609
Germany: Rostock, Mecklenburg	54.083	12.133	14	7.7	623
Hungary: Budapest	47.500	19.044	106	10.1	570
Morocco: Settat; Ben-Slimane, 5 km N of	33.600	-7.100	289	17.1	499
Spain: Andalusia: Cadiz Prov.: Benalup de Sidonia	36.344	-5.810	108	16.6	854
Ukraine: Kiev	50.433	30.517	121	6.9	666
Venezuela: Gran Sabana	5.883	-61.383	1543	18.4	2162
Costa Rica: Cartago: Moravia	9.8625	-83.438	1007	20.6	3562
Costa Rica: Heredia: La Selva	10.417	-83.950	54	26.1	4147

Costa Rica: Heredia: Volcan Barba	10.129	-84.071	2110	14.8	2883
Costa Rica: Las Canas: Finca Taboga	10.333	-85.200	13	26.7	1938
Costa Rica: Puntarenas: Las Cruces	8.800	-83.000	1349	19.0	3988
Costa Rica: Puntarenas: Rincon de Osa	8.700	-83.483	38	26.2	4504
Guatemala: El Peten: Tikal	17.225	-89.613	254	24.6	1324
Honduras: Atlantida: La Ceiba	15.783	-86.783	10	26.5	2407
Honduras: Atlantida: Quebrada de Oro	15.633	-86.792	1132	20.1	2078
Honduras: Copan: Laguna de Cerro	15.079	-88.955	672	22.9	1637
Honduras: Copan: Quebrada Grande	15.083	-88.917	1324	19.2	1655
Honduras: Gracias de Dios: Barra Patuka	15.800	-84.300	2	26.9	2956
Mexico: Chiapas: Rayon Mescalapan	17.146	-93.012	1768	17.0	2283
Mexico: Distrito Federal.: Lago	19.300	-99.117	2240	15.8	809

Xochimilco					
Mexico: Durango: El Salto	23.800	-105.400	2603	11.5	1086
Mexico: Guerrero: Puerto del Gallo	17.471	-100.212	1761	19.7	1605
Mexico: Hidalgo: El Chico	20.367	-98.733	2007	15.1	654
Mexico: Jalisco: Chamela	19.533	-105.083	1	26.3	774
Mexico: Michoachan: Nueva Italia	19.020	-102.100	412	27.4	776
Mexico: Oaxaca: Puerto Escondido	15.850	-97.070	2	27.7	938
Mexico: Oaxaca: San Gabriel Mixtepec	16.204	-97.129	1768	18.1	1328
Mexico: Oaxaca: Tehuantepec	16.333	-95.233	53	27.0	781
Mexico: Oaxaca: Tuxtepec	18.090	-96.120	30	25.3	2637
Mexico: Oaxaca: Vista Hermosa	17.888	-96.388	1416	17.7	3615
Mexico: Puebla: 14.4 km W Huachinango	20.183	-98.250	2253	13.3	1259
Mexico: Sinaloa: Mazatlan	23.217	-106.417	9	24.8	717
Mexico: Sonora: Alamos	29.217	-110.133	597	22.2	504
Mexico: Veracruz: Acultzingo (1 km W)	18.700	-97.317	2093	15.7	784

Mexico: Veracruz: Cuatlapan	18.870	-97.030	1041	20.4	1757
Mexico: Veracruz: Estacion Los Tuxtlas	18.583	-95.100	350	24.2	2947
Mexico: Veracruz: Huatusco (3k SW)	19.141	-96.991	1369	18.4	1816
Mexico: Veracruz: Mata de Oscuara	19.208	-96.808	767	21.4	1623
Mexico: Veracruz: Volcan San Martin	18.572	-95.169	1015	20.0	2952
Mexico: Yucatan: Piste	20.700	-88.467	30	25.4	1234
Panama: BCI	9.167	-79.833	31	26.7	2757
Panama: Cocle: El Valle	8.600	-80.133	643	23.9	2076
Panama: Colon: Achiote	9.223	-80.019	27	26.7	3281
Panama: Darien: Rio Tuira at Rio Mono	7.704	-77.546	142	25.8	2944
USA: California: Contra Costa Co.; 1 mi NW Alamo	37.859	-122.046	125	14.3	551
USA: California: San Diego Co.: Spring, Pine Mountain	33.340	-116.650	1136	13.8	508
USA: Colorado: Commanche National Grassland	37.4600	-102.620	1337	10.6	382

USA: Florida: Everglades National Park	25.391	-80.681	7	23.4	1431
USA: Florida: Timucuan Ecological and Historic Preserve	30.350	-81.502	19	19.7	1314
USA: Georgia: Okeefenokee Swamp	30.667	-82.333	37	19.0	1442
USA: Georgia: Okmulgee National Monument	32.840	-83.540	122	16.9	1267
USA: North Carolina: Moores Creek National Battlefield	34.458	-78.112	4	16.1	1432
USA: North Dakota: Badlands National Park	43.744	-101.941	740	7.8	415
USA: Ohio: Cuyahoga Valley National Park	41.240	-81.550	243	8.8	1014
USA: South Carolina: Congaree Swamp National Monument	33.930	-80.840	73	16.3	1268
USA: South Carolina: Savanna River Ecology Laboratory	33.344	-81.735	115	16.3	1290
USA: South Dakota: Sand Lake National Wildlife Refuge	45.813	-98.219	391	4.3	500
USA: Tennessee: Great Smoky	35.710	-83.510	420	12.5	1384

Mountains National Park					
USA: Texas: Padre Island National Seashore	26.950	-97.383	1	21.7	728
USA: Utah: Zion National Park	37.459	-113.224	1625	10.3	386
USA: Virginia: Shenandoah National Park	38.500	-78.450	914	6.8	1153
USA: Washington: Pierce Co. Parkland, Wake Lake	47.156	-122.433	115	9.8	1273
USA: Wyoming: Yellowstone National Park	44.565	-110.400	2438	-1.2	603
Brazil: Bahia: Estacion VeraCruz	-16.383	-39.167	98	24.0	1540
Brazil: Bahia: Zumbidos Palmares	-14.033	-39.150	133	24.1	2218
Brazil: Boriacea	-23.638	-45.838	907	17.2	2468
Dominican Republic: Samana: Laguna	19.250	-69.417	280	24.3	2099
Dominican Republic: Samana: Rio San Juan	19.233	-69.317	128	25.2	2068
Haiti: Ouest: Furcy	18.411	-72.288	1378	18.3	1417
Jamaica, Manchester Parish, Mandeville	18.033	-77.500	639	22.0	1590

Jamaica, Quick Step	18.250	-77.717	446	23.0	1742
Jamaica: Trelany Parish:					
Windsor	18.350	-77.650	192	24.1	1631

Table S3. Species composition, clade composition, and the maximum reported male body size (mm) for species in the 123 local communities considered in this study. Literature sources for data on species composition of each community are provided in Table S1, whereas sources for data on body sizes are provided in Table S7.

Locality	Species	Clade	SVL
Brazil: Manaus, INPA	*Hypsiboas boans*	Cophomantini	132.0
	Hypsiboas geographica	Cophomantini	62.0
	Hypsiboas granosa	Cophomantini	44.0
	Dendropsophus minutus	*Dendropsophus* clade	23.0
	Dendropsophus sp. (microcephalus group)	*Dendropsophus* clade	
	Dendropsophus sp. (parviceps group)	*Dendropsophus* clade	
	Osteocephalus buckleyi	Lophiohylini	64.1
	Osteocephalus taurinus	Lophiohylini	85.0
	Osteocephalus sp.	Lophiohylini	

	Trachycephalus coriaceus	Lophiohylini	63.0
	Trachycephalus resinfictrix	Lophiohylini	100.5
	Phyllomedusa bicolor	Phyllomedusinae	115.0
	Phyllomedusa tarsius	Phyllomedusinae	97.0
	Phyllomedusa tomopterna	Phyllomedusinae	48.0
	Phyllomedusa vaillanti	Phyllomedusinae	59.8
	Scinax cruentommus	*Scinax* clade	28.0
Brazil: Para: Belem	*Hypsiboas calcaratus*	Cophomantini	47.5
	Hypsiboas geographicus	Cophomantini	62.0
	Hypsiboas granosa	Cophomantini	44.0
	Hypsiboas multifasciatus	Cophomantini	57.3
	Hypsiboas raniceps	Cophomantini	71.0
	Dendropsophus brevifrons	*Dendropsophus* clade	22.0
	Dendropsophus	*Dendropsophus*	44.0

	leucophyllatus	clade	
	Dendropsophus melanargyreus	*Dendropsophus* clade	34.0
	Dendropsophus minutus	*Dendropsophus* clade	23.0
	Dendropsophus nanus	*Dendropsophus* clade	22.0
	Osteocephalus taurinus	Lophiohylini	85.0
	Trachycephalus venulosus	Lophiohylini	100.5
	Phyllomedusa bicolor	Phyllomedusinae	115.0
	Phyllomedusa hypochondrialis	Phyllomedusinae	37.7
	Phyllomedusa vaillanti	Phyllomedusinae	59.9
	Scinax baumgardneri	*Scinax* clade	29.0
	Scinax boesemanni	*Scinax* clade	31.1
	Scinax egleri	*Scinax* clade	30.0
	Scinax ruber	*Scinax* clade	41.2
	Scinax sp. 1	*Scinax* clade	

	Scinax sp. 2	*Scinax* clade	
	Sphaenorhynchus lacteus	*Scinax* clade	41.5
Ecuador: Napo: Santa Cecilia	*Hypsiboas boans*	Cophomantini	132.0
	Hypsiboas calcarata	Cophomantini	47.5
	Hypsiboas fasciata	Cophomantini	40.3
	Hypsiboas geographica	Cophomantini	62.0
	Hypsiboas granosa	Cophomantini	44.0
	Hypsiboas lanciformis	Cophomantini	80.0
	Hypsiboas punctata	Cophomantini	40.0
	Dendropsophus bifurcus	*Dendropsophus* clade	28.0
	Dendropsophus bokermanni	*Dendropsophus* clade	24.0
	Dendropsophus brevifrons	*Dendropsophus* clade	22.0
	Dendropsophus leucophyllatus	*Dendropsophus* clade	44.0
	Dendropsophus marmorata	*Dendropsophus* clade	44.0
	Dendropsophus	*Dendropsophus*	23.0

	minuta	clade	
	Dendropsophus parviceps	*Dendropsophus* clade	21.9
	Dendropsophus rhodopeplus	*Dendropsophus* clade	24.2
	Dendropsophus riveroi	*Dendropsophus* clade	20.0
	Dendropsophus rossalleni	*Dendropsophus* clade	20.0
	Dendropsophus sarayacuensis	*Dendropsophus* clade	29.0
	Dendropsophus triangulum	*Dendropsophus* clade	28.0
	Osteocephalus alboguttatus	Lophiohylini	34.0
	Osteocephalus buckleyi	Lophiohylini	64.1
	Osteocephalus leprieurii	Lophiohylini	48.0
	Osteocephalus taurinus	Lophiohylini	85.0

	Nyctimantis rugiceps	Lophiohylini	67.5
	Trachycephalus coriaceus	Lophiohylini	63.0
	Trachycephalus venulosus	Lophiohylini	100.5
	Phyllomedusa palliata	Phyllomedusinae	49.1
	Phyllomedusa tarsius	Phyllomedusinae	97.0
	Phyllomedusa tomopterna	Phyllomedusinae	48.0
	Phyllomedusa vaillanti	Phyllomedusinae	59.9
	Scinax cruentommus	*Scinax* clade	28.0
	Scinax funereus	*Scinax* clade	37.0
	Scinax garbei	*Scinax* clade	42.2
	Scinax ruber	*Scinax* clade	41.2
	Sphaenorhynchus carneus	*Scinax* clade	20.0
	Sphaenorhynchus lacteus	*Scinax* clade	41.5
Peru: Huanoco: Panguana	*Hypsiboas boans*	Cophomantini	132.0
	Hypsiboas fasciatus	Cophomantini	40.3

Hypsiboas granosa	Cophomantini	44.0
Dendropsophus brevifrons	*Dendropsophus* clade	22.0
Dendropsophus leucophyllatus	*Dendropsophus* clade	44.0
Dendropsophus marmoratus	*Dendropsophus* clade	44.0
Dendropsophus parviceps	*Dendropsophus* clade	21.9
Dendropsophus rhodopeplus	*Dendropsophus* clade	24.2
Dendropsophus riveroi	*Dendropsophus* clade	20.0
Dendropsophus rossalleni	*Dendropsophus* clade	20.0
Dendropsophus sarayacuensis	*Dendropsophus* clade	29.0
Osteocephalus leprieurii	Lophiohylini	48.0
Osteocephalus taurinus	Lophiohylini	85.0

	Trachycephalus coriaceus	Lophiohylini	63.0
	Trachycephalus venulosus	Lophiohylini	100.5
	Phyllomedusa tarsius	Phyllomedusinae	97.0
	Phyllomedusa tomopterna	Phyllomedusinae	48.0
	Phyllomedusa vaillanti	Phyllomedusinae	59.9
	Scinax cruentomma	*Scinax* clade	28.0
	Scinax garbei	*Scinax* clade	42.2
	Scinax rubra	*Scinax* clade	41.2
Peru: Loreto: Teniente Lopez	*Hypsiboas boans*	Cophomantini	132.0
	Hypsiboas calcaratus	Cophomantini	47.5
	Hypsiboas fasciatus	Cophomantini	40.3
	Hypsiboas geographicus	Cophomantini	62.0
	Hypsiboas lanciformis	Cophomantini	80.0
	Dendropsophus brevifrons	*Dendropsophus* clade	22.0
	Dendropsophus	*Dendropsophus*	24.0

koechlini	clade	
Dendropsophus leucophyllata	*Dendropsophus* clade	44.0
Dendropsophus marmorata	*Dendropsophus* clade	44.0
Dendropsophus parviceps	*Dendropsophus* clade	21.9
Dendropsophus rhodopepla	*Dendropsophus* clade	24.2
Dendropsophus riveroi	*Dendropsophus* clade	20.0
Dendropsophus sarayacuensis	*Dendropsophus* clade	29.0
Osteocephalus buckleyi	Lophiohylini	64.1
Osteocephalus leprieurii	Lophiohylini	48.0
Osteocephalus planiceps	Lophiohylini	65.9
Osteocephalus taurinus	Lophiohylini	85.0

	Osteocephalus sp.	Lophiohylini	
	Phyllomedusa coelestis	Phyllomedusinae	64.8
	Phyllomedusa hulli	Phyllomedusinae	37.1
	Phyllomedusa tarsius	Phyllomedusinae	97.0
	Phyllomedusa tomopterna	Phyllomedusinae	48.0
	Phyllomedusa vaillanti	Phyllomedusinae	59.9
	Scinax cruentommus	*Scinax* clade	28.0
	Scinax funereus	*Scinax* clade	37.0
	Scinax ruber	*Scinax* clade	41.2
Peru: Madre de Dios: Manu National Park (Cocha Cashu)	*Hypsiboas boans*	Cophomantini	132.0
	Hypsiboas calcaratus	Cophomantini	47.5
	Hypsiboas fasciatus	Cophomantini	40.3
	Hypsiboas geographicus	Cophomantini	62.0
	Hypsiboas granosa	Cophomantini	44.0
	Hypsiboas punctatus	Cophomantini	40.0
	Hypsiboas sp. (geographica group)	Cophomantini	

	Dendropsophus bifurcus	*Dendropsophus* clade	28.0
	Dendropsophus koechlini	*Dendropsophus* clade	24.0
	Dendropsophus leali	*Dendropsophus* clade	23.0
	Dendropsophus leucophyllatus	*Dendropsophus* clade	44.0
	Dendropsophus parviceps	*Dendropsophus* clade	21.9
	Dendropsophus rhodopeplus	*Dendropsophus* clade	24.2
	Dendropsophus riveroi	*Dendropsophus* clade	20.0
	Dendropsophus sarayacuensis	*Dendropsophus* clade	29.0
	Dendropsophus triangulum	*Dendropsophus* clade	28.0
	Osteocephalus leprieurii	Lophiohylini	48.0
	Osteocephalus	Lophiohylini	85.0

taurinus		
Trachycephalus coriaceus	Lophiohylini	63.0
Osteocephalus resinifictrix	Lophiohylini	76.0
Osteocephalus venulosus	Lophiohylini	100.5
Cruziohyla craspedopus	Phyllomedusinae	57.0
Phyllomedusa atelopoides	Phyllomedusinae	37.4
Phyllomedusa palliata	Phyllomedusinae	49.1
Phyllomedusa tomopterna	Phyllomedusinae	48.0
Phyllomedusa vaillanti	Phyllomedusinae	59.9
Phyllomedusa camba	Phyllomedusinae	70.0
Scarthyla goinorum	Pseudis clade	21.0
Scinax cruentommus	*Scinax* clade	33.5
Scinax epacrorhinus	*Scinax* clade	31.5
Scinax garbei	*Scinax* clade	49.1

	Scinax ruber	*Scinax* clade	45.0
	Sphaenorhynchus dorisae	*Scinax* clade	29.0
	Sphaenorhynchus lacteus	*Scinax* clade	41.5
Peru: Madre de Dios: Cuzco Amazonico Reserve	*Hypsiboas boans*	Cophomantini	132.0
	Hypsiboas calcaratus	Cophomantini	47.5
	Hypsiboas fasciatus	Cophomantini	40.3
	Hypsiboas geographicus	Cophomantini	62.0
	Hypsiboas granosa	Cophomantini	44.0
	Hypsiboas punctatus	Cophomantini	40.0
	Dendropsophus allenorum	*Dendropsophus* clade	21.4
	Dendropsophus bokermanni	*Dendropsophus* clade	24.0
	Dendropsophus brevifrons	*Dendropsophus* clade	22.0
	Dendropsophus koechlini	*Dendropsophus* clade	24.0

		Dendropsophus	
	Dendropsophus leali	clade	23.0
	Dendropsophus leucophyllatus	*Dendropsophus* clade	44.0
	Dendropsophus marmoratus	*Dendropsophus* clade	44.0
	Dendropsophus parviceps	*Dendropsophus* clade	21.9
	Dendropsophus rhodopeplus	*Dendropsophus* clade	24.2
	Dendropsophus schubarti	*Dendropsophus* clade	19.5
	Osteocephalus leprieuri	Lophiohylini	48.0
	Osteocephalus taurinus	Lophiohylini	85.0
	Trachycephalus coriaceus	Lophiohylini	63.0
	Trachycephalus venulosus	Lophiohylini	100.5
	Cruzihyla craspedopus	Phyllomedusinae	57.0

	Phyllomedusa atelopoides	Phyllomedusinae	37.4
	Phyllomedusa camba	Phyllomedusinae	70.0
	Phyllomedusa palliata	Phyllomedusinae	49.1
	Phyllomedusa tomopterna	Phyllomedusinae	48.0
	Phyllomedusa vaillanti	Phyllomedusinae	59.9
	Pseudis paradoxa	Pseudis clade	21.0
	Scarthyla goinorum	Pseudis clade	55.0
	Scinax chiquitanus	*Scinax* clade	36.2
	Scinax garbei	*Scinax* clade	49.1
	Scinax ictericus	*Scinax* clade	33.5
	Scinax pedromedinai	*Scinax* clade	31.5
	Scinax ruber	*Scinax* clade	45.0
	Sphaenorhynchus lacteus	*Scinax* clade	41.5
Venezuela: Bolivar: El Manteco	*Hypsiboas crepitans*	Cophomantini	63.0
	Hypsiboas geographica	Cophomantini	62.0

	Hypsiboas multifasciata	Cophomantini	57.3
	Dendropsophus microcephalus	*Dendropsophus* clade	24.5
	Dendropsophus minusculus	*Dendropsophus* clade	20.6
	Trachycephalus venulosus	Lophiohylini	100.5
	Phyllomedusa hypochondrialis	Phyllomedusinae	37.7
	Pseudis paradoxus	*Pseudis* clade	55.0
	Scinax trilineatus	*Scinax* clade	22.5
	Scinax x-signatus	*Scinax* clade	42.6
	Sphaenorhynchus lacteus	*Scinax* clade	41.5
Venezuela: Gaurico: Hato Masaguaral	*Hypsiboas crepitans*	Cophomantini	63.0
	Dendropsophus microcephalus	*Dendropsophus* clade	24.5
	Trachycephalus venulosus	Lophiohylini	100.5

	Pseudis paradoxus	Pseudis clade	55.0
	Scinax ruber	*Scinax* clade	41.2
Venezuela: La Escalera Region	*Hypsiboas boans*	Cophomantini	132.0
	Hypsiboas crepitans	Cophomantini	63.0
	Hypsiboas geographicus	Cophomantini	62.0
	Dendropsophus minusculus	*Dendropsophus* clade	20.6
	Dendropsophus minutus	*Dendropsophus* clade	23.0
	Dendropsophus microcephalus	*Dendropsophus* clade	24.5
	Osteocephalus taurinus	Lophiohylini	85.0
	Trachycephalus venulosus	Lophiohylini	100.5
	Phyllomedusa bicolor	Phyllomedusinae	115.0
	Phyllomedusa hypochondrialis	Phyllomedusinae	37.7
	Phyllomedusa tarsius	Phyllomedusinae	97.0
	Phyllomedusa	Phyllomedusinae	48.0

	tomopterna		
	Scinax rostratus	*Scinax* clade	45.7
	Scinax ruber	*Scinax* clade	41.2
	Scinax x-signatus	*Scinax* clade	42.5
	Sphaenorhynchus lacteus	*Scinax* clade	41.5
Venezula: Sierra de Lema	*Hypsiboas boans*	Cophomantini	132.0
	Hypsiboas lemai	Cophomantini	30.2
	Hypsiboas multifasciata	Cophomantini	57.3
	Hypsiboas sibleszi	Cophomantini	34.9
	Dendropsophus minutus	*Dendropsophus* clade	23.0
	Scinax danae	*Scinax* clade	27.4
Argentina: La Rioja: Chilecito	*Hypsiboas riojanus*	Cophomantini	56.0
Colombia: Boyaca: Parama de la Rusia	*Dendropsophus labialis*	*Dendropsophus* clade	43.0
Ecuador: Napo: Rio Salado	*Hyloscirtus phyllognathus*	Cophomantini	34.0
	Dendropsophus brevifrons	*Dendropsophus* clade	22.0

	Dendropsophus sarayacuensis	*Dendropsophus* clade	29.0
	Osteocephalus verrucigerus	Lophiohylini	58.6
	Hylomantis buckleyi	Phyllomedusinae	44.5
	Phyllomedusa perinesos	Phyllomedusinae	51.5
	Scinax ruber	*Scinax* clade	41.2
Ecuador: Pichincha: Quebrada Zapadores	*Hyloscirtus alytolylax*	Cophomantini	37.0
Peru: Cuzco: Rio Cosnipata	*Hyloscirtus armatus*	Cophomantini	68.5
	Hyloscirtus phyllognatha	Cophomantini	34.0
	Hypsiboas balzani	Cophomantini	50.4
China: Fujian Prov.: Kuliang, near Fuzhou;	*Hyla chinensis*	Hylini	32.0
China: Guangdong Prov.: Tai-Yong, E Kwantun	*Hyla chinensis*	Hylini	32.0
China: Guangdong Prov:Yim-Na-San [=Yin Na S	*Hyla chinensis*	Hylini	32.0
China: Guangdong:	*Hyla simplex*	Hylini	34.0

Dinghushan: Cha Chang			
China: Jiangxi: Hong-San, SE Kiangsi Prov.	*Hyla chinensis*	Hylini	32.0
China: Yunnan Province, Nu Jiang Prefecture	*Hyla annectans*	Hylini	35.0
China: Yunnan, Baoshan Prefecture, Qushi	*Hyla annectans*	Hylini	35.0
Japan: Kanagawa: Odawara City	*Hyla japonica*	Hylini	39.0
Japan: Miyagi Pref.: Honshu: Takayama, near Matushima Bay	*Hyla japonica*	Hylini	39.0
Korea: Kyonggi Prov.; Mt. Buckak, near Seoul	*Hyla japonica*	Hylini	39.0
Myanmar: Chin State: Falam Township, Lon Pi village	*Hyla annectans*	Hylini	35.0
Australia: New South Wales: Mutawintji National Park	*Litoria careulea*	Pelodryadinae	80.0
	Litoria rubella	Pelodryadinae	37.0
Australia: New South Wales: Northern Yengo National Park	*Litoria caerulea*	Pelodryadinae	80.0

	Litoria dentata	Pelodryadinae	40.0
	Litoria fallax	Pelodryadinae	26.0
	Litoria latopalmata	Pelodryadinae	39.0
	Litoria lesueuri	Pelodryadinae	43.0
	Litoria peronii	Pelodryadinae	53.0
Australia: Northern Territory:			
Kakadu National Park	*Cyclorana australis*	Pelodryadinae	79.0
	Cyclorana longipes	Pelodryadinae	46.0
	Litoria bicolour	Pelodryadinae	27.0
	Litoria caerulea	Pelodryadinae	80.0
	Litoria coplandi	Pelodryadinae	36.0
	Litoria dahlia	Pelodryadinae	63.0
	Litoria inermis	Pelodryadinae	33.0
	Litoria meiriana	Pelodryadinae	20.0
	Litoria microbelos	Pelodryadinae	16.0
	Litoria nasuta	Pelodryadinae	45.0
	Litoria pallida	Pelodryadinae	34.0
	Litoria personata	Pelodryadinae	29.0
	Litoria rothii	Pelodryadinae	48.0
	Litoria rubella	Pelodryadinae	37.0
	Litoria tornieri	Pelodryadinae	36.0

Australia: Northern Territory:			
Nitmiluk National Park	*Cyclorana australis*	Pelodryadinae	79.0
	Cyclorana longipes	Pelodryadinae	46.0
	Cyclorana maculosa	Pelodryadinae	55.0
	Cyclorana platycephala	Pelodryadinae	64.0
	Litoria bicolor	Pelodryadinae	27.0
	Litoria caerulea	Pelodryadinae	80.0
	Litoria coplandi	Pelodryadinae	36.0
	Litoria inermis	Pelodryadinae	33.0
	Litoria meiriana	Pelodryadinae	20.0
	Litoria microbelos	Pelodryadinae	16.0
	Litoria nasuta	Pelodryadinae	45.0
	Litoria pallida	Pelodryadinae	34.0
	Litoria personata	Pelodryadinae	29.0
	Litoria rothii	Pelodryadinae	48.0
	Litoria rubella	Pelodryadinae	37.0
	Litoria tornieri	Pelodryadinae	36.0
	Litoria wotjulumensis	Pelodryadinae	38.0
Australia: Queensland:			
Lamington National Park	*Litoria caerulea*	Pelodryadinae	80.0

	Litoria chloris	Pelodryadinae	62.0
	Litoria dentata	Pelodryadinae	40.0
	Litoria fallax	Pelodryadinae	26.0
	Litoria gracilenta	Pelodryadinae	42.0
	Litoria latopalmata	Pelodryadinae	39.0
	Litoria lesuerii	Pelodryadinae	43.0
	Litoria nasuta	Pelodryadinae	45.0
	Litoria pearsoniana	Pelodryadinae	29.0
	Litoria peroni	Pelodryadinae	53.0
	Litoria revelata	Pelodryadinae	28.0
	Litoria rubella	Pelodryadinae	37.0
	Litoria tyleri	Pelodryadinae	48.0
	Litoria verreauxi	Pelodryadinae	36.0
Australia: Queensland: Townsville	*Cyclorana novaehollandiae*	Pelodryadinae	81.0
	Cyclorana brevipes	Pelodryadinae	45.0
	Litoria albogutttata	Pelodryadinae	67.0
	Litoria bicolor	Pelodryadinae	27.0
	Litoria caerulea	Pelodryadinae	80.0
	Litoria fallax	Pelodryadinae	26.0
	Litoria gracilenta	Pelodryadinae	42.0

	Litoria inermis	Pelodryadinae	33.0
	Litoria nasuta	Pelodryadinae	45.0
	Litoria rothii	Pelodryadinae	48.0
	Litoria rubella	Pelodryadinae	37.0
	Litoria wilcoxii	Pelodryadinae	
Australia: Queensland: Cairns	*Litoria bicolor*	Pelodryadinae	27.0
	Litoria caerulea	Pelodryadinae	80.0
	Litoria genimaculata	Pelodryadinae	41.0
	Litoria gracilenta	Pelodryadinae	42.0
	Litoria infrafrenata	Pelodryadinae	102.0
	Litoria jungguy	Pelodryadinae	
	Litoria microbelos	Pelodryadinae	16.0
	Litoria nannotis	Pelodryadinae	48.0
	Litoria nasuta	Pelodryadinae	45.0
	Litoria rheocola	Pelodryadinae	32.0
	Litoria rothii	Pelodryadinae	48.0
	Litoria rubella	Pelodryadinae	37.0
	Litoria xanthomera	Pelodryadinae	56.0
	Nyctimystes dayi	Pelodryadinae	42.0
Australia: Queensland: Kuranda	*Litoria bicolor*	Pelodryadinae	27.0

	Litoria caerulea	Pelodryadinae	80.0
	Litoria genimaculata	Pelodryadinae	41.0
	Litoria gracilenta	Pelodryadinae	42.0
	Litoria infrafrenata	Pelodryadinae	102.0
	Litoria jungguy	Pelodryadinae	
	Litoria microbelos	Pelodryadinae	16.0
	Litoria myola	Pelodryadinae	
	Litoria nasuta	Pelodryadinae	45.0
	Litoria rheocola	Pelodryadinae	32.0
	Litoria rothii	Pelodryadinae	48.0
	Litoria rubella	Pelodryadinae	37.0
	Litoria xanthomera	Pelodryadinae	56.0
	Nyctimystes dayi	Pelodryadinae	42.0
Australia: Queensland:			
Dinden Forest Reserve	*Litoria bicolor*	Pelodryadinae	27.0
	Litoria caerulea	Pelodryadinae	80.0
	Litoria fallax	Pelodryadinae	26.0
	Litoria genimaculata	Pelodryadinae	41.0
	Litoria gracilenta	Pelodryadinae	42.0
	Litoria jungguy	Pelodryadinae	
	Litoria microbelos	Pelodryadinae	16.0

	Litoria nannotis	Pelodryadinae	48.0
	Litoria nasuta	Pelodryadinae	45.0
	Litoria latopalmata	Pelodryadinae	39.0
	Litoria rheocola	Pelodryadinae	32.0
	Litoria rothii	Pelodryadinae	48.0
	Litoria rubella	Pelodryadinae	37.0
	Litoria xanthomera	Pelodryadinae	56.0
	Nyctimystes dayi	Pelodryadinae	42.0
Australia: Queensland:			
Wooroonooran National Park	*Litoria genimaculata*	Pelodryadinae	41.0
	Litoria infrafrenata	Pelodryadinae	102.0
	Litoria jungguy	Pelodryadinae	
	Litoria nannotis	Pelodryadinae	48.0
	Litoria revelata	Pelodryadinae	28.0
	Litoria rheocola	Pelodryadinae	32.0
	Litoria xanthomera	Pelodryadinae	56.0
	Nyctimystes dayi	Pelodryadinae	42.0
New Guinea: Lakekamu Basin,			
Ivimka Research	*Litoria dorsalis*	Pelodryadinae	24.0
	Litoria genimaculata	Pelodryadinae	41.0
	Litoria infrafrenata	Pelodryadinae	102.0

	Litoria modica	Pelodryadinae	30.0
	Litoria pygmaea	Pelodryadinae	30.0
	Litoria sp. 1	Pelodryadinae	
	Litoria sp. 2	Pelodryadinae	
	Litoria sp. 3	Pelodryadinae	
	Nyctimystes cheesmani	Pelodryadinae	60.0
New Guinea: Utai	*Litoria cf. genimaculata*	Pelodryadinae	41.0
	Litoria huntorum	Pelodryadinae	
	Litoria infrafrenata	Pelodryadinae	102.0
	Litoria nigropunctata	Pelodryadinae	32.0
	Litoria thesaurensis	Pelodryadinae	50.0
	Litoria sp.	Pelodryadinae	
Argentina: Buenos Aires: Bahia Blanca	*Hypsiboas pulchella pulchella*	Cophomantini	50.0
Argentina: Cordoba: Capilla de Monte	*Hypsiboas pulchella cordoba*	Cophomantini	50.0
Argentina: Parque Nacional Chaco	*Hypsiboas raniceps*	Cophomantini	71.0
	Dendropsophus nanus	*Dendropsophus*	22.0

		clade	
	Trachycephalus venulosus	Lophiohylini	100.5
	Phyllomedusa azurea	Phyllomedusinae	41.7
	Lysapsus limellus	Pseudis clade	20.0
	Pseudis paradoxus platensis	Pseudis clade	55.0
	Scinax acuminatus	*Scinax* clade	45.0
	Scinax fuscovarius	*Scinax* clade	47.1
	Scinax nasicus	*Scinax* clade	37.0
	Scinax squalirostris	*Scinax* clade	29.0
Brazil: Goias: Espora Power Plant	*Hypsiboas albopunctatus*	Cophomantini	60.0
	Hypsiboas lundii	Cophomantini	76.0
	Hypsiboas multifasciatus	Cophomantini	57.3
	Hypsiboas raniceps	Cophomantini	71.0
	Dendropsophus cruzi	*Dendropsophus* clade	19.4
	Dendropsophus jimi	*Dendropsophus* clade	20.9

	Dendropsophus minutus	*Dendropsophus* clade	23.0
	Dendropsophus nanus	*Dendropsophus* clade	22.0
	Dendropsophus rubicundulus	*Dendropsophus* clade	23.8
	Dendropsophus soaresi	*Dendropsophus* clade	31.7
	Trachycephalus venulosus	Lophiohylini	100.5
	Phyllomedusa azurea	Phyllomedusinae	41.7
	Pseudis bolbodactylus	*Pseudis* clade	45.0
	Scinax fuscomarginatus	*Scinax* clade	24.0
	Scinax fuscovarius	*Scinax* clade	47.1
	Scinax x-signatus	*Scinax* clade	42.5
Brazil: Mato Grosso: Dardanelos Dam	*Hypsiboas boans*	Cophomantini	132.0
	Hypsiboas calcaratus	Cophomantini	47.5
	Hypsiboas cinerascans	Cophomantini	44.0
	Hypsiboas cf.	Cophomantini	62.0

	geographicus		
	Hypsiboas fasciatus	Cophomantini	40.3
	Hypsiboas lanciformis	Cophomantini	80.0
	Hypsiboas sp.	Cophomantini	
	Dendropsophus minutus	*Dendropsophus* clade	23.0
	Dendropsophus parviceps	*Dendropsophus* clade	21.9
	Dendropsophus aff. microcephalus	*Dendropsophus* clade	24.5
	Dendropsophus sp.	*Dendropsophus* clade	
	Osteocephalus leprieurii	Lophiohylini	48.0
	Osteocephalus taurnius	Lophiohylini	85.0
	Phyllomedusa boliviana	Phyllomedusinae	70.5
	Phyllomedusa vaillanti	Phyllomedusinae	59.9
	Scinax boesemani	*Scinax* clade	31.1

	Scinax catharinae group	*Scinax* clade	
	Scinax garbei	*Scinax* clade	42.2
	Scinax nebulosus	*Scinax* clade	30.0
	Scinax ruber	*Scinax* clade	41.2
	Scinax ruber group	*Scinax* clade	
Brazil: Rio Grande do Sul: Parque Nacional Aparados da Serra	*Aplastodiscus perviridis*	Cophomantini	46.1
	Hypsiboas bischoffi	Cophomantini	46.1
	Hypsiboas faber	Cophomantini	104.0
	Hypsiboas leptolineatus	Cophomantini	31.6
	Hypsiboas marginatus	Cophomantini	51.1
	Hypsiboas pulchellus	Cophomantini	50.0
	Dendropsophus microps	*Dendropsophus* clade	26.0
	Dendropsophus minutus	*Dendropsophus* clade	23.0
	Dendropsophus sanborni	*Dendropsophus* clade	17.0

	Pseudis cardosoi	Pseudis clade	45.9
	Scinax berthae	*Scinax* clade	22.2
	Scinax catharinae	*Scinax* clade	35.1
	Scinax granulatus	*Scinax* clade	36.0
	Scinax pereracus	*Scinax* clade	38.5
	Scinax squalirostris	*Scinax* clade	29.0
	Scinax sp.	*Scinax* clade	
Brazil: Tocantins: Lajeado, Luis Eduardo Magalhaes Dam	*Hypsiboas punctatus*	Cophomantini	40.0
	Hypsiboas raniceps	Cophomantini	71.0
	Hypsiboas wavrini	Cophomantini	113.0
	Hypsiboas sp. (pulchella group)	Cophomantini	
	Dendropsophus anataliasiasi	*Dendropsophus* clade	21.8
	Dendropsophus minutus	*Dendropsophus* clade	23.0
	Dendropsophus sp. (nanus group)	*Dendropsophus* clade	
	Dendropsophus sp. (rubicundulus group)	*Dendropsophus* clade	

	Osteocephalus cf. leprieuri	Lophiohylini	48.0
	Trachycephalus venulosus	Lophiohylini	100.5
	Pseudis tocantins	Pseudis clade	
	Scinax fuscomarginatus	*Scinax* clade	24.0
	Scinax fuscovaria	*Scinax* clade	47.1
	Scinax sp. 1 (rostratus group)	*Scinax* clade	
	Scinax sp. 2 (catharinae group)	*Scinax* clade	
	Scinax sp. 3 (ruber group)	*Scinax* clade	
	Scinax sp. 4 (ruber group)	*Scinax* clade	
Uruguay: Montevideo: Pajas Blancas	*Hypsiboas pulchella*	Cophomantini	50.0
	Dendropsophus sanborni	*Dendropsophus* clade	17.0
	Scinax berthae	*Scinax* clade	22.2

	Scinax granulatus	*Scinax* clade	36.0
	Scinax squalirostris	*Scinax* clade	29.0
Uruguay: Salto: El Espinillar	*Hypsiboas pulchella*	Cophomantini	50.0
	Dendropsophus nanus	*Dendropsophus* clade	22.0
	Dendropsophus sanborni	*Dendropsophus* clade	17.0
	Lysapsus limellus	Pseudis clade	20.0
	Pseudis minuta	*Pseudis* clade	40.0
	Scinax fuscovarius	*Scinax* clade	47.1
	Scinax granulatus	*Scinax* clade	36.0
	Scinax nasicus	*Scinax* clade	37.0
	Scinax squalirostris	*Scinax* clade	29.0
Ecuador: Los Rios: Rio Palenque	*Hypsiboas pellucens*	Cophomantini	61.6
	Hypsiboas picturata	Cophomantini	
	Hypsiboas rosenbergi	Cophomantini	90.0
	Dendropsophus gryllatus	*Dendropsophus* clade	25.5
	Smilisca phaeota	Hylini	65.5
	Trachycephalus	Lophiohylini	75.9

	jordani		
	Agalychnis litodryas	Phyllomedusinae	70.2
	Scinax quinquefasciata	*Scinax* clade	30.0
	Scinax sugillatus	*Scinax* clade	42.0
	Scinax sp.	*Scinax* clade	
France: Provence-Alpes-Cote-d'Azur; 3 mi W	*Hyla arborea*	Hylini	50.0
Georgia; ca. 10 km SSE Borzhomi	*Hyla arborea*	Hylini	50.0
Germany: Rostock, Mecklenburg	*Hyla arborea*	Hylini	50.0
Hungary: Budapest	*Hyla arborea*	Hylini	50.0
Morocco: Settat; Ben-Slimane, 5 km N of	*Hyla meridionalis*	Hylini	50.0
Spain: Andalusia: Cadiz Prov.: Benalup de Sidonia	*Hyla meridionalis*	Hylini	50.0
Ukraine: Kiev	*Hyla arborea*	Hylini	50.0
Venezuela: Gran Sabana	*Hypsiboas boans*	Cophomantini	132.0
	Hypsiboas crepitans	Cophomantini	63.0
	Hypsiboas lemai	Cophomantini	30.2
	Hypsiboas	Cophomantini	57.3

	multifasciatus		
	Hypsiboas sibleszi	Cophomantini	34.9
	Dendropsophus minutus	*Dendropsophus* clade	23.0
	Tepuihyla rodriguezi	Lophiohylini	34.7
	Scinax exigua	*Scinax* clade	20.8
Costa Rica: Cartago: Moravia	*Hyloscirtus colymba*	Cophomantini	37.0
	Dendropsophus ebraccatus	*Dendropsophus* clade	27.8
	Anotheca spinosa	Hylini	68.5
	Duellmanohyla rufioculis	Hylini	30.0
	Duellmanohyla uranochroa	Hylini	36.8
	Isthmohyla lancasteri	Hylini	33.6
	Isthmohla pseudopuma	Hylini	41.4
	Smilisca phaeota	Hylini	65.5
	Tlalocohyla loquax	Hylini	44.7
	Agalychnis annae	Phyllomedusinae	73.9
	Hylomantis lemur	Phyllomedusinae	40.8

Costa Rica: Heredia: La Selva	*Hypsiboas rufitelus*	Cophomantini	49.2
	Dendropsophus ebracattus	*Dendropsophus* clade	27.8
	Dendropsophus phlebodes	*Dendropsophus* clade	23.6
	Smilisca baudinii	Hylini	75.9
	Smilisca phaeota	Hylini	65.5
	Smilisca puma	Hylini	38.1
	Tlalocohyla loquax	Hylini	44.7
	Cruziohyla calcarifer	Phyllomedusinae	64.0
	Agalychnis callidryas	Phyllomedusinae	57.2
	Agalychnis saltator	Phyllomedusinae	46.7
	Scinax boulengeri	*Scinax* clade	48.7
	Scinax elaeochrous	*Scinax* clade	37.7
Costa Rica: Heredia: Volcan Barba	*Isthmohyla angustilineata*	Hylini	34.2
	Isthmohyla picadoi	Hylini	32.8
	Isthmohyla pictipes	Hylini	39.0
	Isthmohyla pseudopuma	Hylini	41.4
	Isthmohyla rivularis	Hylini	34.0

Costa Rica: Las Canas: Finca Taboga	*Dendropsophus microcephalus*	*Dendropsophus* clade	24.5
	Smilisca baudinii	Hylini	75.9
	Smilisca sordida	Hylini	44.6
	Trachycephalus venulosus	Lophiohylini	100.5
	Scinax boulengeri	*Scinax* clade	48.7
	Scinax staufferi	*Scinax* clade	29.0
Costa Rica: Puntarenas: Las Cruces	*Dendropsophus ebraccatus*	*Dendropsophus* clade	27.8
	Dendropsophus microcephalus	*Dendropsophus* clade	24.5
	Anotheca spinosa	Hylini	68.5
	Duellmanohyla rufioculis	Hylini	30.0
	Ecnomiohyla miliara	Hylini	110.4
	Isthmohyla lancasteri	Hylini	33.6
	Isthmohyla pseudopuma	Hylini	41.4
	Ptychohyla legleri	Hylini	36.7
	Smilisca sordida	Hylini	44.6

	Agalychnis annae	Phyllomedusinae	73.9
Costa Rica: Puntarenas:			
Rincon de Osa	*Hypsiboas rosenbergi*	Cophomantini	90.0
	Hypsiboas rufitelus	Cophomantini	49.2
	Dendropsophus ebraccatus	*Dendropsophus* clade	27.8
	Smilisca phaeota	Hylini	65.5
	Smilisca sila	Hylini	44.8
	Smilisca sordida	Hylini	44.6
	Trachycephalus venulosus	Lophiohylini	100.5
	Agalychnis callidryas	Phyllomedusinae	57.2
	Agalychnis spurrelli	Phyllomedusinae	92.8
	Scinax boulengeri	*Scinax* clade	48.7
	Scinax elaeochrous	*Scinax* clade	37.7
Guatemala: El Peten: Tikal	*Dendropsophus ebraccatus*	*Dendropsophus* clade	27.8
	Dendropsophus microcephalus	*Dendropsophus* clade	24.5
	Tlalocohyla loquax	Hylini	44.5
	Tlalocohyla picta	Hylini	21.4

	Smilisca baudinii	Hylini	75.9
	Triprion petasatus	Hylini	60.8
	Agalychnis callidryas	Phyllomedusinae	77.2
	Scinax staufferi	*Scinax* clade	29.0
Honduras: Atlantida: La Ceiba	*Dendropsophus microcephalus*	*Dendropsophus* clade	24.5
	Smilisca baudinii	Hylini	75.9
	Tlalocohyla loquax	Hylini	44.5
	Tlalocohyla picta	Hylini	21.4
	Trachycephalus venulosus	Lophiohylini	100.5
	Scinax staufferi	*Scinax* clade	29.0
Honduras: Atlantida: Quebrada de Oro	*Duellmanohyla salvavida*	Hylini	28.0
	Plectrohyla chrysopleura	Hylini	65.6
	Ptycholyla spinipollex	Hylini	39.1
	Smilisca baudinii	Hylini	75.9
Honduras: Copan: Laguna de Cerro	*Duellmanohyla soralia*	Hylini	32.3
	Plectrohyla matudai	Hylini	46.0

	Ptychohyla hypomykter	Hylini	35.4
	Smilisca baudinii	Hylini	75.9
	Tlalocohyla loquax	Hylini	44.5
	Tlalocohyla picta	Hylini	21.4
	Agalychnis callidryas	Phyllomedusinae	57.2
	Agalychnis moreletii	Phyllomedusinae	65.7
Honduras: Copan: Quebrada Grande	*Bromeliohyla bromeliacia*	Hylini	29.5
	Duellmanohyla soralia	Hylini	32.3
	Ecnomiohyla salvaje	Hylini	86.0
	Plectrohyla guatemalensis	Hylini	59.5
	Plectrohyla matudai	Hylini	46.0
	Ptychohyla hypomykter	Hylini	35.4
	Smilisca baudinii	Hylini	75.9
	Agalychnis moreletii	Phyllomedusinae	65.7
Honduras: Gracias de Dios: Barra Patuka	*Dendropsophus microcephalus*	*Dendropsophus* clade	24.5
	Smilisca baudiniii	Hylini	75.9

	Tlalocohyla loquax	Hylini	44.5
	Tlalocohyla picta	Hylini	21.4
	Trachycephalus venulosus	Lophiohylini	100.5
	Agalychnis callidryas	Phyllomedusinae	57.2
	Scinax staufferi	*Scinax* clade	29.0
Mexico: Chiapas: Rayon Mescalapan	*Charadrahyla chaneque*	Hylini	60.7
	Duellmanohyla chamulae	Hylini	30.5
	Exerodonta bivocata	Hylini	28.5
	Plectrohyla acanthodes	Hylini	63.2
	Plectrohyla guatemalensis	Hylini	59.5
	Plectrohyla ixil	Hylini	41.6
Mexico: Distrito Federal: Lago Xochimilco	*Hyla eximia*	Hylini	34.9
Mexico: Durango: El Salto	*Hyla eximia*	Hylini	34.9
Mexico: Guerrero: Puerto del Gallo	*Charadrahyla trux*	Hylini	81.0
	Exerodonta	Hylini	29.9

	melanomma		
	Exerodonta pinorum	Hylini	34.9
	Plectrohyla hazelae	Hylini	38.6
	Plectrohyla mykter	Hylini	46.0
	Plectrohyla pentheter	Hylini	52.1
	Plectrohyla thorectes	Hylini	34.2
	Ptychohyla leonardschultzei	Hylini	35.1
Mexico: Hidalgo: El Chico	*Hyla eximia*	Hylini	34.9
	Hyla plicata	Hylini	44.0
	Plectrohyla robertsorum	Hylini	47.9
Mexico: Jalisco: Chamela	*Dendropsophus sartori*	*Dendropsophus* clade	26.0
	Diaglena spatulata	Hylini	85.9
	Exerodonta smaragdina	Hylini	26.0
	Smilisca baudinii	Hylini	75.9
	Smilisca fodiens	Hylini	62.6
	Tlalocohyla smithii	Hylini	26.0
	Trachycephalus	Lophiohylini	100.5

	venulosus		
	Pachymedusa dacnicolor	Phyllomedusinae	82.6
Mexico: Michoachan: Nueva Italia	*Diaglena spatulata*	Hylini	85.9
	Smilisca baudinii	Hylini	75.9
	Smilisca fodiens	Hylini	62.6
	Tlalocohyla smithii	Hylini	26.0
	Pachymedusa dacnicolor	Phyllomedusinae	82.6
Mexico: Oaxaca: Puerto Escondido	*Dendropsophus sartori*	*Dendropsophus* clade	26.0
	Diaglena spatulata	Hylini	85.9
	Tlalocohyla smithii	Hylini	26.0
	Trachycephalus venulosus	Lophiohylini	100.5
	Pachymedusa dacnicolor	Phyllomedusinae	82.6
	Scinax staufferi	*Scinax* clade	29.0
Mexico: Oaxaca: San Gabriel Mixtepec, N	*Charadrahyla altipotens*	Hylini	80.6

	Exerodonta juanitae	Hylini	35.8
	Exerodonta melanomma	Hylini	29.9
	Exerodonta sumichrasti	Hylini	27.7
	Megastomatohyla pellita	Hylini	29.0
	Plectrohyla pentheter	Hylini	52.1
	Plectrohyla thorectes	Hylini	34.2
	Ptychohyla leonhardschultzii	Hylini	35.1
Mexico: Oaxaca: Tehuantepec	*Smilisca baudinii*	Hylini	75.9
	Triprion petasatus	Hylini	60.8
	Pachymedusa dacnicolor	Phyllomedusinae	82.6
	Scinax staufferi	*Scinax* clade	29.0
Mexico: Oaxaca: Tuxtepec	*Dendropsophus microcephalus*	*Dendropsophus* clade	24.5
	Dendropsophus ebraccataus	*Dendropsophus* clade	27.8
	Smilisca baudinii	Hylini	75.9

	Tlalocohyla loquax	Hylini	44.5
	Tlalocohyla picta	Hylini	21.4
	Trachycephalus venulosus	Lophiohylini	100.5
	Agalychnis callidryas	Phyllomedusinae	57.2
	Scinax staufferi	*Scinax* clade	29.0
Mexico: Oaxaca: Vista Hermosa	*Anotheca spinosa*	Hylini	68.5
	Bromeliohyla dendroscarta	Hylini	31.6
	Charadrahyla nephila	Hylini	70.9
	Duellmanohyla ignicolor	Hylini	30.9
	Ecnomiohyla echinata	Hylini	57.0
	Megastomatohyla mixe	Hylini	30.8
	Plectrohyla arborescandens	Hylini	37.6
	Ptychohyla acrochorda	Hylini	36.3
	Agalychnis moreleti	Phyllomedusinae	65.7
Mexico: Puebla: 14.4 km W	*Ecnomiohyla*	Hylini	38.4

Huachinango	*Ecnomiohyla miotympanum*		
	Hyla euphorbiaceae	Hylini	39.6
	Plectrohyla arborescandens	Hylini	37.6
	Plectrohyla charadricola	Hylini	44.4
Mexico: Sinaloa: Mazatlan	*Pachymedusa dacnicolor*	Phyllomedusinae	82.6
	Diaglena spatulatua	Hylini	85.9
	Smilisca baudinii	Hylini	75.9
	Smilisca fodiens	Hylini	62.6
	Tlalocohyla smithii	Hylini	26.0
Mexico: Sonora: Alamos	*Smilisca baudinii*	Hylini	75.9
	Smilisca fodiens	Hylini	62.6
	Pachymedusa dacnicolor	Phyllomedusinae	82.6
Mexico: Veracruz: Acultzingo (1 km W)	*Ecnomiohyla miotympanum*	Hylini	38.4
	Hyla euphorbiaceae	Hylini	39.6
	Plectrohyla arborescandens	Hylini	37.6

	Plectrohyla bistincta	Hylini	53.8
Mexico: Veracruz: Cuatlapan	*Anotheca spinosa*	Hylini	68.5
	Bromeliohyla dendroscarta	Hylini	31.6
	Ecnomiohyla miotympanum	Hylini	38.4
	Hyla eximia	Hylini	34.9
	Smilisca baudini	Hylini	75.9
	Tlalocohyla picta	Hylini	21.4
	Trachycephalus venulosus	Lophiohylini	100.5
	Agalychnis moreletii	Phyllomedusinae	65.7
	Scinax staufferi	*Scinax* clade	29.0
Mexico: Veracruz: Estacion Los Tuxtlas	*Dendropsophus ebraccatus*	*Dendropsophus* clade	27.8
	Dendropsophus microcephlus	*Dendropsophus* clade	24.5
	Ecnomiohyla valancifer	Hylini	77.7
	Smilisca baudini	Hylini	75.9
	Smilisca cyanosticta	Hylini	57.8

	Tlalocohyla loquax	Hylini	44.5
	Tlalocohyla picta	Hylini	21.4
	Agalychnis callidryas	Phyllomedusinae	57.2
Mexico: Veracruz: Huatusco (3k SW)	*Bromeliohyla dendroscarta*	Hylini	31.6
	Charadrahyla taeniopus	Hylini	65.9
	Ecnomiohyla miotympanum	Hylini	38.4
	Megastomatohyla mixomaculata	Hylini	29.1
	Megastomatohyla nubicola	Hylini	36.7
	Plectrohyla arborescandens	Hylini	37.6
	Smilisca baudinii	Hylini	75.9
Mexico: Veracruz: Mata de Oscura	*Smilisca baudini*	Hylini	75.9
	Tlalocohyla godmani	Hylini	38.0
	Tlalocohyla picta	Hylini	21.4
	Scinax staufferi	*Scinax* clade	29.0

Mexico: Veracruz: Volcan San Martin	*Anotheca spinosa*	Hylini	65.8
	Charadrahyla nephila	Hylini	70.9
	Ecnomiohyla miotympanum	Hylini	38.4
	Ecnomiohyla valancifer	Hylini	77.7
	Smilisca cyanosticata	Hylini	57.8
	Agalychnis moreleti	Phyllomedusinae	65.7
Mexico: Yucatan: Piste	*Dendropsophus microcephalus*	*Dendropsophus* clade	24.5
	Smilisca baudinii	Hylini	75.9
	Tlalocohyla loquax	Hylini	44.5
	Tlalocohyla picta	Hylini	21.4
	Triprion petasatus	Hylini	60.8
	Trachycephalus venulosus	Lophiohylini	100.5
	Agalychnis callidryas	Phyllomedusinae	57.2
Panama: BCI	*Hypsiboas rufitela*	Cophomantini	49.2
	Dendropsophus microcephalus	*Dendropsophus* clade	24.5

	Dendropsophus phlebodes	*Dendropsophus* clade	23.6
	Smilisca phaeota	Hylini	65.5
	Smilisca sila	Hylini	44.8
	Trachycephalus venulosus	Lophiohylini	100.5
	Cruziohyla calcarifer	Phyllomedusinae	64.0
	Agalychnis callidryas	Phyllomedusinae	57.2
	Agalychnis spurrelli	Phyllomedusinae	75.6
	Scinax boulengeri	*Scinax* clade	48.7
Panama: Cocle: El Valle	*Hypsiboas crepitans*	Cophomantini	63.0
	Dendropsophus ebraccatus	*Dendropsophus* clade	27.8
	Dendropsophus microcephalus	*Dendropsophus* clade	24.5
	Dendropsophus phlebodes	*Dendropsophus* clade	23.6
	Anotheca spinosa	Hylini	68.5
	Ecnomiohyla miliara	Hylini	110.4
	Smilisca sila	Hylini	44.8
	Hylomantis lemur	Phyllomedusinae	40.8

	Scinax altae	*Scinax* clade	26.0
Panama: Colon: Achiote	*Hypsiboas rufitelus*	Cophomantini	49.2
	Dendropsophus ebraccatus	*Dendropsophus* clade	27.8
	Dendropsophus phlebodes	*Dendropsophus* clade	23.6
	Smilisca phaeota	Hylini	65.5
	Agalychnis callidryas	Phyllomedusinae	57.2
	Scinax boulengeri	*Scinax* clade	48.7
	Scinax rubra	*Scinax* clade	41.2
Panama: Darien: Rio Tuira at Rio Mono	*Hypsiboas boans*	Cophomantini	132.0
	Hypsiboas rosenbergi	Cophomantini	90.0
	Dendropsophus ebraccatus	*Dendropsophus* clade	27.8
	Smilisca phaeota	Hylini	65.5
	Agalychnis callidryas	Phyllomedusinae	57.2
	Agalychnis litodryas	Phyllomedusinae	70.2
	Phyllomedusa venusta	Phyllomedusinae	86.3
California: Contra Costa Co.; 1 mi NW Alamo	*Pseudacris regilla*	Hylini	48.0

California: San Diego Co.:			
Spring, Pine Mountain	*Pseudacris cadaverina*	Hylini	48.0
	Pseudacris regilla	Hylini	35.9
Colorado: Commanche			
National Grassland	*Pseudacris triseriata*	Hylini	32.0
Florida: Everglades National			
Park	*Hyla cinerea*	Hylini	59.0
	Hyla squirella	Hylini	36.0
	Pseudacris nigrita	Hylini	28.0
	Pseudacris ocularis	Hylini	15.5
Florida: Timucuan Ecological			
and Historic Preserve	*Hyla cinerea*	Hylini	59.0
	Hyla femoralis	Hylini	37.0
	Hyla gratiosa	Hylini	68.0
	Hyla squirella	Hylini	36.0
	Acris gryllus	Hylini	29.0
	Pseudacris crucifer	Hylini	29.0
	Pseudacris ocularis	Hylini	15.5
Georgia: Okeefenokee Swamp	*Hyla chrysoscelis*	Hylini	51.0
	Hyla cinerea	Hylini	59.0
	Hyla femoralis	Hylini	37.0

	Hyla gratiosa	Hylini	68.0
	Hyla squirella	Hylini	36.0
	Acris gryllus	Hylini	29.0
	Pseudacris crucifer	Hylini	29.0
	Pseudacris nigrita	Hylini	28.0
	Pseudacris ocularis	Hylini	15.5
	Pseudacris ornata	Hylini	35.0
Georgia: Okmulgee National Monument	*Acris crepitans*	Hylini	29.0
	Acris gryllus	Hylini	29.0
	Pseudacris crucifer	Hylini	29.0
	Pseudacris nigrita	Hylini	28.0
	Pseudacris ornata	Hylini	35.0
	Hyla avivoca	Hylini	39.0
	Hyla chrysocelis	Hylini	51.0
	Hyla cinerea	Hylini	59.0
	Hyla squirella	Hylini	36.0
North Carolina: Moores Creek National Battlefield	*Hyla chrysocelis*	Hylini	51.0
	Hyla cinerea	Hylini	59.0
	Hyla femoralis	Hylini	37.0

	Hyla gratiosa	Hylini	68.0
	Hyla squirella	Hylini	36.0
	Acris gryllus	Hylini	29.0
	Pseudacris crucifer	Hylini	29.0
	Pseudacris feriarum	Hylini	30.0
	Pseudacris ocularis	Hylini	15.5
	Pseudacris ornata	Hylini	35.0
North Dakota: Badlands National Park	*Pseudacris triseriata*	Hylini	32.0
Ohio: Cuyahoga Valley National Park	*Hyla versicolor*	Hylini	51.0
	Pseudacris crucifer	Hylini	29.0
	Pseudacris triseriata	Hylini	32.0
South Carolina: Congaree Swamp National Monument	*Hyla chrysocelis*	Hylini	51.0
	Hyla cinerea	Hylini	59.0
	Hyla femoralis	Hylini	37.0
	Hyla gratiosa	Hylini	68.0
	Hyla squirella	Hylini	36.0
	Acris crepitans	Hylini	29.0
	Acris gryllus	Hylini	29.0

	Pseudacris brimleyi	Hylini	28.0
	Pseudacris crucifer	Hylini	29.0
	Pseudacris feriarum	Hylini	30.0
	Pseudacris nigrita	Hylini	28.0
	Pseudacris ornata	Hylini	35.0
South Carolina: Savannah River Ecology Laboratory	*Hyla avivoca*	Hylini	39.0
	Hyla chrysocelis	Hylini	52.0
	Hyla cinerea	Hylini	59.0
	Hyla femoralis	Hylini	37.0
	Hyla gratiosa	Hylini	68.0
	Hyla squirella	Hylini	36.0
	Acris crepitans	Hylini	29.0
	Acris gryllus	Hylini	29.0
	Pseudacris crucifer	Hylini	29.0
	Pseudacris nigrita	Hylini	28.0
	Pseudacris ocularis	Hylini	15.5
	Pseudacris ornata	Hylini	35.0
South Dakota: Sand Lake National Wildlife Refuge	*Acris crepitans*	Hylini	29.0
	Hyla chrysocelis	Hylini	51.0

	Pseudacris triseriata	Hylini	32.0
Tennessee: Great Smoky Mountains National Park	*Acris crepitans*	Hylini	29.0
	Pseudacris crucifer	Hylini	29.0
	Pseudacris feriarum	Hylini	30.0
	Hyla chrysocelis	Hylini	51.0
Texas: Padre Island National Seashore	*Hyla cinerea*	Hylini	59.0
	Pseudacris clarkii	Hylini	29.0
Utah: Zion National Park	*Hyla arenicolor*	Hylini	52.0
Virginia: Shenandoah National Park	*Acris crepitans*	Hylini	29.0
	Hyla versicolor	Hylini	51.0
	Pseudacris crucifer	Hylini	29.0
	Pseudacris feriarum	Hylini	30.0
Washington: Pierce Co. Parkland, Wake Lake	*Pseudacris regilla*	Hylini	48.0
Wyoming: Yellowstone National Park	*Pseudacris triseriata*	Hylini	32.0
Brazil: Bahia: Estacion VeraCruz	*Aplastodiscus gr. albosignata*	Cophomantini	

Hypsiboas albomarginatus	Cophomantini	55.0
Hypsiboas crepitans	Cophomantini	63.0
Hypsiboas faber	Cophomantini	104.0
Hypsiboas semilineatus	Cophomantini	40.1
Dendropsophus anceps	*Dendropsophus* clade	40.0
Dendropsophus bipunctatus	*Dendropsophus* clade	25.0
Dendropsophus decipiens	*Dendropsophus* clade	20.0
Dendropsophus elegans	*Dendropsophus* clade	29.6
Dendropsophus microps	*Dendropsophus* clade	26.0
Dendropsophus minutus	*Dendropsophus* clade	23.0
Dendropsophus seniculus	*Dendropsophus* clade	37.7
Aparasphenodon	Lophiohylini	

brunoi		
Itapotihyla langsdorffii	Lophiohylini	77.0
Phyllodytes luteolus	Lophiohylini	23.0
Phyllodytes melanomystax	Lophiohylini	25.4
Trachycephalus mesopheus	Lophiohylini	100.5
Hylomantis aspera	Phyllomedusinae	41.7
Phyllomedusa burmeisteri	Phyllomedusinae	79.0
Scinax alter	*Scinax* clade	30.0
Scinax argyreornata	*Scinax* clade	15.8
Scinax cuspidatus	*Scinax* clade	29.0
Scinax euridyce	*Scinax* clade	42.0
Scinax catharinae group	*Scinax* clade	
Scinax ruber group	*Scinax* clade	
Sphaenorhynchus palustris	*Scinax* clade	36.0
Undescribed species		
Undescribed species		

Brazil: Bahia: Zumbidos Palmares	*Aplastodiscus gr. albosignata*	Cophomantini	
	Bokermannohyla gr. circumdata	Cophomantini	
	Hypsiboas albomarginatus	Cophomantini	55.0
	Hypsiboas atlantica	Cophomantini	40.2
	Hypsiboas crepitans	Cophomantini	63.0
	Hypsiboas faber	Cophomantini	104.0
	Dendropsophus branneri	*Dendropsophus* clade	19.0
	Dendropsophus elegans	*Dendropsophus* clade	23.6
	Dendropsophus gr. marmoratus	*Dendropsophus* clade	
	Dendropsophus minutus	*Dendropsophus* clade	23.0
	Phyllodytes luteolus	Lophiohylini	23.0
	Phyllodytes melanomystax	Lophiohylini	25.4
	Trachycephalus	Lophiohylini	100.5

	mesopheus		
	Hylomantis aspera	Phyllomedusinae	41.7
	Phyllomedusa burmeisteri	Phyllomedusinae	79.0
	Scinax cuspidatus	*Scinax* clade	29.0
	Scinax euridyce	*Scinax* clade	42.0
	Scinax gr. ruber	*Scinax* clade	
	Undescribed species		
	Undescribed species		
Brazil: Boriacea	*Aplastodiscus albofrenatus*	Cophomantini	40.0
	Aplastodiscus leucopygius	Cophomantini	45.1
	Aplastodiscus albosignatus	Cophomantini	52.0
	Bokermannohyla astartea	Cophomantini	41.5
	Bokermannohyla circumdata	Cophomantini	70.0
	Bokermannohyla hylax	Cophomantini	61.5
	Hypsiboas	Cophomantini	60.0

albopunctatus		
Hypsiboas bischoffi (multilineata)	Cophomantini	46.1
Hypsiboas faber	Cophomantini	104.0
Hypsiboas pardalis	Cophomantini	69.0
Hypsiboas polytaenius	Cophomantini	31.4
Hypsiboas prasinus	Cophomantini	55.0
Dendropsophus microps	*Dendropsophus* clade	26.0
Dendropsophus minuta	*Dendropsophus* clade	23.0
Dendropsophus senicula	*Dendropsophus* clade	37.7
Itapotihyla langsdorfii	Lophiohylini	77.0
Phrynomedusa appendiculata	Phyllomedusinae	37.4
Phasmahyla cochranae	Phyllomedusinae	33.9
Scinax brieni	*Scinax* clade	32.7
Scinax crospedospilus	*Scinax* clade	33.3
Scinax flavoguttatus	*Scinax* clade	29.3
Scinax hayii	*Scinax* clade	43.0

	Scinax obtriangulatus	*Scinax* clade	28.0
	Scinax perpusillus	*Scinax* clade	18.3
	Scinax x-signatus	*Scinax* clade	42.5
	Sphaenorhynchus orophilus	*Scinax* clade	32.0
Dominican Republic: Samana: Laguna	*Osteopilus dominicensis*	Lophiohylini	66.0
	Osteopilus pulchrilineatus	Lophiohylini	39.5
	Osteopilus vastus	Lophiohylini	108.8
Dominican Republic: Samana: Rio San Juan	*Osteopilus dominicensis*	Lophiohylini	66.0
	Osteopilus pulchrilineatus	Lophiohylini	39.5
	Osteopilus vastus	Lophiohylini	108.8
Haiti: Ouest: Furcy	*Hypsiboas heilprini*	Cophomantini	66.0
	Osteopilus dominicensis	Lophiohylini	39.5
	Osteopilus vastus	Lophiohylini	108.8
Jamaica, Manchester Parish, Mandeville	*Osteopilus brunneus*	Lophiohylini	52.0

	Osteopilus crucialis	Lophiohylini	100.0
	Osteopilus wilderi	Lophiohylini	27.3
Jamaica, Quick Step	*Osteopilus brunneus*	Lophiohylini	52.0
	Osteopilus marianae	Lophiohylini	40.0
	Osteopilus wilderi	Lophiohylini	27.3
Jamaica: Trelany Parish:			
Windsor	*Osteopilus brunneus*	Lophiohylini	52.0
	Osteopilus marianae	Lophiohylini	40.0
	Osteopilus wilderi	Lophiohylini	27.3

836 Table S4. Average values of annual mean temperature (º C) and annual
837 precipitation (mm) for 337 hylid species. Sample size indicates the number of
838 georeferenced museum and literature localities from which climatic data were
839 obtained.

Species	Sample size	Annual mean temp.	Annual precipitation
Hylinae			
Acris crepitans	59	15.8	1006.5
Acris gryllus	19	18.8	1470.7
Anotheca spinosa	15	21.4	2314.9
Aparasphenodon brunoi	3	23.8	1378.7
Aplastodiscus albofrenatus	4	20.8	2132.5
Aplastodiscus leucopygius	2	17.7	2214.5
Aplastodiscus albosignatus	5	18.2	2183
Aplastodiscus arildae	2	17.8	1848.5
Aplastodiscus cochranae	1	16.1	1762
Aplastodiscus perviridis	3	17.1	1777.7
Argenteohyla siemersi	2	17.2	1208.5
Bokermannohyla astartea	1	16.9	2429
Bokermannohyla circumdata	6	18.8	2153.3

Bokermannohyla hylax	3	18.8	2128.7
Bromeliohyla bromeliacia	7	19.8	2307
Charadrahyla nephila	2	20.3	3248
Charadrahyla taeniopus	9	16.9	1529.6
Corythomantis greeningi	1	26.1	1017
Dendropsophus allenorum	1	25.6	2479
Dendropsophus anceps	4	23.5	1514.3
Dendropsophus aperomeus	3	18.1	1230
Dendropsophus berthalutzae	3	21.2	2458.7
Dendropsophus bifurcus	14	23.5	3561.1
Dendropsophus bipunctatus	3	23.4	1433.7
Dendropsophus brevifrons	6	24.8	2796
Dendropsophus carnifex	5	17.3	2264.5
Dendropsophus ebraccatus	10	23.9	3147.9
Dendropsophus elegans	6	23.4	1738.2
Dendropsophus giesleri	2	22.4	1564
Dendropsophus koechlini	3	25.3	2829.3
Dendropsophus labialis	1	15.3	1556
Dendropsophus leali	2	25.4	2755
Dendropsophus leucophyllatus	6	25.6	2844.2
Dendropsophus marmoratus	4	25.5	2913.3

Dendropsophus microcephalus	13	25.3	2210.7
Dendropsophus minusculus	2	26.2	1496.5
Dendropsophus minutus	11	23.1	2230.2
Dendropsophus miyatai	2	26.2	3197.5
Dendropsophus nanus	9	24.6	1007.9
Dendropsophus parviceps	5	25.4	2936.8
Dendropsophus pelidna	2	11.3	1392.5
Dendropsophus rhodopepla	5	25.4	2867.4
Dendropsophus riveroi	4	25.3	2964.5
Dendropsophus robertmertensi	26	26.7	1956.8
Dendropsophus rubicundulus	7	21.5	1643.1
Dendropsophus sanborni	6	20.7	1495
Dendropsophus sarayacuensis	15	24.5	3137.3
Dendropsophus sartori	14	27.7	1149.4
Dendropsophus schubarti	2	26.3	2468.5
Dendropsophus seniculus	5	22.9	1657.8
Dendropsophus triangulum	15	25.4	3224.9
Dendropsophus walfordi	7	26.3	2460
Diaglena spatulata	15	25.7	862.33
Duellmanohyla rufiocolis	2	21.2	3106.5
Duellmanohyla soralia	5	20.7	1700.8

Duellmanohyla uranochroa	4	19.6	2793.3
Ecnomiohyla miliaria	5	22.9	3118.4
Ecnomiohyla minera	3	19.9	1949.7
Ecnomiohyla miotympanum	56	19.7	1585.6
Exerodonta abdivita	1	24.4	2894
Exerodonta chimalapa	2	21.8	1639.5
Exerodonta melanomma	7	22.5	1096.9
Exerodonta perkinsi	1	21.8	4292
Exerodonta smaragdina	14	24.0	1082.8
Exerodonta sumichrasti	11	21.5	1381.5
Exerodonta xera	1	18.9	373
Hyla andersoni	7	15.2	1428.4
Hyla annectans	13	15.7	1300.6
Hyla arborea	29	10.2	830.48
Hyla arenicolor	95	16.8	763.5
Hyla avivoca	15	16.2	1445.9
Hyla chinensis	9	17.7	1683.9
Hyla chrysocelis	130	13.3	1070.1
Hyla cinerea	35	18.2	1348.2
Hyla euphorbiacea	14	15.6	957.57
Hyla eximia	81	14.7	980.83

Hyla femoralis	25	19.6	1424.4
Hyla gratiosa	19	17.8	1423.5
Hyla japonica	23	12.3	1632.7
Hyla meridionalis	12	14.6	669
Hyla plicata	30	12.3	1078.2
Hyla savignyi	13	18.4	543.46
Hyla squirella	32	19.3	1439
Hyla versicolor	27	12.5	1167.3
Hyla walkeri	7	13.8	1246.4
Hyla wrightorum	10	10.6	637
Hyloscirtus armatus	3	21.6	1771
Hyloscirtus colymba	2	21.8	2822.5
Hyloscirtus lascinius	1	17.2	1487
Hyloscirtus lindae	1	14.2	1837
Hyloscirtus pacha	1	16.0	2092
Hyloscirtus palmeri	1	23.7	806
Hyloscirtus pantostictus	1	11.5	1251
Hyloscirtus phyllognathus	10	18.9	2443.8
Hyloscirtus simmonsi	1	13.5	2221
Hyloscirtus tapichalaca	1	16.7	1487
Hypsiboas albomarginatus	10	21.3	1564.5

Hypsiboas albopunctatus	17	21.6	1802.9
Hypsiboas andinus	5	13.3	871.2
Hypsiboas balzani	1	18.4	1814
Hypsiboas benitezi	4	20.8	2885.8
Hypsiboas bischoffi	9	18.1	2002.9
Hypsiboas boans	9	24.7	2568
Hypsiboas caingua	1	21.6	1862
Hypsiboas calcaratus	17	25.0	3009.8
Hypsiboas cordobae	1	14.9	729
Hypsiboas crepitans	18	23.6	1647.7
Hypsiboas ericae	1	21.1	1952
Hypsiboas faber	11	20.9	1882.2
Hypsiboas fasciatus	12	25.3	2850.2
Hypsiboas geographicus	19	24.5	2428.7
Hypsiboas granosa	17	25.5	2832.8
Hypsiboas guentheri	3	19.0	1704.7
Hypsiboas heilprini	8	22.2	1533.4
Hypsiboas joaquini	2	14.8	1755.5
Hypsiboas lanciformis	14	24.4	2856.5
Hypsiboas latistriatus	1	11.2	1959
Hypsiboas lemai	2	24.7	1942.5

Hypsiboas leptolineatus	1	14.7	1888
Hypsiboas lundii	2	20.9	1855.5
Hypsiboas marginatus	1	14.7	1888
Hypsiboas marianitae	1	22.3	1177
Hypsiboas microderma	1	25.5	3641
Hypsiboas multifasciatus	3	25.2	2027.7
Hypsiboas pardalis	6	19.2	1978.8
Hypsiboas pellucens	8	24.3	3306.8
Hypsiboas picturatus	6	23.4	2883.2
Hypsiboas polytaenia	7	18.3	1868.1
Hypsiboas prasinus	4	17.8	2165.5
Hypsiboas pulchellus	4	16.9	1238
Hypsiboas punctatus	14	25.0	2317.3
Hypsiboas raniceps	9	24.8	1618.9
Hypsiboas riojanus	3	17.2	323
Hypsiboas roraima	1	20.4	2261
Hypsiboas rosenbergi	12	24.1	3141.5
Hypsiboas rufitelus	5	25.9	3630.4
Hypsiboas semiguttatus	2	17.0	1695.5
Hypsiboas semilineatus	1	24.0	1540
Hypsiboas sibleszi	2	20.7	2158.5

Isthmohyla pseudopuma	8	17.8	3030.9
Isthmohyla rivularis	6	16.2	2931.8
Isthmohyla tica	6	19.2	2841.5
Isthmohyla zeteki	6	17.8	2779.7
Itapotihyla langsdorffii	3	20.2	2141.7
Lysapsus caraya	2	27.6	2132
Lysapsus laevis	1	27.0	1568
Lysapsus limellus	7	23.8	1783
Lysapsus limellus bolivianus	1	26.6	2983
Megastomatohyla mixe	1	20.6	3544
Myersiohyla inparquesi	1	12.4	3126
Myersiohyla kanaima	1	20.0	1619
Nyctimantis rugiceps	4	24.1	4400.8
Osteocephalus alboguttatus	4	24.2	3785
Osteocephalus buckleyi	11	25.3	3263.7
Osteocephalus cabrerai	1	26.2	3622
Osteocephalus leprieurii	7	24.4	2619
Osteocephalus mutabor	3	24.9	3620
Osteocephalus oophagus	2	26.5	3195
Osteocephalus planiceps	7	25.6	3474.3
Osteocephalus taurinus	8	26.0	2690.4

Osteocephalus verruciger	7	19.6	2553.7
Osteopilus brunneus	3	23.0	1654.3
Osteopilus crucialis	1	22.0	1590
Osteopilus dominicensis	7	24.2	1433.3
Osteopilus marianae	2	23.6	1686.5
Osteopilus pulchrilineata	2	24.8	2083.5
Osteopilus septentrionalis	12	25.2	1322.8
Osteopilus vastus	3	23.2	1849
Osteopilus wilderi	3	23.0	1654.3
Phyllodytes auratus	1	21.5	2337
Phyllodytes luteolus	1	24.7	1151
Plectrohyla ameibothalame	2	14.5	792
Plectrohyla arborescandens	4	17.0	1850.8
Plectrohyla bistincta	10	16.9	1342.6
Plectrohyla calthula	1	15.7	2334
Plectrohyla chrysopleura	1	18.9	1735
Plectrohyla cyclada	4	16.7	1385.8
Plectrohyla glandulosa	10	14.5	3125.5
Plectrohyla guatemalensis	22	17.3	1960.4
Plectrohyla matudi	4	17.3	2078.5
Plectrohyla pentheter	3	18.2	1313.7

Plectrohyla siopela	1	13.1	440
Podonectes cardosoi	1	14.7	1888
Podonectes minutus	12	18.2	1372.8
Pseudacris brachyphona	16	10.7	1201.7
Pseudacris brimleyi	26	14.7	1152
Pseudacris cadaverina	11	15.6	400.64
Pseudacris clarkii	32	16.1	771.72
Pseudacris crucifer	35	11.1	1227.6
Pseudacris feriarum	57	13.7	1104
Pseudacris foquettei	15	16.3	1403
Pseudacris illinoensis	4	13.2	1090.8
Pseudacris kalmi	6	13.4	1072.2
Pseudacris maculata	564	4.8	532.57
Pseudacris nigrita	16	19.4	1440.1
Pseudacris ocularis	14	21.1	1299.9
Pseudacris ornata	10	18.6	1277.7
Pseudacris regilla	88	12.0	588.22
Pseudacris streckeri	20	16.3	832.85
Pseudacris triseriata	5	8.9	936.2
Pseudis bolbodactyla	3	23.9	1505
Pseudis fusca	1	22.6	1088

Pseudis paradoxa	10	25.1	1488.8
Pseudis paradoxa platensis	1	21.5	1336
Pseudis tocantins	1	19.6	1740
Ptychohyla dendrophasma	1	19.6	2829
Ptychohyla euthysanota	8	20.0	2770.4
Ptychohyla hypomycter	9	18.3	1534.4
Ptychohyla leonhardschultzei	3	20.5	1543.7
Ptychohyla spinipollex	6	19.8	1721
Ptychohyla zophodes	1	21.2	1566
Scarthyla goinorum	2	25.4	2755
Scinax acuminatus	2	21.8	1568.5
Scinax berthae	2	19.2	1455.5
Scinax boesemani	10	26.0	2633.6
Scinax boulengeri	23	25.9	3169.3
Scinax catharinae	4	18.1	1671.3
Scinax chiquitanus	2	25.3	2811
Scinax crospedospilus	3	17.1	2260
Scinax cruentommus	10	24.7	2830.5
Scinax duartei	3	15.5	1929.3
Scinax elaeochrous	26	24.9	3436.4
Scinax funereus	4	25.3	3231

Scinax fuscovarius	6	20.0	1547.7
Scinax garbei	4	25.5	2926.5
Scinax hayii	14	19.3	1860.4
Scinax ictericus	2	25.3	2760.5
Scinax nasicus	2	20.0	1448.5
Scinax obtriangulatus	3	17.2	2066
Scinax oreites	3	14.5	1262
Scinax pedromedinae	3	25.4	2929.7
Scinax quinquefasciatus	7	24.8	2485
Scinax ruber	7	26.0	2647.4
Scinax similis	3	22.9	1451.3
Scinax squalirostris	15	17.9	1295.7
Scinax staufferi	10	25.0	1742.1
Scinax sugillatus	4	24.7	3317.8
Scinax uruguayus	6	17.6	1349
Smilisca baudinii	21	23.1	1972.3
Smilisca cyanosticta	10	23.3	2728.6
Smilisca fodiens	47	22.3	864.09
Smilisca phaeota	12	24.4	2975.3
Smilisca puma	11	25.5	3851.3
Smilisca sila	5	24.9	2948.8

Smilisca sordida	53	24.2	3084.7
Sphaenorhynchus dorisae	5	26.0	2905.8
Sphaenorhynchus lacteus	6	26.0	2511.2
Sphaenorhynchus orophilus	3	18.4	2079.7
Tepuihyla edelcae	5	14.7	2969.6
Tlalocohyla godmani	3	22.3	1600
Tlalocohyla loquax	29	24.6	2118.9
Tlalocohyla picta	9	23.9	2059
Tlalocohyla smithii	71	25.0	1089.5
Trachycephalus coriaceus	12	25.6	2899.6
Trachycephalus imitatrix	3	18.2	1875.3
Trachycephalus jordani	3	23.9	2867.7
Trachycephalus mesophaeus	5	22.6	1746.6
Trachycephalus nigromaculatus	5	21.9	1728
Trachycephalus resinifrictix	5	26.0	2924
Trachycephalus venulosus	21	25.2	2176.3
Triprion petasatus	24	25.3	1255.3
Xenohyla truncata	1	23.6	1515
Pelodryadinae			
Cyclorana alboguttata	9	22.9	949.22
Cyclorana australis	7	22.7	1125.1

Cyclorana brevipes	14	20.8	662.14
Cyclorana cryptotis	11	28.0	949.46
Cyclorana longipes	14	27.3	1084.8
Cyclorana manya	3	26.1	1359.3
Litoria amboinensis	1	23.9	4678
Litoria arfakiana	12	21.6	4334.3
Litoria aurea	11	17.2	1123.6
Litoria bicolor	9	27.0	1642.7
Litoria booroolongensis	12	14.1	1020.7
Litoria caerulea	14	22.7	1875.6
Litoria chloris	15	17.0	1502.2
Litoria coplandi	12	27.4	1495.2
Litoria cyclorhyncha	5	16.5	472.6
Litoria dahlii	9	27.7	1792.6
Litoria dentata	11	16.9	1264.3
Litoria eucnemis	5	22.9	3452.6
Litoria fallax	11	19.4	1555.7
Litoria freicyneti	10	17.3	1153.8
Litoria genimaculata	9	22.1	2731.8
Litoria gilleni	6	21.4	341.5
Litoria gracilenta	8	21.5	2050

Litoria inermis	12	26.1	1323.9
Litoria infrafrenata	9	25.2	2562.9
Litoria lesueurii	10	19.4	1665.6
Litoria meiriana	10	26.5	1514.7
Litoria microbelos	7	26.8	1841.1
Litoria modica	3	20.2	3690.3
Litoria nannotis	8	21.3	2442.1
Litoria nasuta	9	26.4	1676.6
Litoria pallida	10	27.0	1270.6
Litoria peronii	10	17.2	646.6
Litoria phyllochroa	10	16.3	1284.3
Litoria rothii	7	26.4	1500.7
Litoria rubella	11	24.1	1226
Litoria splendida	6	28.6	916.67
Litoria subglandulosa	6	14.8	1454
Litoria thesaurensis	1	21.4	3669
Litoria tornieri	11	27.7	1647.5
Litoria watjulumensis	9	27.8	1271
Litoria wollastoni	4	21.9	2915.3
Litoria xanthomera	8	20.8	2609.1
Nyctimystes dayi	6	23.3	2869.2

Nyctimystes foricula	3	20.0	4173.3
Nyctimystes kubori	4	17.5	3090
Nyctimystes narinosus	1	18.5	2272
Nyctimystes papua	2	22.7	2532
Nyctimystes pulcher	4	21.8	3904.3
Phyllomedusinae			
Agalychnis annae	6	20.4	3069.8
Agalychnis callidryas	11	25.1	2767.2
Agalychnis litodryas	5	24.9	3178.6
Agalychnis moreleti	5	20.0	2323.2
Agalychnis saltator	7	25.7	3053.4
Agalychnis spurrelli	2	26.5	3630.5
Cruziohyla calcarifer	2	26.4	3452
Hylomantis granulosa	1	23.1	1275
Hylomantis lemur	2	21.8	2822.5
Pachymedusa dacnicolor	127	25.3	990.22
Phasmahyla cochranae	3	18.4	2059.3
Phasmahyla guttata	2	23.1	1986
Phrynomedusa marginata	4	21.5	2011
Phyllomedusa atelopoides	2	25.4	2755
Phyllomedusa azurea	10	23.5	1378.6

Phyllomedusa bicolor	9	26.9	2548.3
Phyllomedusa boliviana	4	24.6	1914.8
Phyllomedusa duellmani	2	17.6	1200.5
Phyllomedusa hypochondrialis	14	24.8	1872.1
Phyllomedusa palliata	5	25.4	3100.8
Phyllomedusa perinesos	3	19.7	3053
Phyllomedusa tarsius	5	26.0	2657
Phyllomedusa tetraploidea	2	19.1	1407.5
Phyllomedusa tomopterna	7	25.8	2685
Phyllomedusa trinitatus	3	26.3	1688
Phyllomedusa vaillanti	7	25.9	2827.6

Table S5. Genera of hylid frogs, indicating the major clade to which they belong, the average values of mean annual temperature (º C) and mean annual precipitation (mm), based on averages for sampled species (Table S4) and estimated rates of body-size evolution. Several genera lack estimates of rates of body-size evolution, either because they contain less than 3 species or because less than 3 species are included in our phylogeny.

Genera	Clade	Mean temp.	Mean precip.	Size rate
Aplastodiscus	Cophomantini	17.900	1986.36	0.00066
Bokermannohyla	Cophomantini	18.150	2237.00	0.00275
Hyloscirtus	Cophomantini	17.500	1821.83	0.00080
Hypsiboas	Cophomantini	20.907	2071.14	0.00290
Myersiohyla	Cophomantini	16.200	2372.50	
Acris	Hylini	17.300	1238.60	
Anotheca	Hylini	21.413	2314.93	
Bromeliohyla	Hylini	19.777	2307.00	
Charadrahyla	Hylini	18.600	2388.78	
Diaglena	Hylini	25.652	862.33	
Duellmanohyla	Hylini	20.475	2533.52	
Ecnomiohyla	Hylini	20.800	2217.89	
Exerodonta	Hylini	22.100	1822.80	0.00506

Hyla	Hylini	15.600	1126.14	0.00310
Isthmohyla	Hylini	17.700	2895.97	0.00192
Megastomatohyla	Hylini	20.600	3544.00	
Plectrohyla	Hylini	16.400	1668.92	0.00180
Pseudacris	Hylini	14.100	1020.70	0.00331
Ptychohyla	Hylini	19.600	2169.37	0.00018
Smilisca	Hylini	23.900	2632.16	0.00316
Tlalocohyla	Hylini	24.000	1716.85	0.00255
Triprion	Hylini	25.271	1255.33	
Aparasphenodon	Lophiohylini	23.800	1378.67	
Argenteohyla	Lophiohylini	17.200	1208.50	
Corythomantis	Lophiohylini	26.100	1017.00	
Itapotihyla	Lophiohylini	20.167	2141.67	
Nyctimantis	Lophiohylini	24.125	4400.75	
Osteocephalus	Lophiohylini	24.700	3202.57	0.00699
Osteopilus	Lophiohylini	23.600	1659.22	0.00820
Phyllodytes	Lophiohylini	23.100	1744.00	
Tepuihyla	Lophiohylini	14.700	2969.60	
Trachycephalus	Lophiohylini	23.300	2316.78	0.00379
Dendropsophus	*Dendropsophus* clade	23.500	2252.41	0.00127

Xenohyla	*Dendropsophus* clade	23.600	1515.00	
Scinax	*Scinax* clade	21.900	2234.08	0.00098
Sphaenorhynchus	*Scinax* clade	23.500	2498.88	
Lysapsus	*Pseudis* clade	26.100	1827.67	0.00057
Podonectes	*Pseudis* clade	16.500	1630.42	
Pseudis	*Pseudis* clade	22.500	1431.56	0.00143
Scarthyla	*Pseudis* clade	25.350	2755.00	
Agalychnis	Phyllomedusinae	23.800	3003.79	0.00198
Cruziohyla	Phyllomedusinae	26.400	3452.00	
Hylomantis	Phyllomedusinae	22.425	2048.75	
Pachymedusa	Phyllomedusinae	25.267	990.22	
Phasmahyla	Phyllomedusinae	20.700	2022.67	
Phrynomedusa	Phyllomedusinae	21.525	2011.00	
Phyllomedusa	Phyllomedusinae	23.900	2237.55	0.00265
Pelodryadinae	Pelodryadinae	22.300	1930.33	0.00444

Table S6. Genera of hylid frogs, indicating the major clade to which they belong, species richness, estimated age (based on the time-calibrated phylogeny), and estimated diversification rate. Note that subfamily Pelodryadinae presently consists of a single monophyletic genus (*Litoria*).

Genera	Clade	Species richness	Stem age	Div. rate (stem, *e* = 0.45)
Aplastodiscus	Cophomantini	15	52.45	0.0412
Bokermannohyla	Cophomantini	27	56.69	0.0481
Hyloscirtus	Cophomantini	31	64.01	0.0447
Hypsiboas	Cophomantini	83	52.45	0.073
Myersiohyla	Cophomantini	4	71.18	0.0137
Acris	Hylini	3	44.4	0.017
Anotheca	Hylini	1	18.49	0.000
Bromeliohyla	Hylini	2	28.21	0.016
Charadrahyla	Hylini	5	39.34	0.030
Diaglena	Hylini	1	24.36	0.000
Duellmanohyla	Hylini	8	28.21	0.056
Ecnomiohyla	Hylini	11	43.42	0.043
Exerodonta	Hylini	11	33.62	0.056
Hyla	Hylini	36	42.05	0.0715

Isthmohyla	Hylini	15	38.47	0.0562
Megastomatohyla	Hylini	4	39.34	0.0248
Plectrohyla	Hylini	42	33.62	0.094
Pseudacris	Hylini	16	44.4	0.0501
Ptychohyla	Hylini	13	28.21	0.0719
Smilisca	Hylini	8	32.64	0.0484
Tlalocohyla	Hylini	4	40.85	0.0239
Triprion	Hylini	1	18.49	0
Aparasphenodon	Lophiohylini	4	22.8	0.0427
Argenteohyla	Lophiohylini	1	19.27	0
Corythomantis	Lophiohylini	1	35.43	0
Itapotihyla	Lophiohylini	1	39.01	0
Nyctimantis	Lophiohylini	1	19.27	0
Osteocephalus	Lophiohylini	21	30.01	0.0828
Osteopilus	Lophiohylini	8	39.28	0.0402
Phyllodytes	Lophiohylini	12	42.08	0.0464
Tepuihyla	Lophiohylini	8	30.01	0.0526
Trachycephalus	Lophiohylini	12	40.88	0.0478
Dendropsophus	*Dendropsophus* clade	94	54.12	0.0731
Xenohyla	*Dendropsophus*	2	54.12	0.0081

	clade			
Scinax	*Scinax* clade	96	68.31	0.0582
Sphaenorhynchus	*Scinax* clade	14	68.31	0.0307
Lysapsus	*Pseudis* clade	4	29.33	0.0332
Podonectes	*Pseudis* clade	2	29.33	0.0149
Pseudis	*Pseudis* clade	5	33.31	0.0349
Scarthyla	*Pseudis* clade	2	48.16	0.0091
Agalychnis	Phyllomedusinae	6	22.55	0.0586
Cruziohyla	Phyllomedusinae	2	53.49	0.0082
Hylomantis	Phyllomedusinae	8	37.74	0.0418
Pachymedusa	Phyllomedusinae	1	22.55	0
Phasmahyla	Phyllomedusinae	7	43.32	0.0337
Phrynomedusa	Phyllomedusinae	5	45.48	0.0256
Phyllomedusa	Phyllomedusinae	32	43.32	0.0668
Pelodryadinae (*Litoria*)	Pelodryadinae	189	71.91	0.0646

Table S7. Maximum male body size (SVL in mm) reported for hylid species included in the phylogeny and/or local communities, indicating the literature sources from which the size data are taken (see references listed immediately below the table). Species are arranged alphabetically within clades and clades are listed alphabetically as well.

Species	Max. SVL	Literature source	Clade
Aplastodiscus albofrenatus	40	Lutz 1973	Cophomantini
Aplastodiscus albosignatus	52	Lutz 1973	Cophomantini
Aplastodiscus arildae	41.6	Heyer et al. 1990	Cophomantini
Aplastodiscus callipygius	50.7	Cruz and Peixoto 1984	Cophomantini
Aplastodiscus cochranae	46.5	Garcia et al. 2001	Cophomantini
Aplastodiscus ehrhardti	39.1	Cruz and Peixoto 1985	Cophomantini
Aplastodiscus eugenioi	36.1	Carvalho-e-Silva and Carvalho-e-Silva 2005	Cophomantini
Aplastodiscus flumineus	50.4	Cruz and Peixoto 1984	Cophomantini

Aplastodiscus ibirapitanga	41	Cruz, Pimenta, and Silvano 2003	Cophomantini
Aplastodiscus leucopygius	45.1	Cruz and Peixoto 1984	Cophomantini
Aplastodiscus musicus	50	Cochran 1955	Cophomantini
Aplastodiscus perviridis	46.1	Garcia et al. 2001	Cophomantini
Aplastodiscus sibilatus	33.6	Cruz, Pimenta, and Silvano 2003	Cophomantini
Bokermannohyla ahenea	56.7	Napoli and Caramaschi 2004	Cophomantini
Bokermannohyla alvarengai	80	Lutz 1973	Cophomantini
Bokermannohyla astartea	41.5	Heyer et al. 1990	Cophomantini
Bokermannohyla caramaschii	70	Napoli 2005	Cophomantini
Bokermannohyla carvalhoi	67	Peixoto 1981	Cophomantini
Bokermannohyla circumdata	70	Lutz 1973	Cophomantini
Bokermannohyla claresignata	42	Lutz 1973	Cophomantini
Bokermannohyla clepsydra	39	Cochran 1955	Cophomantini
Bokermannohyla diamantina	51.7	Napoli and Junca 2006	Cophomantini
Bokermannohyla feioi	40.2	Napoli and Caramaschi 2004	Cophomantini

Bokermannohyla gouveai	69	Pombal and Haddad 1993	Cophomantini
Bokermannohyla hylax	61.5	Heyer et al. 1990	Cophomantini
Bokermannohyla ibitiguara	44.1	Cardoso 1983	Cophomantini
Bokermannohyla ibitipoca	42.7	Caramaschi and Feio 1990	Cophomantini
Bokermannohyla izecksohni	50.8	Jim and Caramaschi 1979	Cophomantini
Bokermannohyla langei	66	Lutz 1973	Cophomantini
Bokermannohyla lucianae	49.2	Napoli and Silva-Pimenta 2003	Cophomantini
Bokermannohyla luctuosa	60.6	Pombal and Haddad 1993	Cophomantini
Bokermannohyla martinsi	64	Lutz 1973	Cophomantini
Bokermannohyla nanuzae	42	Bokermann and Sazima, 1973	Cophomantini
Bokermannohyla ravida	47.6	Caramaschi, Napoli, and Bernardes, 2001	Cophomantini
Bokermannohyla saxicola	45	Lutz 1973	Cophomantini
Bokermannohyla sazimai	36.4	Cardoso and	Cophomantini

		Andrade 1982	
Bokermannohyla vulcaniae	50.2	de Vasconcelos and Giaretta 2003	Cophomantini
Hyloscirtus albopunctulatus	41.5	Cochran and Goin 1970	Cophomantini
Hyloscirtus alytolylax	37	Duellman 1972	Cophomantini
Hyloscirtus armatus	68.5	Duellman et al. 1997	Cophomantini
Hyloscirtus bogotensis	49.5	Ruiz-Carranza and Lynch 1982	Cophomantini
Hyloscirtus caucanus	61.9	Ardila-Robayo et al. 1993	Cophomantini
Hyloscirtus charazani	55	Vellard 1970	Cophomantini
Hyloscirtus colymba	37	Duellman 2001	Cophomantini
Hyloscirtus denticulentus	44.2	Duellman 1972	Cophomantini
Hyloscirtus jahni	34.5	Rivero 1961	Cophomantini
Hyloscirtus larinopygion	55.6	Duellman and Berger 1982	Cophomantini
Hyloscirtus lascinius	38	Rivero 1969	Cophomantini
Hyloscirtus lindae	68.1	Duellman and Altig 1978	Cophomantini

Hyloscirtus lynchi	46.4	Ardila-Robayo and Ruiz-Carranza 1991	Cophomantini
Hyloscirtus pacha	60.8	Duellman and Hillis 1990	Cophomantini
Hyloscirtus palmeri	45	Duellman 2001	Cophomantini
Hyloscirtus pantostictus	63	Duellman and Berger 1982	Cophomantini
Hyloscirtus phyllognathus	34	Duellman 1972	Cophomantini
Hyloscirtus piceigularis	36.9	Ruiz-Carranza and Lynch 1982	Cophomantini
Hyloscirtus platydactylus	39.4	Duellman 1972	Cophomantini
Hyloscirtus psarolaimus	55.6	Duellman and Hillis 1990	Cophomantini
Hyloscirtus ptychodactylus	67.5	Duellman and Hillis 1990	Cophomantini
Hyloscirtus sarampiona	68.8	Ruiz-Carranza and Lynch 1982	Cophomantini
Hyloscirtus simmonsi	37.8	Duellman 1989	Cophomantini
Hyloscirtus staufferorum	56.9	Duellman and Coloma 1993	Cophomantini

Hyloscirtus tapichalaca	63.8	Kizirian et al. 2003	Cophomantini
Hyloscirtus torrenticola	35.5	Duellman and Altig 1978	Cophomantini
Hypsiboas albomarginatus	55	Lutz 1973	Cophomantini
Hypsiboas alboniger	56	Duellman et al. 1997	Cophomantini
Hypsiboas albopunctatus	60	Lutz 1973	Cophomantini
Hypsiboas alemani	30.5	Rivero 1964	Cophomantini
Hypsiboas andinus	57.6	Duellman et al. 1997	Cophomantini
Hypsiboas atlanticus	40.2	Caramaschi and Velosa 1996	Cophomantini
Hypsiboas balzani	50.4	Duellman et al. 1997	Cophomantini
Hypsiboas beckeri	29	Caramaschi and Cruz 2004	Cophomantini
Hypsiboas benitezi	37	Rivero 1961	Cophomantini
Hypsiboas bischoffi	46.1	Heyer et al. 1990	Cophomantini
Hypsiboas boans	132	Duellman 2001	Cophomantini
Hypsiboas buriti	31.9	Caramaschi and Cruz 1999	Cophomantini

Hypsiboas caingua	33.1	Lavilla and Cei 2001	Cophomantini
Hypsiboas calcaratus	47.5	Duellman 2005	Cophomantini
Hypsiboas callipleura	45	Boulenger 1902	Cophomantini
Hypsiboas cinerascens	44	Rodríguez and Duellman 1994	Cophomantini
Hypsiboas cipoensis	33	Lutz 1973	Cophomantini
Hypsiboas cordobae	50	Lutz 1973	Cophomantini
Hypsiboas crepitans	63	Lutz 1973	Cophomantini
Hypsiboas cymbalum	49	Lutz 1973	Cophomantini
Hypsiboas ericae	34	Caramaschi and Cruz 2000	Cophomantini
Hypsiboas exastis	99	Caramaschi and Rodrigues 2003	Cophomantini
Hypsiboas faber	104	Heyer et al. 1990	Cophomantini
Hypsiboas fasciatus	40.3	Duellman 2005	Cophomantini
Hypsiboas freicanecae	42.2	Carnaval and Peixoto 2004	Cophomantini
Hypsiboas fuentei	57	Goin and Goin 1968	Cophomantini
Hypsiboas geographicus	62	Rodríguez and	Cophomantini

		Duellman 1994	
Hypsiboas goianus	37.6	Cruz and Caramaschi 1998	Cophomantini
Hypsiboas guentheri	40	Lutz 1973	Cophomantini
Hypsiboas heilprini	54.3	Trueb and Tyler 1974	Cophomantini
Hypsiboas hobbsi	42.5	Cochran and Goin 1970	Cophomantini
Hypsiboas hutchinsi	47.1	Pyburn and Hall 1984	Cophomantini
Hypsiboas joaquini	51.5	Lutz 1973	Cophomantini
Hypsiboas lanciformis	80	Rodríguez and Duellman 1994	Cophomantini
Hypsiboas latistriatus	40.6	Caramaschi and Cruz 2004	Cophomantini
Hypsiboas lemai	30.4	Duellman 1997	Cophomantini
Hypsiboas leptolineatus	31.6	Cruz and Caramaschi 1998	Cophomantini
Hypsiboas leucocheilus	67.9	Caramaschi and Niemeyer 2003	Cophomantini
Hypsiboas lundii	76	Bokermann and	Cophomantini

		Sazima 1973	
Hypsiboas marginatus	51.1	Caramaschi and Cruz 2000	Cophomantini
Hypsiboas marianitae	56.8	Duellman et al. 1997	Cophomantini
Hypsiboas melanopleura	43.6	Duellman et al. 1997	Cophomantini
Hypsiboas microderma	34	Rodríguez and Duellman 1994	Cophomantini
Hypsiboas multifasciatus	57.3	Duellman 1997	Cophomantini
Hypsiboas nympha	31.2	Faivovich et al. 2006	Cophomantini
Hypsiboas ornatissimus	31	Lutz 1973	Cophomantini
Hypsiboas palaestes	50.4	Duellman et al. 1997	Cophomantini
Hypsiboas pardalis	69	Lutz 1973	Cophomantini
Hypsiboas pellucens	61.6	Cochran and Goin 1970	Cophomantini
Hypsiboas phaeopleura	35.2	Caramaschi and Cruz 2000	Cophomantini
Hypsiboas polytaenius	31.4	Cruz and	Cophomantini

		Caramaschi 1998	
Hypsiboas pombali	55.6	Caramaschi et al. 2004	Cophomantini
Hypsiboas prasinus	55	Cochran 1955	Cophomantini
Hypsiboas pugnax	77.9	Duellman 2001	Cophomantini
Hypsiboas pulchellus	50	Lutz 1973	Cophomantini
Hypsiboas pulidoi	23.2	Rivero 1968	Cophomantini
Hypsiboas punctatus	40	Rodriguez and Duellman 1994	Cophomantini
Hypsiboas raniceps	71	Caramaschi and Niemeyer 2003	Cophomantini
Hypsiboas rhythmicus	34.2	Senaris and Ayarzaguena 2002	Cophomantini
Hypsiboas riojanus	56	Cei 1980	Cophomantini
Hypsiboas roraima	45.5	Duellman and Hoogmoed 1992	Cophomantini
Hypsiboas rosenbergi	90	Duellman 2001	Cophomantini
Hypsiboas rubracylus	50.4	Cochran and Goin 1970	Cophomantini
Hypsiboas rufitelus	49.2	Duellman 2001	Cophomantini
Hypsiboas secedens	57	Lutz 1973	Cophomantini

Hypsiboas semiguttatus	41.6	Caramaschi and Cruz 2000	Cophomantini
Hypsiboas sibleszi	34.9	Duellman 1997	Cophomantini
Hypsiboas stenocephalus	30.4	Caramaschi and Cruz 1999	Cophomantini
Hypsiboas varelae	52.9	Lavilla and Cei 2001	Cophomantini
Hypsiboas wavrini	113	Hoogmoed 1990	Cophomantini
Dendropsophus acreanus	35	Lutz 1973	*Dendropsophus* clade
Dendropsophus allenorum	21.4	Duellman 2005	*Dendropsophus* clade
Dendropsophus amicorum	22.6	Mijares-Urrutia 1998	*Dendropsophus* clade
Dendropsophus anataliasiasi	21.8	Napoli and Caramaschi 1999	*Dendropsophus* clade
Dendropsophus anceps	40	Lutz 1973	*Dendropsophus* clade
Dendropsophus aperomeus	21.3	Duellman 1982	*Dendropsophus* clade
Dendropsophus araguaya	20.5	Napoli and	*Dendropsophus*

		Caramaschi 1998	clade
Dendropsophus baileyi	21.5	Cochran 1952	*Dendropsophus* clade
Dendropsophus battersbyi	33	Rivero 1961	*Dendropsophus* clade
Dendropsophus berthalutzae	21	Lutz 1973	*Dendropsophus* clade
Dendropsophus bifurcus	28	Duellman 1978	*Dendropsophus* clade
Dendropsophus bipunctatus	25	Lutz 1973	*Dendropsophus* clade
Dendropsophus bogerti	33.3	Cochran and Goin 1970	*Dendropsophus* clade
Dendropsophus bokermanni	24	Duellman 1978	*Dendropsophus* clade
Dendropsophus branneri	19	Lutz 1973	*Dendropsophus* clade
Dendropsophus brevifrons	22	Duellman 1978	*Dendropsophus* clade
Dendropsophus cachimbo	21	Napoli and Caramaschi 1999	*Dendropsophus* clade

Dendropsophus carnifex	27.7	Duellman 1969	*Dendropsophus* clade
Dendropsophus cerradensis	19.3	Napoli and Caramaschi 1998	*Dendropsophus* clade
Dendropsophus coffeus	21.2	Koehler et al. 2005	*Dendropsophus* clade
Dendropsophus columbianus	29.3	Duellman and Trueb 1983	*Dendropsophus* clade
Dendropsophus cruzi	19.4	Pombal and Bastos 1998	*Dendropsophus* clade
Dendropsophus decipiens	20	Lutz 1973	*Dendropsophus* clade
Dendropsophus delarivai	19.4	Koehler and Loetters 2001	*Dendropsophus* clade
Dendropsophus dutrai	34.2	Gomes and Peixoto 1996	*Dendropsophus* clade
Dendropsophus ebraccatus	27.8	Duellman 2001	*Dendropsophus* clade
Dendropsophus elegans	29.6	**Lutz 1973**	*Dendropsophus* clade
Dendropsophus elianeae	25.5	Napoli and	*Dendropsophus*

		Caramaschi 2000	clade
Dendropsophus gaucheri	19.2	Lescure and Marty 2000	*Dendropsophus* clade
Dendropsophus giesleri	25	Weygoldt and Peixoto 1987	*Dendropsophus* clade
Dendropsophus grandisonae	20.8	Goin 1966	*Dendropsophus* clade
Dendropsophus gryllatus	25.5	Duellman 1973	*Dendropsophus* clade
Dendropsophus haddadi	19.45	Bastos and Pombal 1996	*Dendropsophus* clade
Dendropsophus haraldschultzi	22	Rodríguez and Duellman 1994	*Dendropsophus* clade
Dendropsophus jimi	20.9	Napoli and Caramaschi 1999	*Dendropsophus* clade
Dendropsophus joannae	18.6	Koehler and Loetters 2001	*Dendropsophus* clade
Dendropsophus koechlini	24	Duellman 2005	*Dendropsophus* clade
Dendropsophus labialis	43	Amezquita 1999	*Dendropsophus* clade

Dendropsophus leali	23	Duellman 2005	*Dendropsophus* clade
Dendropsophus leucophyllatus	36	Rodríguez and Duellman 1994	*Dendropsophus* clade
Dendropsophus limai	19	Bokermann 1962	*Dendropsophus* clade
Dendropsophus luteoocellatus	31	Rivero 1961	*Dendropsophus* clade
Dendropsophus marmoratus	44	Rodríguez and Duellman 1994	*Dendropsophus* clade
Dendropsophus mathiassoni	21.4	Cochran and Goin 1970	*Dendropsophus* clade
Dendropsophus melanargyreus	34	Lutz 1973	*Dendropsophus* clade
Dendropsophus meridianus	19	Lutz 1973	*Dendropsophus* clade
Dendropsophus microcephalus	24.5	Duellman 2001	*Dendropsophus* clade
Dendropsophus microps	26	Lutz 1973	*Dendropsophus* clade
Dendropsophus minusculus	20.6	Duellman 1997	*Dendropsophus*

			clade
Dendropsophus minutus	23	Duellman 1997	*Dendropsophus* clade
Dendropsophus miyatai	18.1	Vigle and Goberdhan-Vigle 1990	*Dendropsophus* clade
Dendropsophus nahdereri	45	Lutz 1973	*Dendropsophus* clade
Dendropsophus nanus	22	Lutz 1973	*Dendropsophus* clade
Dendropsophus oliveirai	17	Carvalho-e-Silva et al. 2003	*Dendropsophus* clade
Dendropsophus padreluna	30.4	Kaplan and Ruiz 1997	*Dendropsophus* clade
Dendropsophus parviceps	21.9	Duellman 2005	*Dendropsophus* clade
Dendropsophus pauiniensis	20.3	Heyer 1977	*Dendropsophus* clade
Dendropsophus pelidna	36.9	Duellman 1989	*Dendropsophus* clade
Dendropsophus phlebodes	23.6	Duellman 2001	*Dendropsophus*

			clade
Dendropsophus praestans	31.5	Duellman and Trueb 1983	*Dendropsophus* clade
Dendropsophus pseudomeridianus	19.9	Cruz, Caramaschi, and Dias 2000	*Dendropsophus* clade
Dendropsophus rhea	20.7	Napoli and Caramaschi 1999	*Dendropsophus* clade
Dendropsophus rhodopeplus	24.2	Duellman 2005	*Dendropsophus* clade
Dendropsophus riveroi	20	Rodríguez and Duellman 1994	*Dendropsophus* clade
Dendropsophus robertmertensi	26.4	Duellman 2001	*Dendropsophus* clade
Dendropsophus rossalleni	20	Rodríguez and Duellman 1994	*Dendropsophus* clade
Dendropsophus rubicundulus	23.8	Napoli and Caramaschi 1999	*Dendropsophus* clade
Dendropsophus ruschii	27.9	Weygoldt and Peixoto 1987	*Dendropsophus* clade
Dendropsophus sanborni	17	Lutz 1973	*Dendropsophus* clade

Dendropsophus sarayacuensis	29	Rodríguez and Duellman 1994	*Dendropsophus* clade
Dendropsophus sartori	26	Duellman 2001	*Dendropsophus* clade
Dendropsophus schubarti	19.5	Duellman 2005	*Dendropsophus* clade
Dendropsophus seniculus	37.7	Heyer et al. 1990	*Dendropsophus* clade
Dendropsophus soaresi	31.7	Caramaschi and Jim 1983	*Dendropsophus* clade
Dendropsophus stingi	24.3	Kaplan 1994	*Dendropsophus* clade
Dendropsophus studerae	24.8	Carvalho-e-Silva et al. 2003	*Dendropsophus* clade
Dendropsophus subocularis	23.1	Duellman and Crump 1974	*Dendropsophus* clade
Dendropsophus timbeba	21.9	Martins and Cardoso 1987	*Dendropsophus* clade
Dendropsophus tintinnabulum	20	Lutz 1973	*Dendropsophus* clade
Dendropsophus triangulum	28	Rodríguez and	*Dendropsophus*

		Duellman 1994	clade
Dendropsophus tritaeniatus	20.5	Bokermann 1965	*Dendropsophus* clade
Dendropsophus virolinensis	26.7	Kaplan and Ruiz 1997	*Dendropsophus* clade
Dendropsophus walfordi	19.5	Bokermann 1962	*Dendropsophus* clade
Dendropsophus werneri	20	Lutz 1973	*Dendropsophus* clade
Dendropsophus xapuriensis	18.4	Martins and Cardoso 1987	*Dendropsophus* clade
Dendropsophus yaracuyanus	30.4	Mijares-Urrutia and River 2000	*Dendropsophus* clade
Xenohyla eugenioi	31.5	Caramaschi 1998	*Dendropsophus* clade
Acris crepitans	29	Duellman 2001	Hylini
Acris gryllus	29	Lannoo 2005	Hylini
Anotheca spinosa	68.5	Duellman 2001	Hylini
Bromeliohyla bromeliacea	29.5	Duellman 2001	Hylini
Bromeliohyla dendroscarta	31.6	Duellman 2001	Hylini
Charadrahyla altipotens	80.6	Duellman 2001	Hylini

Charadrahyla chaneque	60.7	Duellman 2001	Hylini
Charadrahyla nephila	70.9	Duellman 2001	Hylini
Charadrahyla taeniopus	65.9	Duellman 2001	Hylini
Charadrahyla trux	81	Duellman 2001	Hylini
Duellmanohyla chamulae	30.5	Duellman 2001	Hylini
Duellmanohyla ignicolor	30.9	Duellman 2001	Hylini
Duellmanohyla lythrodes	32.6	Duellman 2001	Hylini
Duellmanohyla rufioculis	30	Duellman 2001	Hylini
Duellmanohyla salvavida	28	Duellman 2001	Hylini
Duellmanohyla schmidtorum	32.8	Duellman 2001	Hylini
Duellmanohyla soralia	32.3	Duellman 2001	Hylini
Duellmanohyla uranochroa	36.8	Duellman 2001	Hylini
Ecnomiohyla echinata	57	Duellman 2001	Hylini
Ecnomiohyla miliaria	110.4	Duellman 2001	Hylini
Ecnomiohyla minera	83.1	Duellman 2001	Hylini
Ecnomiohyla miotympanum	38.4	Duellman 2001	Hylini
Ecnomiohyla phantasmagoria	109.7	Cochran and Goin 1970	Hylini
Ecnomiohyla salvaje	86	Duellman 2001	Hylini

Ecnomiohyla tuberculosa	90	Rodríguez and Duellman 1994	Hylini
Ecnomiohyla valancifer	77.7	Duellman 2001	Hylini
Exerodonta abdivita	27.5	Duellman 2001	Hylini
Exerodonta bivocata	28.5	Duellman 2001	Hylini
Exerodonta catracha	28.7	Duellman 2001	Hylini
Exerodonta chimalapa	24.9	Duellman 2001	Hylini
Exerodonta juanitae	35.8	Duellman 2001	Hylini
Exerodonta melanomma	29.9	Duellman 2001	Hylini
Exerodonta pinorum	34.5	Duellman 2001	Hylini
Exerodonta smaragdina	26	Duellman 2001	Hylini
Exerodonta sumichrasti	27.7	Duellman 2001	Hylini
Exerodonta xera	27.9	Duellman 2001	Hylini
Hyla andersonii	51	Conant and Collins 1998	Hylini
Hyla annectans	35	Fei et al. 1999	Hylini
Hyla arborea	50	Arnold 2002	Hylini
Hyla arenicolor	52	Lannoo 2005	Hylini
Hyla avivoca	39	Lannoo 2005	Hylini
Hyla bocourti	34.6	Duellman 2001	Hylini
Hyla chinensis	32	Fei et al. 1999	Hylini

Hyla chrysoscelis	51	Wright and Wright 1949	Hylini
Hyla cinerea	59	Wright and Wright 1949	Hylini
Hyla euphorbiacea	39.6	Duellman 2001	Hylini
Hyla eximia	34.9	Duellman 2001	Hylini
Hyla femoralis	37	Wright and Wright 1949	Hylini
Hyla gratiosa	68	Wright and Wright 1949	Hylini
Hyla hallowellii	37	Goris and Maeda 2003	Hylini
Hyla immaculata	31.4	Fei et al. 1999	Hylini
Hyla intermedia	50	Arnold 2002	Hylini
Hyla japonica	39	Goris and Maeda 2003	Hylini
Hyla meridionalis	50	Arnold 2002	Hylini
Hyla plicata	44	Duellman 2001	Hylini
Hyla sanchiangensis	32.7	Fei et al. 1999	Hylini
Hyla sarda	50	Arnold 2002	Hylini
Hyla savignyi	40	Tarkhnishvili and	Hylini

		Gokhelashvili 1999	
Hyla simplex	34	Pope 1931	Hylini
Hyla simplex	37	Fei et al. 1999	Hylini
Hyla squirella	36	Wright and Wright 1949	Hylini
Hyla tsinglingensis	41	Fei et al. 1999	Hylini
Hyla ussuriensis	40	Fei et al. 1999	Hylini
Hyla versicolor	51	Wright and Wright 1949	Hylini
Hyla walkeri	35.9	Duellman 2001	Hylini
Hyla wrightorum	44	Degenhardt et al. 1996	Hylini
Hyla zhaopingensis	30.1	Fei et al. 1999	Hylini
Isthmohyla angustilineata	34.2	Duellman 2001	Hylini
Isthmohyla calypsa	34	Duellman 2001	Hylini
Isthmohyla debilis	29.5	Duellman 2001	Hylini
Isthmohyla graceae	38.7	Duellman 2001	Hylini
Isthmohyla infucata	42.9	Duellman 2001	Hylini
Isthmohyla insolita	36	Duellman 2001	Hylini
Isthmohyla lancasteri	33.6	Duellman 2001	Hylini
Isthmohyla picadoi	32.8	Duellman 2001	Hylini

Isthmohyla pictipes	39	Duellman 2001	Hylini
Isthmohyla pseudopuma	41.4	Duellman 2001	Hylini
Isthmohyla rivularis	34	Duellman 2001	Hylini
Isthmohyla tica	34.1	Duellman 2001	Hylini
Isthmohyla zeteki	23.5	Duellman 2001	Hylini
Megastomatohyla mixe	30.8	Duellman 2001	Hylini
Megastomatohyla mixomaculata	29.1	Duellman 2001	Hylini
Megastomatohyla nubicola	36.7	Duellman 2001	Hylini
Megastomatohyla pellita	29	Duellman 2001	Hylini
Plectrohyla aconthodes	63.2	Duellman 2001	Hylini
Plectrohyla ameibothalame	43.1	Canseco-Márquez et al. 2002	Hylini
Plectrohyla arborescandens	37.6	Duellman 2001	Hylini
Plectrohyla avia	90.4	Duellman 2001	Hylini
Plectrohyla bistincta	53.8	Duellman 2001	Hylini
Plectrohyla calthula	56.1	Duellman 2001	Hylini
Plectrohyla calvicollina	37.6	Duellman 2001	Hylini
Plectrohyla celata	46.2	Duellman 2001	Hylini
Plectrohyla cembra	37	Duellman 2001	Hylini
Plectrohyla charadricola	44.4	Duellman 2001	Hylini

Plectrohyla chryses	41.1	Duellman 2001	Hylini
Plectrohyla chrysopleura	65.6	Duellman 2001	Hylini
Plectrohyla crassa	59.6	Duellman 2001	Hylini
Plectrohyla cyanomma	64.5	Duellman 2001	Hylini
Plectrohyla cyclada	39.5	Duellman 2001	Hylini
Plectrohyla dasypus	44	Duellman 2001	Hylini
Plectrohyla exquisita	80.7	Duellman 2001	Hylini
Plectrohyla glandulosa	49.1	Duellman 2001	Hylini
Plectrohyla guatemalensis	59.5	Duellman 2001	Hylini
Plectrohyla hartwegi	75.8	Duellman 2001	Hylini
Plectrohyla hazelae	38.6	Duellman 2001	Hylini
Plectrohyla ixil	41.6	Duellman 2001	Hylini
Plectrohyla lacertosa	47.8	Duellman 2001	Hylini
Plectrohyla matudai	46	Duellman 2001	Hylini
Plectrohyla mykter	42.3	Duellman 2001	Hylini
Plectrohyla pachyderma	39.9	Duellman 2001	Hylini
Plectrohyla pentheter	52.1	Duellman 2001	Hylini
Plectrohyla pokomchi	55.2	Duellman 2001	Hylini
Plectrohyla psarosema	31.4	Duellman 2001	Hylini
Plectrohyla psiloderma	48.5	Duellman 2001	Hylini
Plectrohyla pycnochila	60.5	Duellman 2001	Hylini

Plectrohyla quecchi	43.8	Duellman 2001	Hylini
Plectrohyla robertsorum	47.9	Duellman 2001	Hylini
Plectrohyla sabrina	30.2	Duellman 2001	Hylini
Plectrohyla sagorum	45.5	Duellman 2001	Hylini
Plectrohyla siopela	46.2	Duellman 2001	Hylini
Plectrohyla tecunumani	61.6	Duellman 2001	Hylini
Plectrohyla teuchestes	76.1	Duellman 2001	Hylini
Plectrohyla thorectes	34.2	Duellman 2001	Hylini
Pseudacris brachyphona	32	Wright and Wright 1949	Hylini
Pseudacris brimleyi	28	Wright and Wright 1949	Hylini
Pseudacris cadaverina	35.9	Duellman 2001	Hylini
Pseudacris clarkii	29	Duellman 2001	Hylini
Pseudacris crucifer	29	Wright and Wright 1949	Hylini
Pseudacris nigrita	28	Wright and Wright 1949	Hylini
Pseudacris ocularis	15.5	Wright and Wright 1949	Hylini
Pseudacris ornata	39	Lannoo 2005	Hylini

Pseudacris regilla	48	Wright and Wright 1949	Hylini
Pseudacris streckeri	41	Wright and Wright 1949	Hylini
Pseudacris triseriata	32	Wright and Wright 1949	Hylini
Ptychohyla acrochorda	36.3	Duellman 2001	Hylini
Ptychohyla euthysanota	37.3	Duellman 2001	Hylini
Ptychohyla hypomyketer	35.4	Duellman 2001	Hylini
Ptychohyla legleri	36.7	Duellman 2001	Hylini
Ptychohyla leonhardschultzei	35.1	Duellman 2001	Hylini
Ptychohyla macrotympanum	38.8	Duellman 2001	Hylini
Ptychohyla panchoi	34.2	Duellman 2001	Hylini
Ptychohyla salvadorensis	34.2	Duellman 2001	Hylini
Ptychohyla sanctaecrucis	32.5	Duellman 2001	Hylini
Ptychohyla spinipollex	39.1	Duellman 2001	Hylini
Ptychohyla zophodes	37.4	Duellman 2001	Hylini
Smilisca baudinii	75.9	Duellman 2001	Hylini
Smilisca cyanosticta	57.8	Duellman 2001	Hylini
Smilisca dentata	62.1	Duellman 2001	Hylini
Smilisca fodiens	62.6	Duellman 2001	Hylini

Smilisca phaeto	65.5	Duellman 2001	Hylini
Smilisca puma	38.1	Duellman 2001	Hylini
Smilisca sila	44.8	Duellman 2001	Hylini
Smilisca sordida	44.6	Duellman 2001	Hylini
Tlalocohyla godmani	38	Duellman 2001	Hylini
Tlalocohyla loquax	44.7	Duellman 2001	Hylini
Tlalocohyla picta	21.4	Duellman 2001	Hylini
Tlalocohyla smithii	26	Duellman 2001	Hylini
Triprion petasatus	60.8	Duellman 2001	Hylini
Triprion spatulatus	85.9	Duellman 2001	Hylini
Aparasphenodon bokermanni	71.1	Pombal 1993	Lophiohylini
Aparasphenodon venezolanus	58	Rivero 1961	Lophiohylini
Argenteohyla siemersi	70	Cei 1980	Lophiohylini
Corythomantis greeningi	73	Jared et al. 1999	Lophiohylini
Itapotihyla langsdorffii	77	personal measurements	Lophiohylini
Nyctimantis rugiceps	67.5	Duellman and Trueb 1976	Lophiohylini
Osteocephalus alboguttatus	34	Duellman 1978	Lophiohylini
Osteocephalus buckleyi	64.1	Cochran and Goin 1970	Lophiohylini

Osteocephalus deridens	34.9	Jungfer et al. 2000	Lophiohylini
Osteocephalus elkejungingerae	22	Henle 1981	Lophiohylini
Osteocephalus exophthalmus	32.7	Smith and Noonan 2001	Lophiohylini
Osteocephalus fuscifacies	45.6	Jungfer et al. 2000	Lophiohylini
Osteocephalus heyeri	36.1	Lynch 2002	Lophiohylini
Osteocephalus leoniae	40.1	Jungfer and Lehr 2001	Lophiohylini
Osteocephalus leprieurii	48	Rodríguez and Duellman 1994	Lophiohylini
Osteocephalus mutabor	50.3	Jungfer and Hodl 2003	Lophiohylini
Osteocephalus oophagus	47.2	Jungfer and Schiesari 1995	Lophiohylini
Osteocephalus pearsoni	46.2	Trueb and Duellman 1971	Lophiohylini
Osteocephalus planiceps	65.9	Duellman and Mendelson 1995	Lophiohylini
Osteocephalus subtilis	38.8	Martins and Cardoso 1987	Lophiohylini

Osteocephalus taurinus	85	Trueb and Duellman 1971	Lophiohylini
Osteocephalus verruciger	58.6	personal measurements	Lophiohylini
Osteocephalus yasuni	55.7	Ron and Pramuk 1999	Lophiohylini
Osteopilus brunneus	52	http://evo.bio.psu.edu/caribherp/ (male)	Lophiohylini
Osteopilus crucialis	100	http://evo.bio.psu.edu/caribherp/ (male)	Lophiohylini
Osteopilus dominicensis	66	http://evo.bio.psu.edu/caribherp/ (male)	Lophiohylini
Osteopilus marianae	40	http://evo.bio.psu.edu/caribherp/ (male)	Lophiohylini
Osteopilus pulchrilineatus	39.5	Trueb and Tyler 1974	Lophiohylini
Osteopilus septentrionalis	89	http://evo.bio.psu	Lophiohylini

		.edu/caribherp/ (male)-	
Osteopilus vastus	108.8	Trueb and Tyler 1974	Lophiohylini
Osteopilus wilderi	27.3	Trueb and Tyler 1974	Lophiohylini
Phyllodytes acuminatus	24.5	Bokermann 1966	Lophiohylini
Phyllodytes auratus	29	Murphy 1997	Lophiohylini
Phyllodytes edelmoi	28.7	Peixoto et al. 2003	Lophiohylini
Phyllodytes gyrinaethes	27.9	Peixoto et al. 2003	Lophiohylini
Phyllodytes luteolus	23	Bokermann 1966	Lophiohylini
Phyllodytes melanomystax	25.4	Caramaschi et al. 1992	Lophiohylini
Phyllodytes punctatus	22.8	Caramaschi and Peixoto 2004	Lophiohylini
Phyllodytes tuberculosus	24	Bokermann 1966	Lophiohylini
Phyllodytes wuchereri	26	Caramaschi et al. 2004	Lophiohylini
Tepuihyla aecii	34	Mijares-Urrutia et al. 1999	Lophiohylini
Tepuihyla celsae	46.5	Mijares-Urrutia et	Lophiohylini

		al. 1999	
Tepuihyla edelcae	40.2	Mijares-Urrutia et al. 1999	Lophiohylini
Tepuihyla galani	40	Mijares-Urrutia et al. 1999	Lophiohylini
Tepuihyla luteolabris	42.8	Ayarzaguena et al. 1992	Lophiohylini
Tepuihyla rimarum	31.8	Mijares-Urrutia et al. 1999	Lophiohylini
Tepuihyla rodriguezi	34.7	Duellman and Hoogmoed 1992	Lophiohylini
Tepuihyla talbergae	32.7	Duellman and Yoshpa 1996	Lophiohylini
Trachycephalus atlas	98	Bokermann 1966	Lophiohylini
Trachycephalus coriaceus	63	Rodríguez and Duellman 1994	Lophiohylini
Trachycephalus hadroceps	60	Lescure and Marty 2000	Lophiohylini
Trachycephalus imitatrix	57.1	Lutz 1973	Lophiohylini
Trachycephalus jordani	75.9	personal measurements	Lophiohylini

		Pombal et al. 2003	
Trachycephalus lepidus	49.1	Copeia	Lophiohylini
Trachycephalus mesophaeus	85	Lutz 1973	Lophiohylini
Trachycephalus nigromaculatus	86	Cochran 1955	Lophiohylini
Trachycephalus resinifictrix	76	Rodríguez and Duellman 1994	Lophiohylini
Trachycephalus venulosus	100.5	Duellman 2001	Lophiohylini
Lysapsus caraya	16.5	Gallardo 1964	*Pseudis* clade
Lysapsus laevis	21	Parker 1935	*Pseudis* clade
Lysapsus limellum	20	Gallardo 1964	*Pseudis* clade
Pseudis bolbodactyla	45	Caramaschi and Cruz 1998	*Pseudis* clade
Pseudis cardosoi	45.9	Kwet 2000	*Pseudis* clade
Pseudis fusca	40.8	Caramaschi and Cruz 1998	*Pseudis* clade
Pseudis minuta	40	Cei 1980	*Pseudis* clade
Pseudis paradoxa	55	Gallardo 1964	*Pseudis* clade
Scarthyla goinorum	21	Duellman 2005	*Pseudis* clade
Scarthyla vigilans	17.4	Solano 1971	*Pseudis* clade
Scinax acuminatus	45	Lutz 1973	*Scinax* clade

Scinax agilis	19.5	Faivovich 2005	*Scinax* clade
Scinax albicans	31.2	Faivovich 2005	*Scinax* clade
Scinax alcatraz	24.4	Brasileiro et al. 2007	*Scinax* clade
Scinax altae	26	León 1969	*Scinax* clade
Scinax alter	30	Lutz 1973	*Scinax* clade
Scinax angrensis	32	Lutz 1973	*Scinax* clade
Scinax arduous	19.5	Peixoto 2002	*Scinax* clade
Scinax argyreornatus	15.8	Faivovich 2005	*Scinax* clade
Scinax ariadne	36.5	Lutz 1973	*Scinax* clade
Scinax aromothyella	24.8	Faivovich 2005	*Scinax* clade
Scinax atratus	19.2	Peixoto 1988	*Scinax* clade
Scinax auratus	23	Lutz 1973	*Scinax* clade
Scinax baumgardneri	29	Rivero 1961	*Scinax* clade
Scinax berthae	22.2	Faivovich 2005	*Scinax* clade
Scinax blairi	30.1	Fouquette and Pyburn 1972	*Scinax* clade
Scinax boesemani	31.1	Duellman 1997	*Scinax* clade
Scinax boulengeri	48.7	Duellman 2001	*Scinax* clade
Scinax brieni	32.7	Heyer et al. 1990	*Scinax* clade
Scinax caldarum	25	Lutz 1973	*Scinax* clade

Scinax camposseabrai	33.5	Caramaschi and Cardoso 2006	*Scinax* clade
Scinax canastrensis	28	Cardoso and Haddad 1982	*Scinax* clade
Scinax carnevallii	25	Caramaschi and Kisteumacher 1989	*Scinax* clade
Scinax castroviejoi	45	De la Riva 1993	*Scinax* clade
Scinax catharinae	35.1	Faivovich 2005	*Scinax* clade
Scinax centralis	21.2	Pombal and Bastos 1996	*Scinax* clade
Scinax chiquitanus	33.3	Duellman 2005	*Scinax* clade
Scinax constrictus	29.4	Lima, Bastos, and Giaretta 2004	*Scinax* clade
Scinax crospedospilus	33.3	Heyer et al. 1990	*Scinax* clade
Scinax cruentommus	28	Duellman 1978	*Scinax* clade
Scinax curicica	30.2	Pugliese et al. 2004	*Scinax* clade
Scinax cuspidatus	29	Lutz 1973	*Scinax* clade
Scinax danae	27.4	Duellman 1986	*Scinax* clade
Scinax duartei	35	Lutz 1973	*Scinax* clade
Scinax elaeochrous	37.7	Duellman 2001	*Scinax* clade
Scinax eurydice	42	Lutz 1973	*Scinax* clade

Scinax exiguus	20.8	Duellman 1986	*Scinax* clade
Scinax flavidus	30.5	La Marca 2004	*Scinax* clade
Scinax flavoguttatus	29.3	Heyer et al. 1990	*Scinax* clade
Scinax funereus	37	Rodriguez and Duellman 1994	*Scinax* clade
Scinax fuscomarginatus	24	Cochran 1955	*Scinax* clade
Scinax fuscovarius	>47.1	De la Riva 1993	*Scinax* clade
Scinax garbei	42.2	Duellman and Wiens 1993	*Scinax* clade
Scinax granulatus	36	Lutz 1973	*Scinax* clade
Scinax hayii	43	Heyer et al. 1990	*Scinax* clade
Scinax heyeri	35.6	Peixoto and Weygoldt 1987	*Scinax* clade
Scinax hiemalis	28.2	Haddad and Pombal 1987	*Scinax* clade
Scinax humilis	28	Lutz 1973	*Scinax* clade
Scinax ictericus	31.8	Duellman 2005	*Scinax* clade
Scinax jolyi	39.1	Lescure and Marty 2000	*Scinax* clade
Scinax jureia	30	Pombal and Gordo 1991	*Scinax* clade

Scinax karenanneae	28.9	Pyburn 1993	*Scinax* clade
Scinax kennedyi	35.7	Pyburn 1973	*Scinax* clade
Scinax lindsayi	25.4	Pyburn 1992	*Scinax* clade
Scinax littoralis	29.6	Pombal and Gordo 1991	*Scinax* clade
Scinax littoreus	19.3	Peixoto 1988	*Scinax* clade
Scinax luizotavioi	24.3	Caramaschi and Kisteumacher 1989	*Scinax* clade
Scinax machadoi	21	Bokermann and Sazima 1973	*Scinax* clade
Scinax manriquei	30	Barrio-Amoros et al. 2004	*Scinax* clade
Scinax maracaya	28	Cardoso and Sazima 1980	*Scinax* clade
Scinax melloi	17	Peixoto 1988	*Scinax* clade
Scinax nasicus	37	Lutz 1973	*Scinax* clade
Scinax nebulosus	30	Pyburn 1973	*Scinax* clade
Scinax obtriangulatus	28	Lutz 1973	*Scinax* clade
Scinax oreites	33.5	Duellman and Wiens 1993	*Scinax* clade
Scinax pachycrus	33	Lutz 1973	*Scinax* clade

Scinax parkeri	23.9	Duellman 1986	*Scinax* clade
Scinax pedromedinae	29.4	Duellman 2005	*Scinax* clade
Scinax perereca	38.5	Pombal et al. 1995	*Scinax* clade
Scinax perpusillus	18.3	Heyer et al. 1990	*Scinax* clade
Scinax pinima	25	Bokermann and Sazima 1973	*Scinax* clade
Scinax proboscideus	39.8	Lima, Bastos, and Giaretta 2004	*Scinax* clade
Scinax quinquefasciatus	30	Fowler 1913	*Scinax* clade
Scinax ranki	23.3	Andrade and Cardoso 1987	*Scinax* clade
Scinax rizibilis	27	Lutz 1973	*Scinax* clade
Scinax rostratus	45.7	Duellman 2001	*Scinax* clade
Scinax ruber	41.2	Duellman and Wiens 1993	*Scinax* clade
Scinax similis	41	Lutz 1973	*Scinax* clade
Scinax squalirostris	29	Lutz 1973	*Scinax* clade
Scinax staufferi	29	Duellman 2001	*Scinax* clade
Scinax strigilatus	28	**Cochran 1959**	*Scinax* clade
Scinax sugillatus	42	Duellman 1973	*Scinax* clade
Scinax trapicheiroi	30	Lutz 1973	*Scinax* clade

Scinax trilineatus	22.5	Hoogmoed and Gorzula 1979	*Scinax* clade
Scinax uruguayus	25.8	Langone 1990	*Scinax* clade
Scinax wandae	26.9	Pyburn and Fouquette 1971	*Scinax* clade
Scinax x-signatus	42.5	Heyer et al. 1990	*Scinax* clade
Scinax peixotoi	20.7	Brasileiro et al. 2007	*Scinax* clade
Sphaenorhynchus bromelicola	30	Bokermann 1966	*Scinax* clade
Sphaenorhynchus carneus	20	Duellman 1978	*Scinax* clade
Sphaenorhynchus dorisae	29	Rodríguez and Duellman 1994	*Scinax* clade
Sphaenorhynchus lacteus	41.5	Duellman 2005	*Scinax* clade
Sphaenorhynchus orophilus	32	Heyer et al. 1990	*Scinax* clade
Sphaenorhynchus palustris	36	Bokermann 1966	*Scinax* clade
Sphaenorhynchus pauloalvini	20	Bokermann 1973	*Scinax* clade
Sphaenorhynchus planicola	24	Cochran 1955	*Scinax* clade
Sphaenorhynchus platycephalus	33	Harding 1991	*Scinax* clade
Sphaenorhynchus prasinus	31	Bokermann 1973	*Scinax* clade
Sphaenorhynchus surdus	28	Cochran 1953	*Scinax* clade

Cyclorana australis	79	Barker et al. 1995	Pelodryadinae
Cyclorana brevipes	45	Barker et al. 1995	Pelodryadinae
Cyclorana cryptotis	44	Barker et al. 1995	Pelodryadinae
Cyclorana cultripes	41	Barker et al. 1995	Pelodryadinae
Cyclorana longipes	46	Barker et al. 1995	Pelodryadinae
Cyclorana maculosus	55	Barker et al. 1995	Pelodryadinae
Cyclorana maini	46	Barker et al. 1995	Pelodryadinae
Cyclorana manya	30	Barker et al. 1995	Pelodryadinae
Cyclorana novaehollandiae	81	Barker et al. 1995	Pelodryadinae
Cyclorana platycephala	64	Barker et al. 1995	Pelodryadinae
Cyclorana vagitus	48	Barker et al. 1995	Pelodryadinae
Cyclorana verrucosus	45	Barker et al. 1995	Pelodryadinae
Litoria adelaidensis	45	Barker et al. 1995	Pelodryadinae
Litoria alboguttata	67	Barker et al. 1995	Pelodryadinae
Litoria amboiensis	54	Menzies 2006	Pelodryadinae
Litoria angiana	65	Menzies 2006	Pelodryadinae
Litoria arfakiana	45	Menzies 2006	Pelodryadinae
Litoria auae	32	Menzies 2006	Pelodryadinae
Litoria aurea	69	Barker et al. 1995	Pelodryadinae
Litoria becki	38	Menzies 2006	Pelodryadinae
Litoria bibonius	27	Menzies 2006	Pelodryadinae

Litoria bicolor	27	Barker et al. 1995	Pelodryadinae
Litoria booroolongensis	42	Barker et al. 1995	Pelodryadinae
Litoria brevipalmata	43	Barker et al. 1995	Pelodryadinae
Litoria brongersmai	24	Menzies 2006	Pelodryadinae
Litoria bulmeri	34	Menzies 2006	Pelodryadinae
Litoria burrowsae	53	Barker et al. 1995	Pelodryadinae
Litoria caerulea	80	Barker et al. 1995	Pelodryadinae
Litoria capitula	34	Menzies 2006	Pelodryadinae
Litoria cavernicola	51	Barker et al. 1995	Pelodryadinae
Litoria chloris	62	Barker et al. 1995	Pelodryadinae
Litoria chloronata	30	Menzies 2006	Pelodryadinae
Litoria citropa	57	Barker et al. 1995	Pelodryadinae
Litoria congenita	35	Menzies 2006	Pelodryadinae
Litoria contrastens	30	Menzies 2006	Pelodryadinae
Litoria cooloolensis	26	Barker et al. 1995	Pelodryadinae
Litoria coplandi	36	Barker et al. 1995	Pelodryadinae
Litoria cyclorhyncha	66	Barker et al. 1995	Pelodryadinae
Litoria dahlii	63	Barker et al. 1995	Pelodryadinae
Litoria darlingtoni	50	Menzies 2006	Pelodryadinae
Litoria dentata	40	Barker et al. 1995	Pelodryadinae
Litoria dorsalis	24	Menzies 2006	Pelodryadinae

Litoria dorsivena	30	Menzies 2006	Pelodryadinae
Litoria electrica	38	Barker et al. 1995	Pelodryadinae
Litoria elkeae	29	Menzies 2006	Pelodryadinae
Litoria eucnemis	48	Barker et al. 1995	Pelodryadinae
Litoria ewingii	40	Barker et al. 1995	Pelodryadinae
Litoria exophthalmia	39	Menzies 2006	Pelodryadinae
Litoria fallax	26	Barker et al. 1995	Pelodryadinae
Litoria flavescens	50	Menzies 2006	Pelodryadinae
Litoria flavipunctata	73	Barker et al. 1995	Pelodryadinae
Litoria freycineti	39	Barker et al. 1995	Pelodryadinae
Litoria genimaculata	41	Barker et al. 1995	Pelodryadinae
Litoria gilleni	62	Barker et al. 1995	Pelodryadinae
Litoria gracilenta	42	Barker et al. 1995	Pelodryadinae
Litoria graminea	70	Menzies 2006	Pelodryadinae
Litoria havina	37	Menzies 2006	Pelodryadinae
Litoria impura	50	Menzies 2006	Pelodryadinae
Litoria inermis	33	Barker et al. 1995	Pelodryadinae
Litoria infrafrenata	102	Barker et al. 1995	Pelodryadinae
Litoria iris	36	Menzies 2006	Pelodryadinae
Litoria jervisiensis	37	Barker et al. 1995	Pelodryadinae
Litoria jeudii	33	Menzies 2006	Pelodryadinae

Litoria kumae	27	Menzies 2006	Pelodryadinae
Litoria latopalmata	39	Barker et al. 1995	Pelodryadinae
Litoria lesueuri	43	Barker et al. 1995	Pelodryadinae
Litoria leucova	35	Menzies 2006	Pelodryadinae
Litoria littlejohni	56	Barker et al. 1995	Pelodryadinae
Litoria longicrus	27	Menzies 2006	Pelodryadinae
Litoria longirostris	27	Barker et al. 1995	Pelodryadinae
Litoria lorica	32	Barker et al. 1995	Pelodryadinae
Litoria louisiadensis	29	Menzies 2006	Pelodryadinae
Litoria lutea	65	Menzies 2006	Pelodryadinae
Litoria macki	46	Menzies 2006	Pelodryadinae
Litoria majikthise	35	Menzies 2006	Pelodryadinae
Litoria meiriana	20	Barker et al. 1995	Pelodryadinae
Litoria michaeltyleri	78	Menzies 2006	Pelodryadinae
Litoria microbelos	16	Barker et al. 1995	Pelodryadinae
Litoria micromembrana	40	Menzies 2006	Pelodryadinae
Litoria modica	30	Menzies 2006	Pelodryadinae
Litoria moorei	64	Barker et al. 1995	Pelodryadinae
Litoria mucro	31	Menzies 2006	Pelodryadinae
Litoria multicolor	55	Menzies 2006	Pelodryadinae
Litoria multiplica	42	Menzies 2006	Pelodryadinae

Litoria mystax	30	Menzies 2006	Pelodryadinae
Litoria nannotis	48	Barker et al. 1995	Pelodryadinae
Litoria napaea	23	Menzies 2006	Pelodryadinae
Litoria nasuta	45	Menzies 2006	Pelodryadinae
Litoria nigrofrenata	42	Barker et al. 1995	Pelodryadinae
Litoria nigropunctata	32	Menzies 1977	Pelodryadinae
Litoria nyakalensis	33	Barker et al. 1995	Pelodryadinae
Litoria oenicolon	50	Menzies 1977	Pelodryadinae
Litoria ollauro	34	Menzies 2006	Pelodryadinae
Litoria olongburensis	25	Barker et al. 1995	Pelodryadinae
Litoria pallida	34	Barker et al. 1995	Pelodryadinae
Litoria paraewingi	28	Barker et al. 1995	Pelodryadinae
Litoria pearsoniana	29	Barker et al. 1995	Pelodryadinae
Litoria peronii	53	Barker et al. 1995	Pelodryadinae
Litoria personata	29	Barker et al. 1995	Pelodryadinae
Litoria phyllochroa	32	Barker et al. 1995	Pelodryadinae
Litoria piperata	27	Barker et al. 1995	Pelodryadinae
Litoria pratti	31	Menzies 2006	Pelodryadinae
Litoria pronimia	34	Menzies 2006	Pelodryadinae
Litoria prora	42	Menzies 2006	Pelodryadinae
Litoria pygmaea	30	Menzies 2006	Pelodryadinae

Litoria quadrilineata	30	Menzies 2006	Pelodryadinae
Litoria raniformis	65	Barker et al. 1995	Pelodryadinae
Litoria revelata	28	Barker et al. 1995	Pelodryadinae
Litoria rheocola	32	Barker et al. 1995	Pelodryadinae
Litoria rothii	48	Barker et al. 1995	Pelodryadinae
Litoria rubella	37	Barker et al. 1995	Pelodryadinae
Litoria rubrops	25	Menzies 2006	Pelodryadinae
Litoria sanguinolenta	40	Menzies 2006	Pelodryadinae
Litoria spenceri	41	Barker et al. 1995	Pelodryadinae
Litoria spinifera	42	Menzies 2006	Pelodryadinae
Litoria splendida	104	Barker et al. 1995	Pelodryadinae
Litoria subglandulosa	40	Barker et al. 1995	Pelodryadinae
Litoria thesaurensis	50	Menzies 2006	Pelodryadinae
Litoria timida	24	Menzies 2006	Pelodryadinae
Litoria tornieri	36	Barker et al. 1995	Pelodryadinae
Litoria tyleri	48	Barker et al. 1995	Pelodryadinae
Litoria umarensis	30	Menzies 2006	Pelodryadinae
Litoria umbonata	36	Menzies 2006	Pelodryadinae
Litoria verae	35	Menzies 2006	Pelodryadinae
Litoria verreauxii	36	Barker et al. 1995	Pelodryadinae
Litoria vocivincens	27	Menzies 2006	Pelodryadinae

Litoria watjulumensis	38	Barker et al. 1995	Pelodryadinae
Litoria wisselensis	32	Menzies 2006	Pelodryadinae
Litoria wollastoni	50	Menzies 1977	Pelodryadinae
Litoria xanthomera	56	Barker et al. 1995	Pelodryadinae
Nyctimystes avocalis	35	Menzies 2006	Pelodryadinae
Nyctimystes cheesemanae	60	Menzies 2006	Pelodryadinae
Nyctimystes dayi	42	Barker et al. 1995	Pelodryadinae
Nyctimystes daymani	60	Menzies 2006	Pelodryadinae
Nyctimystes disrupta	60	Menzies 2006	Pelodryadinae
Nyctimystes foricula	40	Menzies 2006	Pelodryadinae
Nyctimystes granti	80	Menzies 2006	Pelodryadinae
Nyctimystes gularis	37	Menzies 2006	Pelodryadinae
Nyctimystes humeralis	100	Menzies 2006	Pelodryadinae
Nyctimystes kubori	45	Menzies 2006	Pelodryadinae
Nyctimystes narinosa	59	Menzies 2006	Pelodryadinae
Nyctimystes obsoleta	35	Menzies 2006	Pelodryadinae
Nyctimystes oktediensis	67	Menzies 2006	Pelodryadinae
Nyctimystes papua	67	Menzies 2006	Pelodryadinae
Nyctimystes perimetri	52	Menzies 2006	Pelodryadinae
Nyctimystes persimilis	40	Menzies 2006	Pelodryadinae
Nyctimystes pulchra	60	Menzies 2006	Pelodryadinae

Nyctimystes semipalmata	65	Menzies 2006	Pelodryadinae
Nyctimystes trachydermis	46	Menzies 2006	Pelodryadinae
Nyctimystes zweifeli	80	Menzies 2006	Pelodryadinae
Agalychnis annae	73.9	Duellman 2001	Phyllomedusinae
Agalychnis callidryas	57.2	Duellman 2001	Phyllomedusinae
Agalychnis litodryas	70.2	Duellman 2001	Phyllomedusinae
Agalychnis moreletii	65.7	Duellman 2001	Phyllomedusinae
Agalychnis saltator	46.7	Duellman 2001	Phyllomedusinae
Agalychnis spurrelli	75.6	Duellman 2001	Phyllomedusinae
Cruziohyla calcarifer	64	Duellman 2001	Phyllomedusinae
Cruziohyla craspedopus	57	Duellman 2005	Phyllomedusinae
Hylomantis aspera	41.7	Cruz 1988	Phyllomedusinae
Hylomantis buckleyi	44.5	Cannatella 1980	Phyllomedusinae
Hylomantis danieli	80.8	Ruiz-Carranza et al. 1988	Phyllomedusinae
Hylomantis granulosa	37.4	Cruz 1988	Phyllomedusinae
Hylomantis hulli	37.1	Duellman and Mendelson 1995	Phyllomedusinae
Hylomantis lemur	40.8	Duellman 2001	Phyllomedusinae
Hylomantis medinai	43.2	Cannatella 1980	Phyllomedusinae
Hylomantis psilopygion	42	Cannatella 1980	Phyllomedusinae

Pachymedusa dacnicolor	82.6	Duellman 2001	Phyllomedusinae
Phasmahyla cochranae	33.9	Heyer et al. 1990	Phyllomedusinae
Phasmahyla exilis	34.5	Cruz 1980	Phyllomedusinae
Phasmahyla guttata	35	Cochran 1955	Phyllomedusinae
Phasmahyla jandaia	31	Bokermann and Sazima 1978	Phyllomedusinae
Phrynomedusa appendiculata	33.4	Cruz 1985	Phyllomedusinae
Phrynomedusa bokermanni	46	Cruz 1991	Phyllomedusinae
Phrynomedusa marginata	31	Izeckson and Cruz 1976	Phyllomedusinae
Phrynomedusa vanzolinii	36.5	Cruz 1991	Phyllomedusinae
Phyllomedusa atelopoides	37.4	Duellman 2005	Phyllomedusinae
Phyllomedusa azurea	43.3	Caramaschi 2006	Phyllomedusinae
Phyllomedusa bahiana	74.5	Pombal and Haddad 1992	Phyllomedusinae
Phyllomedusa baltea	45.2	Cannatella 1982	Phyllomedusinae
Phyllomedusa bicolor	115.3	Duellman 1978	Phyllomedusinae
Phyllomedusa boliviana	70.5	Vaira 2001	Phyllomedusinae
Phyllomedusa burmeisteri	79	Cochran 1955	Phyllomedusinae
Phyllomedusa camba	70	Duellman 2005	Phyllomedusinae
Phyllomedusa centralis	42	Bokermann 1965	Phyllomedusinae

Phyllomedusa coelestis	64.8	Duellman and Mendelson 1995	Phyllomedusinae
Phyllomedusa distincta	66	Pombal and Haddad 1992	Phyllomedusinae
Phyllomedusa duellmani	54.2	Cannatella 1982	Phyllomedusinae
Phyllomedusa ecuatoriana	55.4	Cannatella 1982	Phyllomedusinae
Phyllomedusa hypochondrialis	37.7	Duellman 1997	Phyllomedusinae
Phyllomedusa iheringii	65	Cei 1980	Phyllomedusinae
Phyllomedusa itacolomi	42.6	Caramaschi et al. 2006	Phyllomedusinae
Phyllomedusa megacephala	43.2	Caramaschi 2006	Phyllomedusinae
Phyllomedusa neildi	63.8	Barrio-Amorós 2006	Phyllomedusinae
Phyllomedusa nordestina	42.1	Caramaschi 2006	Phyllomedusinae
Phyllomedusa oreades	42.64	Brandão 2002	Phyllomedusinae
Phyllomedusa palliata	49.1	Duellman 2005	Phyllomedusinae
Phyllomedusa perinesos	51.5	Cannatella 1982	Phyllomedusinae
Phyllomedusa rohdei	36	Cochran 1955	Phyllomedusinae
Phyllomedusa sauvagii	70	Cei 1980	Phyllomedusinae
Phyllomedusa tarsius	97	Duellman 1978	Phyllomedusinae

Phyllomedusa tetraploidea	69.4	Pombal and Haddad 1992	Phyllomedusinae
Phyllomedusa tomopterna	48	Rodríguez and Duellman 1994	Phyllomedusinae
Phyllomedusa trinitatis	81	Barrio-Amorós 2006	Phyllomedusinae
Phyllomedusa vaillantii	59.9	Duellman and Mendelson 1995	Phyllomedusinae
Phyllomedusa venusta	86.3	Duellman 2001	Phyllomedusinae

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Table S8. The 123 local sites considered in this study, indicating the size (in mm) of the species with the smallest maximum male body size (minimum size), the largest maximum male body size (maximum size), and the range of maximum male body sizes among species in the community.

Locality	Minimum size	Maximum size	Range size
Brazil: Manaus, INPA	23	115	92
Brazil: Para: Belem	22	115	93
Ecuador: Santa Cecilia	20	132	112
Peru: Huanoco: Panguana	20	132	112
Peru: Loreto: Teniente Lopez	20	132	112
Peru: Madre de Dios: Manu National Park (Cocha Cashu)	20	132	112
Peru: Madre de Dios: Cuzco Amazonico Reserve	20	132	112
Venezuela: Bolivar: El Manteco	21	100	79
Venezuela: Gaurico: Hato Masaguaral	25	100	75

Venezuela: La Escalera Region	21	132	111
Venezula: Sierra de Lema	23	132	109
Argentina: La Rioja: Chilecito	56	56	0
Colombia: Boyaca: Parama de la Rusia	43	43	0
Ecuador: Napo: Rio Salado	22	59	37
Ecuador: Pichincha: Quebrada Zapadores	37	37	0
Peru: Cuzco: Rio Cosnipata	34	69	35
China: Fujian Prov.: Kuliang, near Fuzhou	32	32	0
China: Guangdong Prov.: Tai-Yong, E Kwantun	32	32	0
China: Guangdong Prov: Yim-Na-San	32	32	0
China: Guangdong: Dinghushan: Cha Chang	32	32	0
China: Jiangxi: Hong-San, SE Kiangsi Prov.	32	32	0
China: Yunnan Province, Nu Jiang Prefecture	35	35	0

China: Yunnan, Baoshan Prefecture, Qushi	35	35	0
Japan: Kanagawa: Odawara City	39	39	0
Japan: Miyagi Pref.: Honshu: Takayama	39	39	0
Korea: Kyonggi Prov.; Mt. Buckak, near Seoul	39	39	0
Myanmar: Chin State: Falam Township, Lon Pi	35	35	0
Australia: New South Wales: Mutawintji National Park	37	80	43
Australia: New South Wales: Northern Yengo National Park	26	80	54
Australia: Northern Territory: Kakadu National Park	16	80	64
Australia: Northern Territory: Nitmiluk National Park	16	80	64
Australia: Queensland: Lamington National Park	26	80	54
Australia: Queensland:	26	81	55

Townsville			
Australia: Queensland: Cairns	16	102	86
Australia: Queensland: Kuranda	16	102	86
Australia: Queensland: Dinden Forest Reserve	16	80	64
Australia: Queensland: Wooroonooran National Park	32	102	70
New Guinea: Lakekamu Basin, Ivimka Research	24	102	78
New Guinea: Utai	32	102	70
Argentina: Buenos Aires: Bahia Blanca	50	50	0
Argentina: Cordoba: Capilla de Monte	50	50	0
Argentina: Parque Nacional Chaco	20	101	81
Brazil: Goias: Espora Power Plant	19	101	82
Brazil: Mato Grosso: Dardanelos Dam	22	132	110

Brazil: Rio Grande do Sul: Parque Nacionla Aparados da Serra	17	104	87
Brazil: Tocantins: Lajeado, Luis Eduardo Magalhaes Dam	22	113	91
Uruguay: Montevideo: Pajas Blancas	17	50	33
Uruguay: Salto: El Espinillar	17	50	33
Ecuador: Los Rios: Rio Palenque Biological Station	26	90	64
France: Provence-Alpes-Cote-d'Azur; 3 mi W	50	50	0
Georgia; ca. 10 km SSE Borzhomi	50	50	0
Germany: Rostock, Mecklenburg	50	50	0
Hungary: Budapest	50	50	0
Morocco: Settat; Ben-Slimane, 5 km N of	50	50	0
Spain: Andalusia: Cadiz Prov.: Benalup de Sidonia	50	50	0

Ukraine: Kiev	50	50	0
Venezuela: Gran Sabana	21	132	111
Costa Rica: Cartago: Moravia	28	74	46
Costa Rica: Heredia: La Selva	24	76	52
Costa Rica: Heredia: Volcan Barba	33	41	8
Costa Rica: Las Canas: Finca Taboga	25	101	76
Costa Rica: Puntarenas: Las Cruces	28	110	82
Costa Rica: Puntarenas: Rincon de Osa	28	101	73
Guatemala: El Peten: Tikal	21	77	56
Honduras: Atlantida: La Ceiba	25	101	76
Honduras: Atlantida: Quebrada de Oro	28	76	48
Honduras: Copan: Laguna de Cerro	21	76	55
Honduras: Copan: Quebrada Grande	30	86	56
Honduras: Gracias de Dios:	21	100	79

Barra Patuka			
Mexico: Chiapas: Rayon			
Mescalapan	29	63	34
Mexico: Distrito Federal: Lago			
Xochimilco	35	35	0
Mexico: Durango: El Salto	35	35	0
Mexico: Guerrero: Puerto del			
Gallo	30	81	51
Mexico: Hidalgo: El Chico	35	48	13
Mexico: Jalisco: Chamela	26	101	75
Mexico: Michoachan: Nueva			
Italia	26	86	60
Mexico: Oaxaca: Puerto			
Escondido	26	101	75
Mexico: Oaxaca: San Gabriel			
Mixtepec	29	81	52
Mexico: Oaxaca: Tehuantepec	29	83	54
Mexico: Oaxaca: Tuxtepec	21	101	80
Mexico: Oaxaca: Vista			
Hermosa	31	71	40
Mexico: Puebla: 14.4 km W	38	44	6

Huachinango			
Mexico: Sinaloa: Mazatlan	26	86	60
Mexico: Sonora: Alamos	63	83	20
Mexico: Veracruz: Acultzingo (1 km W)	38	54	16
Mexico: Veracruz: Cuatlapan	21	101	80
Mexico: Veracruz: Estacion Los Tuxtlas	21	78	57
Mexico: Veracruz: Huatusco (3k SW)	29	76	47
Mexico: Veracruz: Mata de Oscura	21	76	55
Mexico: Veracruz: Volcan San Martin	38	78	40
Mexico: Yucatan: Piste	21	101	80
Panama: Barro Colorado Island	24	101	77
Panama: Cocle: El Valle	24	110	86
Panama: Colon: Achiote	24	66	42
Panama: Darien: Rio Tuira at Rio Mono	28	132	104

California: Contra Costa Co.; 1 mi NW Alamo	48	48	0
California: San Diego Co.: Spring, Pine Mountain	36	48	12
Colorado: Commanche National Grassland	32	32	0
Florida: Everglades National Park	16	59	43
Florida: Timucuan Ecological and Historic Preser	29	68	39
Georgia: Okeefenokee Swamp	16	68	52
Georgia: Okmulgee National Monument	29	59	30
North Carolina: Moores Creek National Battlefield	16	68	52
North Dakota: Badlands National Park	32	32	0
Ohio: Cuyahoga Valley National Park	29	51	22
South Carolina: Congaree Swamp National Monument	28	68	40

South Carolina: Savannah			
River Ecology Laboratory	16	68	52
South Dakota: Sand Lake			
National Wildlife Refuge	29	51	22
Tennessee: Great Smoky			
Mountains National Park	29	51	22
Texas: Padre Island National			
Seashore	29	59	30
Utah: Zion National Park	52	52	0
Virginia: Shenandoah National			
Park	29	51	22
Washington: Pierce Co.			
Parkland, Wake Lake	48	48	0
Wyoming: Yellowstone			
National Park	32	32	0
Brazil: Bahia: Estacion			
VeraCruz	16	104	88
Brazil: Bahia: Zumbidos			
Palmares	19	104	85
Brazil: Boriacea	18	104	86
Dominican Republic: Samana:	40	109	69

Laguna			
Dominican Republic: Samana:			
Rio San Juan	40	109	69
Haiti: Ouest: Furcy	54	109	55
Jamaica, Manchester Parish,			
Mandeville	27	100	73
Jamaica, Quick Step	27	52	25
Jamaica: Trelany Parish:			
Windsor	27	52	25

Table S9. Values of the gamma statistic for the eight major clades of hylid frogs, including the observed gamma and associated *P*-value (indicating significant support for decreasing diversification over time within a clade), simulated critical values based on 5,000 simulation replicates (and associated *P*-value), and the difference between the observed and simulated critical gamma values (more negative values indicate support for a slowdown after accounting for incomplete taxon sampling). Asterisked clades are partially or entirely allopatric relative to other hylid clades.

Clade	Observed gamma	*P*-value	Simulated critical value	Observed - simulated	*P*-value	Species in tree (% of total richness)
Pelodryadinae*	-3.2256	0.0006	-3.992	0.767	0.2327	51 (27%)
Phyllomedusinae	-2.5790	0.0050	-2.6073	0.028	0.0526	26 (43%)
Cophomantini	-3.1912	0.0007	-3.3079	0.117	0.0614	77 (48%)
Dendropsophus clade	-4.0309	2.7780e-05	-3.0890	-0.942	0.0030	35 (36%)
Scinax clade	-3.8414	6.1167e-05	-3.3395	-0.502	0.0122	29 (26%)
Pseudis clade	0.2583	0.6019	NA	0.258	NA	13 (100%)

Lophiohylini	-2.8915	0.0019	-2.5749	-0.317	0.0228	35 (51%)
Hylini*	-2.7314	0.0032	-3.2942	0.563	0.1444	95 (52%)

Table S10. Eigenvectors for PC1 from the PCA of 19 climatic variables, based on analysis of 123 local sites.

Climatic variable	Eigenvector	Description of variable
Bio1	0.28975	Annual mean temperature
Bio2	-0.15425	Mean diurnal temperature range [mean of monthly (maximum temperature) minimum temperature)
Bio3	0.25826	Isothermality (Bio2/Bio7 · 100)
Bio4	-0.28808	Temperature seasonality (standard deviation of monthly temperature)
Bio5	0.07982	Minimum temperature of the coldest month
Bio6	0.31530	Maximum temperature of the warmest month
Bio7	-0.29840	Temperature range (Bio6 - Bio5)
Bio8	0.18895	Mean temperatureof the wettest quarter
Bio9	0.28156	Mean temperature of the driest quarter
Bio10	0.15957	Mean temperature of the warmest quarter
Bio11	0.30757	Mean temperature of the coldest quarter

Bio12	0.26747	Annual precipitation
Bio13	0.24597	Precipitation of the wettest month
Bio14	0.15441	Precipitation of the driest month
Bio15	0.02171	Precipitation seasonality (standard deviation of monthly precipitation)
Bio16	0.24808	Precipitation of the wettest quarter
Bio17	0.16023	Precipitation of the driest quarter
Bio18	0.17491	Precipitation of the warmest quarter
Bio19	0.19629	Precipitation of the coldest quarter

Table S11. Eigenvectors for PC1 from the PCA of 19 climatic variables, based on analysis of mean climatic values (averaged across localities within a species for each variable) for 337 hylid species.

Climatic variable	Eigenvector	Description of variable
Bio1	0.28190	Annual mean temperature
Bio2	-0.0133	Mean diurnal temperature range [mean of monthly (maximum temperature) minimum temperature)
Bio3	0.11373	Isothermality (Bio2/Bio7 · 100)
Bio4	-0.28259	Temperature seasonality (standard deviation of monthly temperature)
Bio5	0.07620	Minimum temperature of the coldest month
Bio6	0.31746	Maximum temperature of the warmest month
Bio7	-0.28332	Temperature range (Bio6 - Bio5)
Bio8	0.18611	Mean temperatureof the wettest quarter
Bio9	0.30190	Mean temperature of the driest quarter
Bio10	0.14588	Mean temperature of the warmest quarter
Bio11	0.29517	Mean temperature of the coldest quarter
Bio12	0.29303	Annual precipitation
Bio13	0.27884	Precipitation of the wettest month

Bio14	0.18097	Precipitation of the driest month
Bio15	0.02554	Precipitation seasonality (standard deviation of monthly precipitation)
Bio16	0.28635	Precipitation of the wettest quarter
Bio17	0.18773	Precipitation of the driest quarter
Bio18	0.21063	Precipitation of the warmest quarter
Bio19	0.21886	Precipitation of the coldest quarter

Table S12. Estimates of mean local richness and estimated time of colonizaiton (in millions of years before present) for 14 bins representing the range of variation in PC1 among sites.

Range of PC1	Number of sites	Mean local richness	Estimated time
4–5	7	12.714	60.05
3–4	9	12.778	126.79
2–3	18	10.611	226.29
1–2	13	10.308	314.92
0–1	18	8.440	310.23
-1–0	9	4.667	197.02
-2–(-1)	12	5.333	151.43
-3–(-2)	13	4.308	94.29
-4–(-3)	10	1.500	87.29
-5–(-4)	3	1.000	48.29
-6–(-5)	5	2.000	38.41
-7–(-6)	1	1.000	34.52
-8–(-7)	1	3.000	2.44
-9–(-8)	1	1.000	2.44

Table S13. Local species richness, regional species richness, summed clade ages (millions of years), annual mean temperature, annual precipitation, and PC1 (from a principal components analysis of 19 climatic variables (Table S10) across 123 local site) for each of 12 local sites, each representing the 12 major regions (see Fig. 1). In this table, the site representing each region has local richness equal (or close to) the mean local richness for the region, as opposed to the maximum local richness (see instead Table 1). Estimates for the oldest colonization of hylids in each region are given in Table 1.

Local site	Region	Local richness	Regional richness	Summed clade ages	Temp. (ºC)	Precip. (mm)	PC1
Peru: Panguana	Amazon	21	142	333.601	25.7	2179	2.678
Brazil: Boriacea	Atlantic rainforest	26	166	134.873	17.2	2468	0.606
Venezuela: Gran Sabana	Guyana highlands	8	23	58.922	18.4	2162	1.183
Ecuador:	Chocó	10	31	76.692	23.8	3463	4.398

Palenque							
Argentina: Chaco National Park	Cerrado	10	127	160.882	21.5	1336	-0.824
Peru: Rio Cosnipata	Andes	3	82	103.811	18.4	1814	.315
China: Cha Chang	Asia	1	10	26.575	19.8	1674	-.458
Australia: Townsend	Australia	12	189	58.41	24.4	1333	.612
France: Provence-Alpes-Cote-d'Azur	Europe	1	8	22.113	14.3	900	-2.676
Mexico: Piste	Middle America	7	159	163.157	25.4	1234	0.979
U.S.A.: Great Smoky Mountains	North America	4	29	44.397	12.5	1384	-3.663
Jamaica: Quick Step	West Indies	3	10	49.983	23.0	1742	1.895

Table S14. Local species richness, time of first colonization by hylids (in millions of years), summed clade ages (millions of years), annual mean temperature, annual precipitation, and PC1 (based on a principal components analysis of 19 climatic variables (Table S10) across 123 local sites) for 19 local sites representing 19 regions, after subdividing several of the original 12 regions (e.g., Amazon, Australia, Cerrado, Middle America, North America). Note that the time of first colonization and summed clade ages are the same for subdivided regions, because of the limited number of regions that can be analyzed with existing likelihood methods for biogeographic reconstructions.

Local site	Region	Local richness	Time first colonization	Summed clade ages	Temp. (º C)	Precip. (mm)	PC1
Ecuador: Santa Cecilia	Amazon-Western	36	77.605	333.601	25.4	3670	5.360
Brazil: Para: Belem	Amazon-Eastern	23	77.605	333.601	26.9	2728	4.363
Venezuela: Gaurico: Hato	Amazon-Llanos	5	77.605	333.601	27.5	1336	2.234

Masaguaral							
Brazil: Estacion VeraCruz	Atlantic rainforest	28	38.438	134.873	24.0	1540	1.723
Venezuela: Gran Sabana	Guyana highlands	8	35.905	58.922	18.4	2162	1.183
Ecuador: Palenque	Chocó	10	20.498	76.692	23.8	3463	4.398
Brazil: Dardanelos Dam	Cerrado-Cerrado	21	37.974	160.882	24.4	2256	1.312
Argentina: Chaco National Park	Cerrado-Chaco	10	37.974	160.882	21.5	1336	-0.824
Uruguay: Salto: El Espinillar	Cerrado-Monte	9	37.974	160.882	19.6	1434	-1.080
Ecuador: Rio Salado	Andes	7	52.203	103.811	19.8	2742	2.740
China: Cha Chang	Asia	1	26.575	26.575	19.8	1674	-0.458
Australia: Nitmiluk National Park	Australia-Australia	17	58.410	58.41	26.7	1417	0.545

Australia: New Guinea: Lakekamu Basin, Ivimka Research	Australia -New Guinea	9	58.410	58.41	26.7	1835	2.717
France: Provence-Alpes-Cote-d'Azur	Europe	1	22.113	22.113	14.3	900	-0.302
Costa Rica: La Selva	Middle America-Central America	12	55.220	163.157	26.1	4147	5.537
Mexico: Veracruz: Cuatlapan	Middle America-Mexico	9	55.220	163.157	20.4	1757	0.307
U.S.A.: Savannah River Ecology Lab	North America-Eastern	12	44.397	44.397	16.3	1290	-2.182
U.S.A.: California: Pine Mountain	North America-Western	2	44.397	44.397	13.8	508	-0.396
Jamaica: Quick	West	3	31.017	49.983	23.0	1742	1.895

Step	Indies

Appendix S2.A. Results of likelihood-based biogeographic analyses (using LAGRANGE), treating South America as a single region. Regions are: A = South America; B = Middle America; C = Australia; D = North America; E = Europe; F = West Indies; G = Asia.

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lagrange: likelihood analysis of geographic range evolution
Version 2 released February 2008
This is development snapshot 20090327
Authors: Richard Ree <rree@fieldmuseum.org>
Stephen Smith <sasmith@nescent.org>
http://lagrange.googlecode.com
Newick tree with interior nodes labeled:

((((((Acris_crepitans:18.01,Acris_gryllus:18.01)N2:26.39,(((((Pseudacri
s_bracyphona:4.67,Pseudacris_brimleyi:4.67)N5:6.17,((((Pseudacris_clarki
i:0.48,Pseudacris_triseriata_KS:0.48)N8:0.49,Pseudacris_maculata_ON:0.97
)N10:1.46,Pseudacris_triseriata_MI:2.44)N12:5.4,((Pseudacris_feriarum_KY
:2.9,Pseudacris_kalmi:2.9)N15:3.92,(Pseudacris_foquettei:4.59,Pseudacris
_nigrita:4.59)N18:2.23)N19:1.02)N20:3.0)N21:14.55,((Pseudacris_illinoens
is:4.93,Pseudacris_streckeri:4.93)N24:8.02,Pseudacris_ornata:12.94)N26:1
2.44)N27:4.61,(Pseudacris_crucifer:18.08,Pseudacris_ocularis:18.08)N30:1
1.92)N31:4.52,(Pseudacris_cadaverina:15.4,Pseudacris_regilla:15.4)N34:19
.12)N35:9.88)N36:10.82,((((((((Anotheca_spinosa:18.49,Triprion_petasatu
s:18.49)N39:5.87,Diaglena_spatulata:24.36)N41:8.28,(Smilisca_baudinii:26
.69,(((Smilisca_cyanosticta:14.16,(Smilisca_phaeota:10.51,Smilsca_puma:1
0.51)N46:3.65)N47:5.39,Smilisca_fodiens:19.55)N49:3.57,(Smilisca_sila:15
.58,Smilisca_sordida:15.58)N52:7.54)N53:3.57)N54:5.95)N55:5.83,((Isthmoh
yla_pseudopuma:21.31,Isthmohyla_zeteki:21.31)N58:11.98,(Isthmohyla_rivul
aris:7.04,Isthmohyla_tica:7.04)N61:26.25)N62:5.18)N63:2.38,((Tlalocohyla
_godmani:18.51,Tlalocohyla_loquax:18.51)N66:9.84,(Tlalocohyla_picta:23.0
,Tlalocohyla_smithi:23.0)N69:5.34)N70:12.5)N71:1.2,((((Hyla_andersoni:18
.84,(((Hyla_avivoca:1.79,Hyla_chrysocelis:1.79)N75:0.49,Hyla_versicolor:
2.28)N77:14.45,Hyla_femoralis:16.72)N79:2.12)N80:2.54,((Hyla_arenicolor:
13.41,((((Hyla_euphorbiacea:1.13,Hyla_plicata:1.13)N84:2.85,Hyla_eximia:
3.98)N86:0.52,Hyla_walkeri:4.49)N88:0.99,Hyla_wrightorum:5.48)N90:7.93)N
91:6.03,(Hyla_immaculata:16.04,Hyla_japonica:16.04)N94:3.4)N95:1.94)N96:
5.85,((Hyla_cinerea:13.38,Hyla_gratiosa:13.38)N99:9.24,Hyla_squirella:22
.61)N101:4.62)N102:10.84,(((Hyla_annectans:6.1,Hyla_tsinlingensis:6.1)N1
05:7.82,Hyla_chinensis:13.91)N107:12.66,((Hyla_arborea:12.19,Hyla_sauvig
nyii:12.19)N110:9.93,Hyla_meridionalis:22.11)N112:4.46)N113:11.5)N114:3.
97)N115:6.2,((Charadrahyla_nephila:21.8,Charadrahyla_taeniopus:21.8)N118
:17.54,Megastomatohyla_mixe:39.34)N120:8.91)N121:2.32,((((Bromeliohyla_b
romeliacia:28.21,((Duellmanohyla_rufiocolis:18.48,Duellmanohyla_uranochr
oa:18.48)N125:6.13,Duellmanohyla_soralia:24.62)N127:3.59)N128:3.31,((Pty
chohyla_dendrophasma:21.52,((Ptychohyla_euthysanota:11.05,((Ptychohyla_l
eonhardlschultei:2.98,Ptychohyla_zophodes:2.98)N133:6.17,Ptychohyla_sp:9
.15)N135:1.9)N136:2.31,Ptychohyla_hypomycter:13.36)N138:8.16)N139:5.0,Pt
ychohyla_spinipollex:26.52)N141:5.0)N142:9.02,Ecnomiohyla_miotympanum:40
.54)N144:2.88,(Ecnomiohyla_miliara:1.07,Ecnomiohyla_minera:1.07)N147:42.
35)N148:7.15)N149:1.71,((((Exerodonta_abdivita:0.59,Exerodonta_perkinsi:
0.59)N152:10.29,Exerodonta_melanoma:10.88)N154:6.7,(((Exerodonta_chimala
pa:0.78,Exerodonta_smaragdina:0.78)N157:1.16,Exerodonta_xera:1.94)N159:1
3.48,Exerodonta_sumichrasti:15.42)N161:2.16)N162:16.04,(((Plectrohyla_am
```

eibothalamae:13.05,(Plectrohyla_bistincta:7.2,(Plectrohyla_calthula:1.97,Plectrohyla_pentheter:1.97)N167:5.23)N168:5.85)N169:2.54,(((Plectrohyla_arborescandens:4.15,Plectrohyla_cyclada:4.15)N172:3.66,Plectrohyla_siopela:7.81)N174:5.38,Plectrohyla_aff_thorectes_sp5:13.2)N176:2.39)N177:4.7,(Plectrohyla_chrysopleura:15.03,(Plectrohyla_glandulosa:11.85,(Plectrohyla_guatemalensis:9.79,Plectrohyla_matudai:9.79)N182:2.06)N183:3.18)N184:5.26)N185:13.33)N186:18.67)N187:2.94)N188:14.33,((((Aparasphenodon_brunoi:22.79,(Argenteohyla_siemersi:19.27,Nyctimantis_rugiceps:19.27)N192:3.52)N193:12.64,Corythomantis_greenengi:35.43)N195:5.45,((Trachycephalus_coriacea:18.07,((((Trachycephalus_hadroceps:6.51,Trachycephalus_resinifrictix:6.51)N199:0.85,Trachycephalus_venulosus:7.35)N201:5.14,(Trachycephalus_imitatrix:9.38,Trachycephalus_nigromaculatus:9.38)N204:3.11)N205:2.1,Trachycephalus_mesophaea:14.6)N207:3.47)N208:5.68,Trachycephalus_jordani:23.75)N210:17.14)N211:4.03,((Itapotihyla_langsdorffii:39.01,Phyllodytes_auratus:39.01)N214:4.49,(((((Osteocephalus_alboguttatus:14.92,((Osteocephalus_leprieurii:4.63,Osteocephalus_planiceps:4.63)N218:8.45,(Osteocephalus_oophagus:5.62,Osteocephalus_taurinus:5.62)N221:7.46)N222:1.84)N223:1.22,(((Osteocephalus_buckleyi:4.17,Osteocephalus_verruciger:4.17)N226:2.77,Osteocephalus_cabrerai:6.94)N228:4.59,Osteocephalus_mutabor:11.53)N230:4.61)N231:13.88,(Tepuihyla_edelcae:6.04,Tepuihyla_sp:6.04)N234:23.97)N235:9.26,(((((Osteopilus_brunneus:14.48,Osteopilus_crucialis:14.48)N238:10.45,(Osteopilus_marianae:22.15,Osteopilus_wilderi:22.15)N241:2.79)N242:2.87,(Osteopilus_dominicensis:24.2,Osteopilus_pulchrilineatus:24.2)N245:3.61)N246:1.65,Osteopilus_vastus:29.46)N248:1.55,Osteopilus_septentrionalis:31.02)N250:8.26)N251:2.81,(Phyllodytes_luteolus:16.26,Phyllodytes_sp:16.26)N254:25.82)N255:1.41)N256:1.42)N257:24.64)N258:4.2,((((Dendropsophus_allenorum:49.87,((((Dendropsophus_anceps:38.43,(((((Dendropsophus_berthalutzae:15.59,Dendropsophus_minusculus:15.59)N263:6.63,(((Dendropsophus_nanus:5.16,Dendropsophus_walfordi:5.16)N266:7.68,Dendropsophus_riveroi:12.83)N268:7.45,(Dendropsophus_rubicundula:10.82,Dendropsophus_sanborni:10.82)N271:9.46)N272:1.94)N273:2.96,Dendropsophus_bipunctata:25.19)N275:6.72,(Dendropsophus_leali:26.03,((Dendropsophus_microcephalus:19.04,Dendropsophus_rhodopepla:19.04)N279:2.34,(Dendropsophus_robertmertensi:8.56,Dendropsophus_sartori:8.56)N282:12.82)N283:4.65)N284:5.88)N285:3.92,Dendropsophus_minutus:35.83)N287:2.6)N288:3.32,(((((Dendropsophus_bifurca:16.7,Dendropsophus_sarayacuensis:16.7)N291:6.81,(Dendropsophus_leucophyllatus:13.24,Dendropsophus_triangulum:13.24)N294:10.27)N295:3.33,Dendropsophus_ebraccatus:26.84)N297:6.37,Dendropsophus_elegans:33.21)N299:6.02,(Dendropsophus_miyatai:29.7,Dendropsophus_schubarti:29.7)N302:9.54)N303:2.52)N304:3.06,(((Dendropsophus_brevifrons:20.45,Dendropsophus_parviceps:20.45)N307:7.15,Dendropsophus_koechlini:27.6)N309:11.61,((Dendropsophus_carnifex:13.32,(Dendropsophus_labialis:3.85,Dendropsophus_pelidna:3.85)N313:9.47)N314:22.34,Dendropsophus_giesleri:35.66)N316:3.54)N317:5.61)N318:2.95,(Dendropsophus_aperomeus:42.86,(Dendropsophus_marmoratus:22.96,Dendropsophus_senicula:22.96)N322:19.9)N323:4.9)N324:2.1)N325:4.25,Xenohyla_truncata:54.11)N327:13.04,((((Lysapsus_caraya:11.18,(Lysapsus_limellus:4.72,Lysapsus_limellus_bolivianus:4.72)N331:6.46)N332:13.27,(Lysapsus_laevis:1.2,Lysapsus_sp.:1.2)N335:23.26)N336:8.85,((Podonectes_cardosoi:2.49,Podonectes_minutus:2.49)N339:26.84,((Pseudis_bolbodactyla:11.65,((Pseudis_paradoxa:1.84,Pseudis_par_platensis:1.84)N343:4.07,Pseudis_par_occidentalis:5.91)N345:5.74)N346:7.38,(Pseudis_fusca:11.99,Pseudis_tocantins:11.99)N349:7.04)N350:10.3)N351:3.98)N352:14.85,Scarthyla_goinorum:48.16)N354:19.0)N355:4.91,(((((Scinax_acuminatus:37.57,((((Scinax_boulengeri:8.37,Scinax_sugillatus:8.37)N359:14.6,Scinax_garbei:22.97)N361:4.78,Scinax_pedromedinai:27.75)N363:3.57,Scinax_quinquefasciata:31.32)N365:6.25)N366:10.25,(((((Scinax_bosemani:28.97,(Scinax_fuscovarius:23.77,(Scinax_nasicus:17.52,Scinax_rubra:17.52)N371:6.26)N372:5.19)N373:3.52,((((((Scinax_chiquitana:5.43,Scinax_funerea:5.43)N376:8.56,Scinax_oreites:13.99)N378:5.56,Scinax_icterica:19.55)N380:4.07,Scinax_hayi:23.62)N382:3.2,Scinax_similis:26.82)N384:3.44,Scinax_duartei:30.26)N386:2.23)N387:2.73,((Scinax_cruentomma:20.98,Scinax_elaeochroa:20.98)N390:8.18,Scinax_staufferi:29.15)N392:6.07)N393:3.5,Scinax_squalirostris:38.73)N395:4.58,Scinax_crospedospilus:43.31)N397:4.51)N398:6.26,Scinax_uruguaya:54.08)N400:5.07,(Scinax_berthae:27.11,(Scinax_catharinae:19.02,Scinax_obtriangulata:19.

02)N404:8.09)N405:32.04)N406:9.16,((Sphaenorhynchus_dorisae:20.71,Sphaenorhynchus_lacteus:20.71)N409:10.5,Sphaenorynchus_orophilus:31.2)N411:37.1)N412:3.76)N413:1.69)N414:3.85,((((((((Aplastodiscus_albofrenatus:2.69,Aplastodiscus_weygoldti:2.69)N417:5.52,Aplastodiscus_arildae:8.21)N419:7.77,Aplastodiscus_aff_ehrhardtii_s:15.98)N421:22.46,((Aplastodiscus_albosignata:12.36,((Aplastodiscus_cavicola:5.54,Aplastodiscus_leucopygius:5.54)N425:5.15,Hypsiboas_callipygia:10.69)N427:1.67)N428:6.47,(Aplastodiscus_cochranae:10.11,Aplastodiscus_perviridis:10.11)N431:8.73)N432:19.6)N433:14.01,(((Hypsiboas_picturatus:41.0,(Hypsiboas_granosa:22.6,Hypsiboas_punctata:22.6)N437:18.39)N438:6.09,((((Hypsiboas_benitezi:13.34,Hypsiboas_lemai:13.34)N441:20.88,Hypsiboas_sp8:34.22)N443:4.15,((Hypsiboas_microderma:18.07,Hypsiboas_sp2:18.07)N446:12.32,Hypsiboas_roraima:30.39)N448:7.98)N449:6.16,Hypsiboas_siblezi:44.53)N451:2.56)N452:1.86,(((((Hypsiboas_albomarginata:30.41,((Hypsiboas_crepitans:18.25,Hypsiboas_rosenbergi:18.25)N456:9.44,(Hypsiboas_faber:22.37,(Hypsiboas_lundii:15.43,Hypsiboas_pardalis:15.43)N460:6.94)N461:5.32)N462:2.73)N463:4.95,(((((Hypsiboas_andina:3.89,Hypsiboas_riojanae:3.89)N466:8.8,(Hypsiboas_balzani:9.95,Hypsiboas_marianitae:9.95)N469:2.74)N470:4.51,(((Hypsiboas_bischoffi:8.62,Hypsiboas_marginata:8.62)N473:4.55,Hypsiboas_guentheri:13.17)N475:2.17,(Hypsiboas_caingua:14.21,((Hypsiboas_cordobae:6.03,Hypsiboas_pulchella:6.03)N479:4.09,Hypsiboas_prasina:10.12)N481:4.09)N482:1.13)N483:1.87)N484:3.22,(((Hypsiboas_joaquini:5.76,Hypsiboas_aff_semiguttata_sp7:5.76)N487:5.51,Hypsiboas_semiguttata:11.27)N489:4.93,((Hypsiboas_latistriata:1.59,Hypsiboas_polytaenia:1.59)N492:11.7,Hypsiboas_leptolineata:13.28)N494:2.91)N495:4.22)N496:4.66,Hypsiboas_ericae:25.08)N498:10.28)N499:4.55,(Hypsiboas_pellucens:10.18,Hypsiboas_rufitela:10.18)N502:29.73)N503:3.72,(((((Hypsiboas_albopunctata:10.6,Hypsiboas_multifasciata:10.6)N506:6.01,Hypsiboas_lanciformis:16.62)N508:6.98,(Hypsiboas_calcarata:19.79,Hypsiboas_fasciata:19.79)N511:3.8)N512:4.72,Hypsiboas_raniceps:28.32)N514:9.62,Hypsiboas_heilprini:37.93)N516:5.7)N517:3.86,(Hypsiboas_boans:20.4,(Hypsiboas_geographica:7.27,Hypsiboas_semilineata:7.27)N521:13.13)N522:27.09)N523:1.46)N524:3.49)N525:4.24,(((Bokermannohyla_astartea:13.17,(Bokermannohyla_circumdata:6.07,((Bokermannohyla_hylax:3.01,Bokermannohyla_sp3:3.01)N530:1.01,Bokermannohyla_sp4:4.02)N532:2.05)N533:7.11)N534:8.91,Bokermannohyla_cf_martinsi:22.08)N536:15.89,(Bokermannohyla_aff_pseudopseud:30.91,Bokermannohyla_aff_alverangai:30.91)N539:7.06)N540:18.72)N541:7.32,(((Hyloscirtus_armatus:11.33,Hyloscirtus_charazani:11.33)N544:30.3,((Hyloscirtus_lindae:8.96,Hyloscirtus_tapichalaca:8.96)N547:24.9,(Hyloscirtus_pachus:14.48,Hyloscirtus_pantostictus:14.48)N550:19.38)N551:7.77)N552:10.57,(((Hyloscirtus_colymbus:23.95,Hyloscirtus_simmonsi:23.95)N555:11.78,Hyloscirtus_phyllognathus:35.73)N557:3.46,(Hyloscirtus_lascinius:31.56,Hyloscirtus_palmeri:31.56)N560:7.63)N561:13.01)N562:11.81)N563:4.75,Myersiohyla_inparquesi:68.76)N565:2.42,Myersiohyla_kanaima:71.18)N567:6.42)N568:5.36,((((((((((Cyclorana_alboguttata:10.48,Cyclorana_cryptotis:10.48)N571:3.77,(Cyclorana_breviceps:11.94,(Cyclorana_longipes:6.03,Cyclorana_manya:6.03)N575:5.91)N576:2.3)N577:3.28,Cyclorana_australis:17.52)N579:4.43,(Litoria_dahlii:3.64,Litoria_eucnemis:3.64)N582:18.31)N583:6.83,(Litoria_aurea:14.86,Litoria_cyclorhyncha:14.86)N586:13.93)N587:7.02,((Litoria_genimaculata:28.79,Litoria_lesueurii:28.79)N590:4.67,(Litoria_nannotis:25.79,Nyctimystes_dayi:25.79)N593:7.67)N594:2.35)N595:1.58,((Litoria_caerulea:7.5,(Litoria_gilleni:4.78,Litoria_splendida:4.78)N599:2.72)N600:17.07,((Litoria_chloris:3.79,Litoria_xanthomera:3.79)N603:5.12,Litoria_gracilenta:8.91)N605:15.66)N606:12.82)N607:2.59,(Litoria_phyllochroa:19.09,Litoria_subglandulos:19.09)N610:20.88)N611:13.01,(Litoria_infrafrenata:40.83,(((Nyctimystes_cheesmani:15.88,(Nyctimystes_foricula:13.76,(Nyctimystes_humeralis:10.84,Nyctimystes_pulchra:10.84)N617:2.92)N618:2.12)N619:5.54,(Nyctimystes_kubori:17.54,Nyctimystes_narinosus:17.54)N622:3.88)N623:3.38,Nyctimystes_papua:24.8)N625:16.02)N626:12.17)N627:5.42,(((((Litoria_amboinensis:9.77,Litoria_peronii:9.77)N630:14.05,Litoria_rothii:23.81)N632:6.33,(Litoria_dentata:17.71,Litoria_rubella:17.71)N635:12.44)N636:13.42,(((((Litoria_arfakiana:10.16,Litoria_thesaurensis:10.16)N639:7.36,Litoria_modica:17.52)N641:9.74,((Litoria_bicolor:6.11,Litoria_booroolongensis:6.11)N644:14.12,Litoria_fallax:20.23)N646:7.03)N647:9.19,Litoria_microbelos:36.46)N649:3.23,(((Litoria_coplandi:15.15,(Litoria_watjulumensis

```
:0.23,Litoria_wollastoni:0.23)N653:14.91)N654:3.88,((Litoria_frecyneti:1
3.02,(Litoria_inermis:7.81,Litoria_pallida:7.81)N658:5.21)N659:2.9,Litor
ia_nasuta:15.92)N661:3.11)N662:2.76,Litoria_tornieri:21.79)N664:17.9)N66
5:3.88)N666:1.46,Litoria_meiriana:45.03)N668:13.38)N669:13.5,((((((((Ag
alychnis_annae:9.15,Agalychnis_moreleti:9.15)N672:3.68,Agalychnis_callid
ryas:12.82)N674:4.42,((Agalychnis_litodryas:1.83,Agalychnis_spurrelli:1.
83)N677:12.14,Agalychnis_saltator:13.98)N679:3.27)N680:5.3,Pachymedusa_d
acnicolor:22.55)N682:10.55,Hylomantis_granulosa:33.1)N684:4.64,Hylomanti
s_lemur:37.74)N686:7.74,Phrynomedusa_marginata:45.48)N688:2.24,((Phasmah
yla_cochranae:13.67,Phasmahyla_guttata:13.67)N691:29.65,((((Phyllomedusa
_atelopoides:21.35,(Phyllomedusa_duellmani:15.65,Phyllomedusa_perinesos:
15.65)N695:5.7)N696:5.16,((Phyllomedusa_azurea:12.47,Phyllomedusa_hypoch
ondrialis:12.47)N699:5.13,Phyllomedusa_palliata:17.6)N701:8.91)N702:3.04
,Phyllomedusa_tomopterna:29.55)N704:6.43,((Phyllomedusa_bicolor:17.37,Ph
yllomedusa_vaillanti:17.37)N707:10.77,(Phyllomedusa_boliviana:23.15,((Ph
yllomedusa_tarsius:3.98,Phyllomedusa_trinitatus:3.98)N711:13.86,Phyllome
dusa_tetraploidea:17.84)N713:5.31)N714:4.98)N715:7.84)N716:7.34)N717:4.4
)N718:5.77,Cruziohyla_calcarifer:53.49)N720:18.42)N721:11.06)N722;
```

Cladogram (branch lengths not to scale):

```
                                        ---------------------+ [D] Acris_crepitans
                    ------------------N2+
                    :                   ---------------------+ [D] Acris_gryllus
                    :
                    :                           -------------+ [D] Pseudacris_bracyphona
                    :               ----------N5+
                    :               :           -------------+ [D] Pseudacris_brimleyi
                    :               :
                    :               :                   -----+ [D] Pseudacris_clarkii
                    :               :              ---N8+
                    :           -N21+         --N10+    -----+ [D] Pseudacris_triseriata_KS
                    :           :   :         :    :
                    :           :   :    --N12+    ----------+ [D] Pseudacris_maculata_ON
                    :           :   :    :    :
                    :           :   :    :    ---------------+ [D] Pseudacris_triseriata_MI
                -N36+           :   --N20+
                :   :           :        :            -------+ [D] Pseudacris_feriarum_KY
                :   :           :        :     ----N15+
                :   :       -N27+        :     :      -------+ [D] Pseudacris_kalmi
                :   :       :   :        ---N19+
                :   :       :   :              :      -------+ [D] Pseudacris_foquettei
                :   :       :   :              ----N18+
                :   :       :   :                     -------+ [D] Pseudacris_nigrita
                :   :       :   :
                :   :   -N31+   :                  ----------+ [D] Pseudacris_illinoensis
                :   :   :   :   :        -------N24+
                :   :   :   :   ------N26+         ----------+ [D] Pseudacris_streckeri
                :   :   :   :            :
                :   :   :   :            --------------------+ [D] Pseudacris_ornata
                :   -N35+   :
```

```
:       :   :               -----------------+ [D] Pseudacris_crucifer
:       :   -------------N30+
:       :                   -----------------+ [D] Pseudacris_ocularis
:       :
:       :                 -------------------+ [D] Pseudacris_cadaverina
:       ---------------N34+
:                         -------------------+ [D] Pseudacris_regilla
:
:                                    --------+ [B] Anotheca_spinosa
:                            -----N39+
:                    -----N41+       --------+ [B] Triprion_petasatus
:                    :       :
:                    :       ----------------+ [B] Diaglena_spatulata
:                    :
:                 N55+   --------------------+ [BD] Smilisca_baudinii
:                 :  :   :
:                 :  :   :           --------+ [B] Smilisca_cyanosticta
:                 :  :   :       -N47+
:                 :  -N54+       :   :   ----+ [AB] Smilisca_phaeota
:                 :      :   -N49+   -N46+
:                 :      :   :   :       ----+ [B] Smilsca_puma
:                 :      :   :   :
:              N63+      -N53+   ------------+ [BD] Smilisca_fodiens
:              :  :          :
:              :  :          :       --------+ [AB] Smilisca_sila
:              :  :          -----N52+
:              :  :                  --------+ [B] Smilisca_sordida
:              :  :
:              :  :                 ---------+ [B] Isthmohyla_pseudopuma
:              :  :        ------N58+
:           N71+  :        :        ---------+ [B] Isthmohyla_zeteki
:           :  :  ------N62+
:           :  :           :        ---------+ [B] Isthmohyla_rivularis
:           :  :           ------N61+
:           :  :                    ---------+ [B] Isthmohyla_tica
:           :  :
:           :  :                   ----------+ [B] Tlalocohyla_godmani
:           :  :         -------N66+
:           :  :         :         ----------+ [B] Tlalocohyla_loquax
:           :  -------N70+
:           :            :         ----------+ [B] Tlalocohyla_picta
:           :            -------N69+
:           :                      ----------+ [B] Tlalocohyla_smithi
:           :
:           :            --------------------+ [D] Hyla_andersoni
:           :            :
```

```
    :           :            :              -----+ [D] Hyla_avivoca
    :           :        -N80+         --N75+
    :           :        :   :    --N77+    -----+ [D] Hyla_chrysocelis
N188+           :        :   :    :    :
 :  :           :        :   --N79+    ----------+ [D] Hyla_versicolor
 :  :       N115+        :        :
 :  :        :  :        :        ---------------+ [D] Hyla_femoralis
 :  :        :  :        :
 :  :        :  :     N96+     ------------------+ [BD] Hyla_arenicolor
 :  :        :  :     :  :     :
 :  :        :  :     :  :     :             ----+ [B] Hyla_euphorbiacea
 :  :        :  :     :  :     :         -N84+
 :  :        :  :     :  :  N91+     -N86+   ----+ [B] Hyla_plicata
 :  :        :  :     :  :  :  :     :   :
 :  :        :  :     :  :  :  :  N88+   --------+ [B] Hyla_eximia
 :  :        :  :     :  :  :  :  :  :
 :  :        :  :     :  N95+  N90+  ------------+ [B] Hyla_walkeri
 :  :        :  : N102+     :     :
 :  :        :  :  :  :     :     ---------------+ [BD] Hyla_wrightorum
 :  :        :  :  :  :     :
 :  :        :  :  :  :     :         -----------+ [G] Hyla_immaculata
 :  :        :  :  :  :     -------N94+
 :  :        :  :  :  :               -----------+ [G] Hyla_japonica
 :  :        :  :  :  :
 :  :    N121+  :  :  :                 ---------+ [D] Hyla_cinerea
 :  :     :  :  :  :  :        ------N99+
 :  :     :  : N114+  -----N101+        ---------+ [D] Hyla_gratiosa
 :  :     :  :     :           :
 :  :     :  :     :           ------------------+ [D] Hyla_squirella
 :  :     :  :     :
 :  :     :  :     :                     --------+ [G] Hyla_annectans
 :  :     :  :     :             ----N105+
 :  :     :  :     :      ---N107+       --------+ [G] Hyla_tsinlingensis
 :  :     :  :     :      :      :
 :  :     :  :     :      :      ----------------+ [G] Hyla_chinensis
 :  :     :  :     ---N113+
 :  :     :  :            :              --------+ [E] Hyla_arborea
 :  :     :  :            :      ----N110+
 :  :     :  :            ---N112+       --------+ [E] Hyla_sauvignyii
 :  :     :  :                   :
 :  :     :  :                   ----------------+ [E] Hyla_meridionalis
 :  :     :  :
 :  :     :  :                       ------------+ [B] Charadrahyla_nephila
 :  :     :  :           --------N118+
 :  :     :  --------N120+           ------------+ [B] Charadrahyla_taeniopus
 :  :     :              :
```

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     :  : N149+              ------------------------+ [B] Megastomatohyla_mixe
     :  :  :  :
     :  :  :  :                 ---------------------+ [B] Bromeliohyla_bromeliacia
     :  :  :  :                 :
     :  :  :  :          ---N128+             -------+ [B] Duellmanohyla_rufiocolis
     :  :  :  :          :      :      ---N125+
     :  :  :  :          :      ---N127+      -------+ [B] Duellmanohyla_uranochroa
     :  :  :  :          :             :
     :  :  :  :          :             --------------+ [B] Duellmanohyla_soralia
     :  :  :  :          :
     :  :  :  :      N142+       --------------------+ [B] Ptychohyla_dendrophasma
     :  :  :  :      :   :       :
     :  :  :  :      :   :       :       ------------+ [B] Ptychohyla_euthysanota
     :  :  :  :      :   :   N139+       :
     :  :  :  :      :   :   :   :   N136+       ----+ [B] Ptychohyla_leonhardlschultei
     :  :  :  :      :   :   :   :   :   :   N133+
     :  :  :  :      :   :   :   :   :   N135+   ----+ [B] Ptychohyla_zophodes
     :  :  :  :  N144+   N141+   N138+       :
     :  :  :  :  :   :       :       :       --------+ [B] Ptychohyla_sp
     :  :  :  :  :   :       :       :
     :  :  :  :  :   :       :       ----------------+ [B] Ptychohyla_hypomycter
     :  :  :  :  :   :       :
     : N187+ N148+   :       ------------------------+ [B] Ptychohyla_spinipollex
     :     :     :   :
     :     :     :   --------------------------------+ [B] Ecnomiohyla_miotympanum
N258+      :     :
  :  :     :     :                 ------------------+ [B] Ecnomiohyla_miliara
  :  :     :     --------------N147+
  :  :     :                       ------------------+ [B] Ecnomiohyla_minera
  :  :     :
  :  :     :                               ----------+ [B] Exerodonta_abdivita
  :  :     :                     ------N152+
  :  :     :            -----N154+         ----------+ [B] Exerodonta_perkinsi
  :  :     :            :        :
  :  :     :            :        --------------------+ [B] Exerodonta_melanoma
  :  :     :            :
  :  :     :     ---N162+                    --------+ [B] Exerodonta_chimalapa
  :  :     :     :      :             ---N157+
  :  :     :     :      :      ---N159+      --------+ [B] Exerodonta_smaragdina
  :  :     :     :      :      :      :
  :  :     :     :      ---N161+      ---------------+ [B] Exerodonta_xera
  :  :     :     :             :
  :  :     :     :             ----------------------+ [B] Exerodonta_sumichrasti
  :  :     :     :
  :  :     :     :                 ------------------+ [B] Plectrohyla_ameibothalamae
  :  :     --N186+           --N169+
```

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:  :           :           :     :     ------------+ [B] Plectrohyla_bistincta
:  :           :           :     --N168+
:  :           :           :           :     ------+ [B] Plectrohyla_calthula
:  :           :           :           --N167+
:  :           :     --N177+                 ------+ [B] Plectrohyla_pentheter
:  :           :     :     :
:  :           :     :     :                 ------+ [B] Plectrohyla_arborescandens
:  :           :     :     :           --N172+
:  :           :     :     :     --N174+     ------+ [B] Plectrohyla_cyclada
:  :           --N185+     :     :     :
:  :                 :     --N176+     ------------+ [B] Plectrohyla_siopela
:  :                 :           :
:  :                 :           ------------------+ [B] Plectrohyla_aff_thorectes_sp5
:  :                 :
:  :                 :      -----------------------+ [B] Plectrohyla_chrysopleura
:  :                 ---N184+
:  :                       :      ----------------+ [B] Plectrohyla_glandulosa
:  :                       ---N183+
:  :                              :       --------+ [B] Plectrohyla_guatemalensis
:  :                              ----N182+
:  :                                      --------+ [B] Plectrohyla_matudai
:  :
:  :                            --------------------+ [A] Aparasphenodon_brunoi
:  :                 ------N193+
:  :                 :         :          ----------+ [A] Argenteohyla_siemersi
:  :        -----N195+         ------N192+
:  :        :        :                    ----------+ [A] Nyctimantis_rugiceps
:  :        :        :
:  :        :        ------------------------------+ [A] Corythomantis_greenengi
:  :        :
:  :        :         -----------------------------+ [A] Trachycephalus_coriacea
:  :        :          :
:  :    -N211+         :                       ------+ [A] Trachycephalus_hadroceps
:  :    :    :          :                 --N199+
:  :    :    :    -N208+           --N201+     ------+ [A] Trachycephalus_resinifrictix
:  :    :    :    :    :          :     :
:  :    :    :    :    :    --N205+     ------------+ [AB] Trachycephalus_venulosus
:  :    :    :    :    :    :     :
:  :    :    :    :    :    :     :        ---------+ [A] Trachycephalus_imitatrix
:  :    :    -N210+    -N207+     -----N204+
:  :    :         :         :              ---------+ [A] Trachycephalus_nigromaculatus
:  :    :         :         :
:  :    :         :         ------------------------+ [A] Trachycephalus_mesophaea
:  :    :         :
:  :    :         ----------------------------------+ [A] Trachycephalus_jordani
:  :    :
```

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    :  :   :                       --------------------+ [A] Itapotihyla_langsdorffii
    :  :   :   ----------------N214+
    :  N257+   :                   --------------------+ [A] Phyllodytes_auratus
    :      :   :
    :      :   :                        ---------------+ [A] Osteocephalus_alboguttatus
    :      :   :                        :
    :      :   :                   -N223+         -----+ [A] Osteocephalus_leprieurii
    :      :   :                   :    :    -N218+
    :      :   :                   :    :    :    -----+ [A] Osteocephalus_planiceps
    :      :   :                   :    -N222+
    :      :   :                   :         :    -----+ [A] Osteocephalus_oophagus
    :      :   :                   :         -N221+
    :      :   :              -N231+              -----+ [A] Osteocephalus_taurinus
    :      :   :              :    :
    :      :   :              :    :              -----+ [A] Osteocephalus_buckleyi
    :      :   :              :    :         -N226+
    :      :   :              :    :    -N228+    -----+ [A] Osteocephalus_verruciger
    :      :   :         -N235+    :    :    :
    :      N256+         :    :    -N230+    ----------+ [A] Osteocephalus_cabrerai
    :          :         :    :         :
    :          :         :    :         ---------------+ [A] Osteocephalus_mutabor
    :          :         :    :
    :          :         :    :           -------------+ [A] Tepuihyla_edelcae
    :          :         :    --------N234+
    :          :         :                -------------+ [A] Tepuihyla_sp
    :          :         :
    :          :         :                        -----+ [F] Osteopilus_brunneus
    :          :    -N251+                   -N238+
    :          :    :    :                   :    -----+ [F] Osteopilus_crucialis
    :          :    :    :              -N242+
    :          :    :    :              :    :    -----+ [F] Osteopilus_marianae
    :          :    :    :              :    -N241+
    :          :    :    :         -N246+         -----+ [F] Osteopilus_wilderi
    :          :    :    :         :    :
    :          :    :    :         :    :      --------+ [F] Osteopilus_dominicensis
    :          -N255+    :    -N248+    ---N245+
    :               :    :    :    :           --------+ [F] Osteopilus_pulchrilineatus
    :               :    -N250+    :
    :               :         :    --------------------+ [F] Osteopilus_vastus
    :               :         :
    :               :         -------------------------+ [F] Osteopilus_septentrionalis
    :               :
N414+               :                ------------------+ [A] Phyllodytes_luteolus
 :  :               ------------N254+
 :  :                                ------------------+ [A] Phyllodytes_sp
 :  :
```

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:  :           ---------------------------------------+ [A] Dendropsophus_allenorum
:  :           :
:  :           :           ---------------------------+ [A] Dendropsophus_anceps
:  :           :           :
:  :           :           :                  --------+ [A] Dendropsophus_berthalutzae
:  :           :           :           ---N263+
:  :           :           :           :      --------+ [A] Dendropsophus_minusculus
:  :           :           :           :
:  :           :           :       N273+          ----+ [A] Dendropsophus_nanus
:  :           :           :        :  :      N266+
:  :           :           :        :  :  N268+   ----+ [A] Dendropsophus_walfordi
:  :           :           :        :  :  :   :
:  :           :       N288+        : N272+   --------+ [A] Dendropsophus_riveroi
:  :           :        :  :    N275+     :
:  :           :        :  :     :  :     :     ------+ [A] Dendropsophus_rubicundula
:  :           :        :  :     :  :     --N271+
:  :           :        :  :     :  :           ------+ [A] Dendropsophus_sanborni
:  :           :        :  : N285+  :
:  :           :        :  :  :  :  ------------------+ [A] Dendropsophus_bipunctata
:  :           :        :  :  :  :
:  :           :        :  :  :  :    ----------------+ [A] Dendropsophus_leali
:  :           :        :  :  :  :    :
:  :           :        :  :  :  -N284+         ------+ [AB] Dendropsophus_microcephalus
:  :           :        : N287+       :    -N279+
:  :           :        :     :       :    :    ------+ [A] Dendropsophus_rhodopepla
:  :       N325+        :     :       -N283+
:  :        :  :        :     :            :    ------+ [B] Dendropsophus_robertmertensi
:  :        :  :    N304+     :            -N282+
:  :        :  :     :  :     :                 ------+ [B] Dendropsophus_sartori
:  :        :  :     :  :     :
:  :        :  :     :  :     ------------------------+ [A] Dendropsophus_minutus
:  :        :  :     :  :
:  :        :  :     :  :                        -----+ [A] Dendropsophus_bifurca
:  :        :  :     :  :                   -N291+
:  :        :  :     :  :                   :    -----+ [A] Dendropsophus_sarayacuensis
:  :        :  :     :  :              -N295+
:  :        :  :     :  :              :    :    -----+ [A] Dendropsophus_leucophyllatus
:  :        :  :     :  :         -N297+    -N294+
:  :        :  :     :  :         :    :         -----+ [A] Dendropsophus_triangulum
:  :        :  :     :  :    -N299+    :
:  :        :  : N318+  :    :    :    ---------------+ [A] Dendropsophus_ebraccatus
:  :        :  :  :  :  :    :    :
:  :        :  :  :  :  -N303+    --------------------+ [A] Dendropsophus_elegans
:  :        :  :  :  :       :
:  :        :  :  :  :       :           -------------+ [A] Dendropsophus_miyatai
:  :        :  :  :  :       --------N302+
```

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:  :    N327+  :  :  :                   -------------+ [A] Dendropsophus_schubarti
:  :     :  :  :  :  :
:  :     :  :  :  :  :                       ---------+ [A] Dendropsophus_brevifrons
:  :     :  :  :  :  :              -----N307+
:  :     :  :  :  :  :     -----N309+        ---------+ [A] Dendropsophus_parviceps
:  :     :  : N324+  :     :        :
:  :     :  :     :  :     :        ------------------+ [A] Dendropsophus_koechlini
:  :     :  :     :  --N317+
:  :     :  :     :        :            --------------+ [A] Dendropsophus_carnifex
:  :     :  :     :        :     ---N314+
:  :     :  :     :        :     :      :      -------+ [A] Dendropsophus_labialis
:  :     :  :     :        --N316+      ---N313+
:  :     :  :     :              :             -------+ [A] Dendropsophus_pelidna
:  :     :  :     :              :
:  :     :  :     :              ---------------------+ [A] Dendropsophus_giesleri
:  :     :  :     :
:  :     :  :     :           ------------------------+ [A] Dendropsophus_aperomeus
:  :     :  :     --------N323+
:  :     :  :                 :           ------------+ [A] Dendropsophus_marmoratus
:  :     :  :                 --------N322+
:  : N355+  :                             ------------+ [A] Dendropsophus_senicula
:  :  :  :  :
:  :  :  :  ------------------------------------------+ [A] Xenohyla_truncata
:  :  :  :
:  :  :  :                          ------------------+ [A] Lysapsus_caraya
:  :  :  :                 -----N332+
:  :  :  :                 :        :        ---------+ [A] Lysapsus_limellus
:  :  :  :                 :        -----N331+
:  :  :  :         ----N336+                 ---------+ [A] Lysapsus_limellus_bolivianus
:  :  :  :         :       :
:  :  :  :         :       :            --------------+ [A] Lysapsus_laevis
:  :  :  :         :       ---------N335+
:  :  :  :         :                    --------------+ [A] Lysapsus_sp.
:  :  :  :    -N352+
:  :  :  :    :    :                   ---------------+ [A] Podonectes_cardosoi
:  :  :  :    :    :    -----------N339+
:  :  :  :    :    :    :              ---------------+ [A] Podonectes_minutus
:  :  :  :    :    :    :
:  :  :  :    :    :    :           ------------------+ [A] Pseudis_bolbodactyla
:  :  :  :    :    -N351+           :
:  :  :  :    :         :     --N346+           ------+ [A] Pseudis_paradoxa
:  :  :  -N354+         :     :     :     --N343+
:  :  :       :         :     :     --N345+     ------+ [A] Pseudis_par_platensis
:  :  :       :         --N350+           :
:  :  :       :               :           ------------+ [A] Pseudis_par_occidentalis
:  :  :       :               :
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:  :  :       :               :           ------------+ [A] Pseudis_fusca
:  :  :       :               --------N349+
:  :  :       :                           ------------+ [A] Pseudis_tocantins
:  :  :       :
:  :  :       ----------------------------------------+ [A] Scarthyla_goinorum
:  :  :
:  :  :                 ------------------------------+ [A] Scinax_acuminatus
:  :  :                 :
:  :  :                 :                       ------+ [B] Scinax_boulengeri
:  :  :                 :                 --N359+
:  :  :           --N366+           --N361+     ------+ [A] Scinax_sugillatus
:  :  :           :     :           :     :
:  :  :           :     :     --N363+     ------------+ [A] Scinax_garbei
: N413+           :     :     :     :
:     :           :     --N365+     ------------------+ [A] Scinax_pedromedinai
:     :           :           :
:     :           :           ------------------------+ [A] Scinax_quinquefasciata
:     :           :
:     :           :                 ------------------+ [A] Scinax_bosemani
:     :           :           --N373+
:     :           :           :     :     ------------+ [A] Scinax_fuscovarius
:     :           :           :     --N372+
:     :           :           :           :     ------+ [A] Scinax_nasicus
:     :           :           :           --N371+
:     :           :           :                 ------+ [A] Scinax_rubra
:     :           :           :
:     :           :           :                   ----+ [A] Scinax_chiquitana
:     :       N398+       N387+               N376+
:     :        :  :        :  :           N378+   ----+ [A] Scinax_funerea
:     :        :  :        :  :           :   :
:     :        :  :        :  :       N380+   --------+ [A] Scinax_oreites
:     :        :  :        :  :        :  :
:     :        :  :        :  :    N382+  ------------+ [A] Scinax_icterica
:     :        :  :        :  :     :  :
:     :        :  :    N393+  : N384+  ---------------+ [A] Scinax_hayi
:     :        :  :     :  :  :  :  :
:     :        :  :     :  : N386+  ------------------+ [A] Scinax_similis
:     :        :  :     :  :     :
:     :    N400+  :     :  :     ---------------------+ [A] Scinax_duartei
:     :     :  :  :     :  :
:     :     :  :  : N395+  :                 ---------+ [A] Scinax_cruentomma
:     :     :  :  :  :  :  :        -----N390+
:     :     :  :  :  :  :  -----N392+        ---------+ [B] Scinax_elaeochroa
:     :     :  :  :  :  :           :
:     :     :  : N397+  :           ------------------+ [B] Scinax_staufferi
:     : N406+  :     :  :
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    :     :  :  :  :     :  ------------------------------+ [A] Scinax_squalirostris
    :     :  :  :  :     :
    :     :  :  :  :     ---------------------------------+ [A] Scinax_crospedospilus
    :     :  :  :  :
    :     :  :  :  ---------------------------------------+ [A] Scinax_uruguaya
    :     :  :  :
    :    N412+  :             ----------------------------+ [A] Scinax_berthae
    :        :  ----------N405+
N568+        :                :             --------------+ [A] Scinax_catharinae
 :  :        :                ----------N404+
 :  :        :                              --------------+ [A] Scinax_obtriangulata
 :  :        :
 :  :        :                             ---------------+ [A] Sphaenorhynchus_dorisae
 :  :        :              -----------N409+
 :  :        -----------N411+              ---------------+ [A] Sphaenorhynchus_lacteus
 :  :                       :
 :  :                       ------------------------------+ [A] Sphaenorynchus_orophilus
 :  :
 :  :                                            ---------+ [A] Aplastodiscus_albofrenatus
 :  :                                    ----N417+
 :  :                            ----N419+       ---------+ [A] Aplastodiscus_weygoldti
 :  :                            :       :
 :  :                    ----N421+       -----------------+ [A] Aplastodiscus_arildae
 :  :                    :       :
 :  :                    :       -------------------------+ [A] Aplastodiscus_aff_ehrhardtii_s
 :  :                    :
 :  :              --N433+           ---------------------+ [A] Aplastodiscus_albosignata
 :  :              :     :           :
 :  :              :     :     --N428+             -------+ [A] Aplastodiscus_cavicola
 :  :              :     :     :     :      ---N425+
 :  :              :     :     :     ---N427+      -------+ [A] Aplastodiscus_leucopygius
 :  :              :     --N432+            :
 :  :              :           :            --------------+ [A] Hypsiboas_callipygia
 :  :              :           :
 :  :              :           :            --------------+ [A] Aplastodiscus_cochranae
 :  :              :           ---------N431+
 :  :              :                        --------------+ [A] Aplastodiscus_perviridis
 :  :              :
 :  :              :                  --------------------+ [A] Hypsiboas_picturatus
 :  :              :        ------N438+
 :  :              :        :         :         ----------+ [A] Hypsiboas_granosa
 :  :              :        :         ------N437+
 :  :              :        :                   ----------+ [A] Hypsiboas_punctata
 :  :              :        :
 :  :              :        :                       ------+ [A] Hypsiboas_benitezi
 :  :              :  --N452+                 --N441+
```

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:  :              :  :     :           --N443+     ------+ [A] Hypsiboas_lemai
:  :              :  :     :           :     :
:  :              :  :     :           :     ------------+ [A] Hypsiboas_sp8
:  :              :  :     :     --N449+
:  :              :  :     :     :     :           ------+ [A] Hypsiboas_microderma
:  :              :  :     :     :     :     --N446+
:  :              :  :     --N451+     --N448+     ------+ [A] Hypsiboas_sp2
:  :          N525+  :           :           :
:  :           :  :  :           :           ------------+ [A] Hypsiboas_roraima
:  :           :  :  :           :
:  :           :  :  :           ------------------------+ [A] Hypsiboas_siblezi
:  :           :  :  :
:  :           :  :  :               --------------------+ [A] Hypsiboas_albomarginata
:  :           :  :  :               :
:  :           :  :  :           N463+           --------+ [AB] Hypsiboas_crepitans
:  :           :  :  :           :   :    ---N456+
:  :           :  :  :           :   :    :      --------+ [AB] Hypsiboas_rosenbergi
:  :           :  :  :           :   -N462+
:  :           :  :  :           :        :    ----------+ [A] Hypsiboas_faber
:  :           :  :  :           :        -N461+
:  :           :  :  :           :             :    -----+ [A] Hypsiboas_lundii
:  :           :  :  :           :             -N460+
:  :           :  :  :           :                  -----+ [A] Hypsiboas_pardalis
:  :           :  :  :           :
:  :           :  :  :           :                  -----+ [A] Hypsiboas_andina
:  :           :  :  :           :             -N466+
:  :           :  :  :           :             :    -----+ [A] Hypsiboas_riojanae
:  :           :  :  :           :        -N470+
:  :           :  :  :           :        :    :    -----+ [A] Hypsiboas_balzani
:  :           :  :  :           :        :    -N469+
:  :           :  :  :           :        :         -----+ [A] Hypsiboas_marianitae
:  :           :  :  :       N499+        :
:  :           :  :  :        :  :    N484+          ----+ [A] Hypsiboas_bischoffi
:  :           :  :  :        :  :     :  :      N473+
:  :           : N524+        :  :     :  :  N475+   ----+ [A] Hypsiboas_marginata
:  :           :     :        :  :     :  :  :   :
:  :           :     :        :  :     :  :  :   --------+ [A] Hypsiboas_guentheri
:  :           :     :        :  :     : N483+
:  :           :     :        :  :     :     :  ---------+ [A] Hypsiboas_caingua
:  :           :     :        :  :     :     :  :
:  :           :     :        :  :     :    N482+     ---+ [A] Hypsiboas_cordobae
:  :           :     :        :  : N496+        : N479+
:  :           :     :        :  :  :  :       N481+  ---+ [A] Hypsiboas_pulchella
:  :           :     :        :  :  :  :           :
:  :           :     :        :  :  :  :           ------+ [A] Hypsiboas_prasina
:  :           :     :        :  :  :  :
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:  :           :     :    N503+  :  :  :            -----+ [A] Hypsiboas_joaquini
:  :           :     :     :  :  :  :  :       -N487+
:  :           :     :     :  :  :  :  :   N489+    -----+ [A] Hypsiboas_aff_semiguttata_sp7
:  :           :     :     :  : N498+  :   :   :
:  :       N541+     :     :  :     :  :   :   ----------+ [A] Hypsiboas_semiguttata
:  :        :  :     :     :  :     :  N495+
:  :        :  :     :     :  :     :      :        -----+ [A] Hypsiboas_latistriata
:  :        :  :     :     :  :     :      :   -N492+
:  :        :  :     :     :  :     :      N494+    -----+ [A] Hypsiboas_polytaenia
:  :        :  :     :     :  :     :          :
:  :        :  :     :     :  :     :          ----------+ [A] Hypsiboas_leptolineata
:  :        :  :     :     :  :     :
:  :        :  :     :     :  :     ---------------------+ [A] Hypsiboas_ericae
:  :        :  :     : N517+  :
:  :        :  :     :  :  :  :            --------------+ [A] Hypsiboas_pellucens
:  :        :  :     :  :  :  ---------N502+
:  :        :  :     :  :  :               --------------+ [B] Hypsiboas_rufitela
:  :        :  :     :  :  :
:  :        :  :     :  :  :                        -----+ [A] Hypsiboas_albopunctata
:  :        :  :     :  :  :                   -N506+
:  :        :  :     :  :  :              -N508+    -----+ [A] Hypsiboas_multifasciata
:  :        :  :     :  :  :              :    :
:  :        :  :     :  :  :         -N512+    ----------+ [A] Hypsiboas_lanciformis
:  :        :  :    N523+  :         :    :
:  :        :  :        :  :         :    :      --------+ [A] Hypsiboas_calcarata
:  :        :  :        :  :     -N514+    ---N511+
:  :        :  :        :  :     :    :           --------+ [A] Hypsiboas_fasciata
:  :        :  :        :  -N516+    :
:  :        :  :        :       :    ---------------------+ [A] Hypsiboas_raniceps
:  :        :  :        :       :
:  :        :  :        :       -------------------------+ [F] Hypsiboas_heilprini
:  :        :  :        :
:  :        :  :        :          ----------------------+ [A] Hypsiboas_boans
:  :        :  :        -------N522+
:  :    N563+  :                   :          -----------+ [A] Hypsiboas_geographica
:  :     :  :  :                   -------N521+
:  :     :  :  :                              -----------+ [A] Hypsiboas_semilineata
:  :     :  :  :
:  :     :  :  :                 -------------------------+ [A] Bokermannohyla_astartea
:  :     :  :  :                 :
:  :     :  :  :           --N534+     ------------------+ [A] Bokermannohyla_circumdata
:  :     :  :  :           :     :     :
:  :     :  :  :           :     --N533+           ------+ [A] Bokermannohyla_hylax
:  :     :  :  :           :           :     --N530+
:  :     :  :  :     --N536+           --N532+     ------+ [A] Bokermannohyla_sp3
:  :     :  :  :     :     :                 :
```

```
    :  :     :  :  :     :     :                 ------------+ [A] Bokermannohyla_sp4
    :  :     :  :  --N540+     :
N722+  :     :  :        :     ------------------------------+ [A] Bokermannohyla_cf_martinsi
    :  :     :  :        :
    :  :     :  :        :                 ------------------+ [A] Bokermannohyla_aff_pseudopseud
    :  :     :  :        --------------N539+
    :  :     :  :                          ------------------+ [A] Bokermannohyla_aff_alverangai
    :  :     :  :
    :  :     :  :                              --------------+ [A] Hyloscirtus_armatus
    :  : N565+  :                 ---------N544+
    :  :  :  :  :                 :            --------------+ [A] Hyloscirtus_charazani
    :  :  :  :  :                 :
    :  :  :  :  :        -----N552+                 ---------+ [A] Hyloscirtus_lindae
    :  :  :  :  :        :        :        -----N547+
    :  :  :  :  :        :        :        :        ---------+ [A] Hyloscirtus_tapichalaca
    :  :  :  :  :        :        -----N551+
    :  :  :  :  :        :                 :        ---------+ [A] Hyloscirtus_pachus
    :  :  :  :  :        :                 -----N550+
    :  :  :  :  -----N562+                          ---------+ [A] Hyloscirtus_pantostictus
    :  :  :  :           :
    : N567+  :           :                          ---------+ [B] Hyloscirtus_colymbus
    :     :  :           :                 -----N555+
    :     :  :           :        -----N557+        ---------+ [A] Hyloscirtus_simmonsi
    :     :  :           :        :        :
    :     :  :           -----N561+        ------------------+ [A] Hyloscirtus_phyllognathus
    :     :  :                    :
    :     :  :                    :            --------------+ [A] Hyloscirtus_lascinius
    :     :  :                    ---------N560+
    :     :  :                                 --------------+ [AB] Hyloscirtus_palmeri
    :     :  :
    :     :  ------------------------------------------------+ [A] Myersiohyla_inparquesi
    :     :
    :     ---------------------------------------------------+ [A] Myersiohyla_kanaima
    :
    :                                                 -------+ [C] Cyclorana_alboguttata
    :                                          ---N571+
    :                                          :      -------+ [C] Cyclorana_cryptotis
    :                                     -N577+
    :                                     :    :    ---------+ [C] Cyclorana_breviceps
    :                                     :    -N576+
    :                                -N579+         :    ----+ [C] Cyclorana_longipes
    :                                :    :         -N575+
    :                                :    :              ----+ [C] Cyclorana_manya
    :                           -N583+    :
    :                           :    :    -------------------+ [C] Cyclorana_australis
    :                           :    :
```

```
:                           :    :           ------------+ [C] Litoria_dahlii
:                       N587+    --------N582+
:                       :   :                ------------+ [C] Litoria_eucnemis
:                       :   :
:                       :   :              --------------+ [C] Litoria_aurea
:                       :   -----------N586+
:                   N595+                  --------------+ [C] Litoria_cyclorhyncha
:                   :   :
:                   :   :                     -----------+ [C] Litoria_genimaculata
:                   :   :          -------N590+
:                   :   :          :          -----------+ [C] Litoria_lesueurii
:                   :   -------N594+
:                   :              :          -----------+ [C] Litoria_nannotis
:               N607+              -------N593+
:               :   :                         -----------+ [C] Nyctimystes_dayi
:               :   :
:               :   :                 -------------------+ [C] Litoria_caerulea
:               :   :        -----N600+
:               :   :        :        :         ---------+ [C] Litoria_gilleni
:               :   :        :        ------N599+
:               :   -----N606+                  ---------+ [C] Litoria_splendida
:           N611+            :
:           :   :            :                  ---------+ [C] Litoria_chloris
:           :   :            :        ------N603+
:           :   :            -----N605+         ---------+ [C] Litoria_xanthomera
:           :   :                     :
:           :   :                     -------------------+ [C] Litoria_gracilenta
:           :   :
:           :   :                   ---------------------+ [C] Litoria_phyllochroa
:       N627+   ----------------N610+
:       :   :                       ---------------------+ [C] Litoria_subglandulos
:       :   :
:       :   :     ---------------------------------------+ [C] Litoria_infrafrenata
:       :   :     :
:       :   :     :                 ---------------------+ [C] Nyctimystes_cheesmani
:       :   :     :           --N619+
:       :   :     :           :     :      --------------+ [C] Nyctimystes_foricula
:       :   --N626+           :     ---N618+
:       :         :           :            :      -------+ [C] Nyctimystes_humeralis
:       :         :     --N623+            ---N617+
:       :         :     :     :                   -------+ [C] Nyctimystes_pulchra
:       :         :     :     :
:       :         --N625+     :            --------------+ [C] Nyctimystes_kubori
:       :               :     ---------N622+
:       :               :                  --------------+ [C] Nyctimystes_narinosus
:       :               :
```

```
:       :               ---------------------------------+ [C] Nyctimystes_papua
:       :
:       :                                      ----------+ [C] Litoria_amboinensis
:       :                            ------N630+
:       :                  ------N632+         ----------+ [C] Litoria_peronii
:       :                  :         :
:   N669+         -----N636+         --------------------+ [C] Litoria_rothii
:   :   :         :        :
:   :   :         :        :              ---------------+ [C] Litoria_dentata
:   :   :         :        -----------N635+
:   :   :         :                       ---------------+ [C] Litoria_rubella
:   :   :         :
:   :   :         :                               -------+ [C] Litoria_arfakiana
:   :   :         :                        ---N639+
:   :   :         :                 ---N641+      -------+ [C] Litoria_thesaurensis
:   :   :         :                 :      :
:   :   :    -N666+                 :      --------------+ [C] Litoria_modica
:   :   :    :    :          ---N647+
:   :   :    :    :          :      :             -------+ [C] Litoria_bicolor
:   :   :    :    :          :      :      ---N644+
:   :   :    :    :    --N649+      ---N646+      -------+ [C] Litoria_booroolongensis
:   :   :    :    :    :     :             :
:   :   :    :    :    :     :             --------------+ [C] Litoria_fallax
:   :   :    :    :    :     :
:   :   :    :    :    :     ----------------------------+ [C] Litoria_microbelos
:   :   :    :    :    :
:   :   :    :    :    :                 ----------------+ [C] Litoria_coplandi
:   :   :    :    -N665+         ----N654+
:   :   :    :         :         :       :       --------+ [C] Litoria_watjulumensis
:   :   -N668+         :         :       ----N653+
:   :        :         :         :               --------+ [C] Litoria_wollastoni
:   :        :         :    -N662+
:   :        :         :    :    :           ------------+ [C] Litoria_frecyneti
:   :        :         :    :    :     --N659+
:   :        :         :    :    :     :     :     ------+ [C] Litoria_inermis
:   :        :         -N664+    --N661+     --N658+
:   :        :              :          :           ------+ [C] Litoria_pallida
:   :        :              :          :
:   :        :              :          ------------------+ [C] Litoria_nasuta
:   :        :              :
:   :        :              -----------------------------+ [C] Litoria_tornieri
:   :        :
N721+        --------------------------------------------+ [C] Litoria_meiriana
    :
    :                                               -----+ [B] Agalychnis_annae
    :                                         --N672+
```

```
:                                   --N674+     -----+ [B] Agalychnis_moreleti
:                                   :     :
:                                   :     -----------+ [B] Agalychnis_callidryas
:                             --N680+
:                             :     :           -----+ [AB] Agalychnis_litodryas
:                             :     :     --N677+
:                        -N682+     --N679+     -----+ [AB] Agalychnis_spurrelli
:                        :    :           :
:                        :    :           -----------+ [B] Agalychnis_saltator
:                   -N684+    :
:                   :    :    -----------------------+ [B] Pachymedusa_dacnicolor
:              -N686+    :
:              :    :    ----------------------------+ [A] Hylomantis_granulosa
:         -N688+    :
:         :    :    ---------------------------------+ [B] Hylomantis_lemur
:         :    :
:         :    --------------------------------------+ [A] Phrynomedusa_marginata
:         :
:         :                       -------------------+ [A] Phasmahyla_cochranae
:    -N718+     --------------N691+
:    :    :     :                 -------------------+ [A] Phasmahyla_guttata
:    :    :     :
:    :    :     :                        ------------+ [A] Phyllomedusa_atelopoides
:    :    :     :                 ---N696+
:    :    :     :                 :      :     ------+ [A] Phyllomedusa_duellmani
:    :    :     :                 :      --N695+
:    :    --N717+           --N702+            ------+ [A] Phyllomedusa_perinesos
:    :          :           :     :
:    :          :           :     :            ------+ [A] Phyllomedusa_azurea
:    :          :           :     :      --N699+
:    :          :     --N704+     ---N701+     ------+ [A] Phyllomedusa_hypochondrialis
:    :          :     :     :            :
:    :          :     :     :            ------------+ [A] Phyllomedusa_palliata
-N720+          :     :     :
     :          --N716+     -------------------------+ [A] Phyllomedusa_tomopterna
     :                :
     :                :                 -------------+ [A] Phyllomedusa_bicolor
     :                :     --------N707+
     :                :     :           -------------+ [A] Phyllomedusa_vaillanti
     :                --N715+
     :                      :     -------------------+ [A] Phyllomedusa_boliviana
     :                      :     :
     :                      --N714+            ------+ [A] Phyllomedusa_tarsius
     :                            :      --N711+
     :                            ---N713+     ------+ [A] Phyllomedusa_trinitatus
     :                                   :
```

```
          :                                ------------+ [A] Phyllomedusa_tetraploidea
          :
          ---------------------------------------------+ [AB] Cruziohyla_calcarifer
```

```
Global ML at root node:
-lnL = 177.2
dispersal = 0.001134
extinction = 4.285e-009

Ancestral range subdivision/inheritance scenarios ('splits') at
internal nodes.

* Split format: [left|right], where 'left' and 'right' are the ranges
inherited by each descendant branch (on the printed tree, 'left' is
the upper branch, and 'right' the lower branch).

* Only splits within 2 log-likelihood units of the maximum for each
node are shown.  'Rel.Prob' is the relative probability (fraction of
the global likelihood) of a split.

At node N722:
split   lnL     Rel.Prob
[A|AC]  -177.4  0.8697

At node N568:
split  lnL     Rel.Prob
[A|A]  -177.3  0.9155

At node N414:
split   lnL     Rel.Prob
[A|A]   -177.5  0.7922
[AB|A]  -178.8  0.2067

At node N258:
split  lnL     Rel.Prob
[B|A]  -177.2  0.9994

At node N188:
split   lnL     Rel.Prob
[D|B]   -177.7  0.6089
[D|BD]  -178.2  0.3911

At node N36:
split  lnL     Rel.Prob
[D|D]  -177.2  1

At node N2:
split  lnL     Rel.Prob
[D|D]  -177.2  1

At node N35:
split  lnL     Rel.Prob
[D|D]  -177.2  1

At node N187:
split   lnL     Rel.Prob
[B|B]   -177.7  0.6076
[BD|B]  -178.2  0.3916
```

```
At node N149:
split   lnL     Rel.Prob
[B|B]   -177.7  0.6031
[BD|B]  -178.1  0.3958

At node N121:
split   lnL     Rel.Prob
[B|B]   -177.8  0.567
[BD|B]  -178.1  0.4299

At node N115:
split  lnL     Rel.Prob
[B|D]  -177.3  0.9707

At node N71:
split  lnL     Rel.Prob
[B|B]  -177.3  0.9706

At node N63:
split  lnL     Rel.Prob
[B|B]  -177.3  0.9702

At node N55:
split  lnL     Rel.Prob
[B|B]  -177.3  0.9631

At node N41:
split  lnL     Rel.Prob
[B|B]  -177.2  1

At node N54:
split  lnL     Rel.Prob
[B|B]  -177.3  0.9213

At node N53:
split  lnL     Rel.Prob
[B|B]  -177.2  0.9807

At node N49:
split  lnL     Rel.Prob
[B|B]  -177.3  0.9565

At node N47:
split  lnL     Rel.Prob
[B|B]  -177.2  0.9841

At node N46:
split  lnL     Rel.Prob
[B|B]  -177.3  0.9285

At node N52:
split  lnL     Rel.Prob
[B|B]  -177.3  0.9138

At node N62:
split  lnL     Rel.Prob
[B|B]  -177.2  1

At node N70:
split  lnL     Rel.Prob
[B|B]  -177.2  1

At node N114:
split   lnL     Rel.Prob
```

```
[DG|G]  -177.4  0.8044

At node N102:
split   lnL     Rel.Prob
[DG|D]  -177.4  0.8183
[D|D]   -179    0.1763

At node N96:
split   lnL     Rel.Prob
[D|DG]  -177.3  0.8815

At node N80:
split  lnL     Rel.Prob
[D|D]  -177.2  1

At node N79:
split  lnL     Rel.Prob
[D|D]  -177.2  1

At node N77:
split  lnL     Rel.Prob
[D|D]  -177.2  1

At node N95:
split  lnL     Rel.Prob
[D|G]  -177.2  1

At node N91:
split   lnL     Rel.Prob
[D|D]   -177.8  0.5736
[BD|B]  -178.7  0.2269

At node N90:
split   lnL     Rel.Prob
[B|BD]  -177.4  0.8106
[B|B]   -178.9  0.1844

At node N88:
split  lnL     Rel.Prob
[B|B]  -177.2  1

At node N86:
split  lnL     Rel.Prob
[B|B]  -177.2  1

At node N84:
split  lnL     Rel.Prob
[B|B]  -177.2  1

At node N94:
split  lnL     Rel.Prob
[G|G]  -177.2  1

At node N101:
split  lnL     Rel.Prob
[D|D]  -177.2  1

At node N99:
split  lnL     Rel.Prob
[D|D]  -177.2  1

At node N113:
split  lnL     Rel.Prob
[G|E]  -177.2  1
```

```
At node N107:
split  lnL     Rel.Prob
[G|G]  -177.2  1

At node N105:
split  lnL     Rel.Prob
[G|G]  -177.2  1

At node N112:
split  lnL     Rel.Prob
[E|E]  -177.2  1

At node N120:
split  lnL     Rel.Prob
[B|B]  -177.2  1


At node N148:
split  lnL     Rel.Prob
[B|B]  -177.2  1

At node N186:
split  lnL     Rel.Prob
[B|B]  -177.2  1

At node N257:
split  lnL     Rel.Prob
[A|A]  -177.3  0.9615

At node N413:
split  lnL     Rel.Prob
[A|A]  -177.2  1

At node N355:
split  lnL     Rel.Prob
[A|A]  -177.2  1

At node N327:
split  lnL     Rel.Prob
[A|A]  -177.2  1

At node N354:
split  lnL     Rel.Prob
[A|A]  -177.2  1

At node N412:
split  lnL     Rel.Prob
[A|A]  -177.2  1

At node N406:
split  lnL     Rel.Prob
[A|A]  -177.2  1

At node N411:
split  lnL     Rel.Prob
[A|A]  -177.2  1

At node N567:
split  lnL     Rel.Prob
[A|A]  -177.2  1

At node N721:
split  lnL     Rel.Prob
```

```
[C|A]  -177.2  1

At node N669:
split  lnL     Rel.Prob
[C|C]  -177.2  1

At node N720:
split  lnL     Rel.Prob
[A|A]  -177.3  0.9151

At node N718:
split  lnL     Rel.Prob
[A|A]  -177.3  0.9574

At node N688:
split  lnL     Rel.Prob
[A|A]  -177.3  0.911


At node N686:
split   lnL     Rel.Prob
[AB|B]  -177.2  0.977

At node N684:
split   lnL     Rel.Prob
[B|A]   -177.5  0.7617
[AB|A]  -178.7  0.223

At node N682:
split   lnL     Rel.Prob
[B|B]   -177.5  0.759
[AB|B]  -178.6  0.2395

At node N680:
split   lnL     Rel.Prob
[B|B]   -177.5  0.7514
[B|AB]  -178.6  0.2477

At node N674:
split  lnL     Rel.Prob
[B|B]  -177.2  1

At node N672:
split  lnL     Rel.Prob
[B|B]  -177.2  1

At node N679:
split   lnL     Rel.Prob
[B|B]   -177.5  0.7236
[AB|B]  -178.5  0.2719

At node N677:
split   lnL     Rel.Prob
[AB|B]  -178.7  0.2169
[B|AB]  -178.7  0.2169
[AB|A]  -178.7  0.2169
[A|AB]  -178.7  0.2169
[B|B]   -179.3  0.1308

At node N717:
split  lnL     Rel.Prob
[A|A]  -177.2  1

At node N691:
```

```
split  lnL     Rel.Prob
[A|A]  -177.2  1

At node N716:
split  lnL     Rel.Prob
[A|A]  -177.2  1
```

Appendix S2.B. Results of likelihood-based biogeographic analyses (using LAGRANGE), treating South America as multiple regions. A = Northern Hemisphere regions (Middle America, West Indies, North America, Europe, and Asia); B = Amazonian region; C = Atlantic Rainforest; D = Cerrado (and similar biomes); E = Chocoan region; F = Andean region; G = Guyana highlands.

```
lagrange: likelihood analysis of geographic range evolution
Version 2 released February 2008
This is development snapshot 20090327
Authors: Richard Ree <rree@fieldmuseum.org>
Stephen Smith <sasmith@nescent.org>
http://lagrange.googlecode.com

Newick tree with interior nodes labeled:

((((((Acris_crepitans:18.01,Acris_gryllus:18.01)N2:26.39,((((Pseudacri
s_bracyphona:4.67,Pseudacris_brimleyi:4.67)N5:6.17,((((Pseudacris_clarki
i:0.48,Pseudacris_triseriata_KS:0.48)N8:0.49,Pseudacris_maculata_ON:0.97
)N10:1.46,Pseudacris_triseriata_MI:2.44)N12:5.4,((Pseudacris_feriarum_KY
:2.9,Pseudacris_kalmi:2.9)N15:3.92,(Pseudacris_foquettei:4.59,Pseudacris
_nigrita:4.59)N18:2.23)N19:1.02)N20:3.0)N21:14.55,((Pseudacris_illinoens
is:4.93,Pseudacris_streckeri:4.93)N24:8.02,Pseudacris_ornata:12.94)N26:1
2.44)N27:4.61,(Pseudacris_crucifer:18.08,Pseudacris_ocularis:18.08)N30:1
1.92)N31:4.52,(Pseudacris_cadaverina:15.4,Pseudacris_regilla:15.4)N34:19
.12)N35:9.88)N36:10.82,((((((((Anotheca_spinosa:18.49,Triprion_petasatu
s:18.49)N39:5.87,Diaglena_spatulata:24.36)N41:8.28,(Smilisca_baudinii:26
.69,(((Smilisca_cyanosticta:14.16,(Smilisca_phaeota:10.51,Smilsca_puma:1
0.51)N46:3.65)N47:5.39,Smilisca_fodiens:19.55)N49:3.57,(Smilisca_sila:15
.58,Smilisca_sordida:15.58)N52:7.54)N53:3.57)N54:5.95)N55:5.83,((Isthmoh
yla_pseudopuma:21.31,Isthmohyla_zeteki:21.31)N58:11.98,(Isthmohyla_rivul
aris:7.04,Isthmohyla_tica:7.04)N61:26.25)N62:5.18)N63:2.38,((Tlalocohyla
_godmani:18.51,Tlalocohyla_loquax:18.51)N66:9.84,(Tlalocohyla_picta:23.0
,Tlalocohyla_smithi:23.0)N69:5.34)N70:12.5)N71:1.2,((((Hyla_andersoni:18
.84,(((Hyla_avivoca:1.79,Hyla_chrysocelis:1.79)N75:0.49,Hyla_versicolor:
2.28)N77:14.45,Hyla_femoralis:16.72)N79:2.12)N80:2.54,((Hyla_arenicolor:
13.41,((((Hyla_euphorbiacea:1.13,Hyla_plicata:1.13)N84:2.85,Hyla_eximia:
3.98)N86:0.52,Hyla_walkeri:4.49)N88:0.99,Hyla_wrightorum:5.48)N90:7.93)N
91:6.03,(Hyla_immaculata:16.04,Hyla_japonica:16.04)N94:3.4)N95:1.94)N96:
5.85,((Hyla_cinerea:13.38,Hyla_gratiosa:13.38)N99:9.24,Hyla_squirella:22
.61)N101:4.62)N102:10.84,(((Hyla_annectans:6.1,Hyla_tsinlingensis:6.1)N1
05:7.82,Hyla_chinensis:13.91)N107:12.66,((Hyla_arborea:12.19,Hyla_sauvig
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psiboas_polytaenia:1.59)N492:11.7,Hypsiboas_leptolineata:13.28)N494:2.91
)N495:4.22)N496:4.66,Hypsiboas_ericae:25.08)N498:10.28)N499:4.55,(Hypsib
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yla_cf_martinsi:22.08)N536:15.89,(Bokermannohyla_aff_pseudopseud:30.91,B
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us_lindae:8.96,Hyloscirtus_tapichalaca:8.96)N547:24.9,(Hyloscirtus_pachu
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irtus_palmeri:31.56)N560:7.63)N561:13.01)N562:11.81)N563:4.75,Myersiohyl
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_aurea:14.86,Litoria_cyclorhyncha:14.86)N586:13.93)N587:7.02,((Litoria_g
enimaculata:28.79,Litoria_lesueurii:28.79)N590:4.67,(Litoria_nannotis:25
.79,Nyctimystes_dayi:25.79)N593:7.67)N594:2.35)N595:1.58,((Litoria_caeru
lea:7.5,(Litoria_gilleni:4.78,Litoria_splendida:4.78)N599:2.72)N600:17.0
7,((Litoria_chloris:3.79,Litoria_xanthomera:3.79)N603:5.12,Litoria_graci
lenta:8.91)N605:15.66)N606:12.82)N607:2.59,(Litoria_phyllochroa:19.09,Li
toria_subglandulos:19.09)N610:20.88)N611:13.01,(Litoria_infrafrenata:40.
83,(((Nyctimystes_cheesmani:15.88,(Nyctimystes_foricula:13.76,(Nyctimyst
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632:6.33,(Litoria_dentata:17.71,Litoria_rubella:17.71)N635:12.44)N636:13
.42,(((((Litoria_arfakiana:10.16,Litoria_thesaurensis:10.16)N639:7.36,Li

toria_modica:17.52)N641:9.74,((Litoria_bicolor:6.11,Litoria_booroolongensis:6.11)N644:14.12,Litoria_fallax:20.23)N646:7.03)N647:9.19,Litoria_microbelos:36.46)N649:3.23,(((Litoria_coplandi:15.15,(Litoria_watjulumensis:0.23,Litoria_wollastoni:0.23)N653:14.91)N654:3.88,((Litoria_frecyneti:13.02,(Litoria_inermis:7.81,Litoria_pallida:7.81)N658:5.21)N659:2.9,Litoria_nasuta:15.92)N661:3.11)N662:2.76,Litoria_tornieri:21.79)N664:17.9)N665:3.88)N666:1.46,Litoria_meiriana:45.03)N668:13.38)N669:13.5,((((((((Agalychnis_annae:9.15,Agalychnis_moreleti:9.15)N672:3.68,Agalychnis_callidryas:12.82)N674:4.42,((Agalychnis_litodryas:1.83,Agalychnis_spurrelli:1.83)N677:12.14,Agalychnis_saltator:13.98)N679:3.27)N680:5.3,Pachymedusa_dacnicolor:22.55)N682:10.55,Hylomantis_granulosa:33.1)N684:4.64,Hylomantis_lemur:37.74)N686:7.74,Phrynomedusa_marginata:45.48)N688:2.24,((Phasmahyla_cochranae:13.67,Phasmahyla_guttata:13.67)N691:29.65,((((Phyllomedusa_atelopoides:21.35,(Phyllomedusa_duellmani:15.65,Phyllomedusa_perinesos:15.65)N695:5.7)N696:5.16,((Phyllomedusa_azurea:12.47,Phyllomedusa_hypochondrialis:12.47)N699:5.13,Phyllomedusa_palliata:17.6)N701:8.91)N702:3.04,Phyllomedusa_tomopterna:29.55)N704:6.43,((Phyllomedusa_bicolor:17.37,Phyllomedusa_vaillanti:17.37)N707:10.77,(Phyllomedusa_boliviana:23.15,((Phyllomedusa_tarsius:3.98,Phyllomedusa_trinitatus:3.98)N711:13.86,Phyllomedusa_tetraploidea:17.84)N713:5.31)N714:4.98)N715:7.84)N716:7.34)N717:4.4)N718:5.77,Cruziohyla_calcarifer:53.49)N720:18.42)N721:11.06)N722;

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Cladogram (branch lengths not to scale):
                                        ---------------------+ [A] Acris_crepitans
                    ------------------N2+
                    :                   ---------------------+ [A] Acris_gryllus
                    :
                    :                           -------------+ [A] Pseudacris_bracyphona
                    :               ----------N5+
                    :               :           -------------+ [A] Pseudacris_brimleyi
                    :               :
                    :               :                   -----+ [A] Pseudacris_clarkii
                    :               :              ---N8+
                    :           -N21+         --N10+    -----+ [A] Pseudacris_triseriata_KS
                    :           :   :         :    :
                    :           :   :    --N12+    ----------+ [A] Pseudacris_maculata_ON
                    :           :   :    :    :
                    :           :   :    :    ---------------+ [A] Pseudacris_triseriata_MI
                -N36+           :   --N20+
                :   :           :        :            -------+ [A] Pseudacris_feriarum_KY
                :   :           :        :     ----N15+
                :   :       -N27+        :     :      -------+ [A] Pseudacris_kalmi
                :   :       :   :        ---N19+
                :   :       :   :              :      -------+ [A] Pseudacris_foquettei
                :   :       :   :              ----N18+
                :   :       :   :                     -------+ [A] Pseudacris_nigrita
                :   :       :   :
                :   :   -N31+   :                  ----------+ [A] Pseudacris_illinoensis
                :   :   :   :   :        -------N24+
                :   :   :   :   ------N26+         ----------+ [A] Pseudacris_streckeri
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:   :   :   :            :
:   :   :   :            --------------------+ [A] Pseudacris_ornata
:   -N35+   :
:       :   :               -----------------+ [A] Pseudacris_crucifer
:       :   -------------N30+
:       :                   -----------------+ [A] Pseudacris_ocularis
:       :
:       :                 -------------------+ [A] Pseudacris_cadaverina
:       ---------------N34+
:                         -------------------+ [A] Pseudacris_regilla
:
:                                    --------+ [A] Anotheca_spinosa
:                            -----N39+
:                    -----N41+       --------+ [A] Triprion_petasatus
:                    :       :
:                    :       ----------------+ [A] Diaglena_spatulata
:                    :
:                 N55+   --------------------+ [A] Smilisca_baudinii
:                 :  :   :
:                 :  :   :           --------+ [A] Smilisca_cyanosticta
:                 :  :   :       -N47+
:                 :  -N54+       :   :   ----+ [AE] Smilisca_phaeota
:                 :      :   -N49+   -N46+
:                 :      :   :   :       ----+ [A] Smilsca_puma
:                 :      :   :   :
:              N63+      -N53+   ------------+ [A] Smilisca_fodiens
:              :  :          :
:              :  :          :       --------+ [AE] Smilisca_sila
:              :  :          -----N52+
:              :  :                  --------+ [A] Smilisca_sordida
:              :  :
:              :  :                 ---------+ [A] Isthmohyla_pseudopuma
:              :  :        ------N58+
:           N71+  :        :        ---------+ [A] Isthmohyla_zeteki
:           :  :  ------N62+
:           :  :           :        ---------+ [A] Isthmohyla_rivularis
:           :  :           ------N61+
:           :  :                    ---------+ [A] Isthmohyla_tica
:           :  :
:           :  :                   ----------+ [A] Tlalocohyla_godmani
:           :  :         -------N66+
:           :  :         :         ----------+ [A] Tlalocohyla_loquax
:           :  -------N70+
:           :            :         ----------+ [A] Tlalocohyla_picta
:           :            -------N69+
:           :                      ----------+ [A] Tlalocohyla_smithi
```

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    :           :
    :           :            --------------------+ [A] Hyla_andersoni
    :           :            :
    :           :            :              -----+ [A] Hyla_avivoca
    :           :        -N80+         --N75+
    :           :        :   :    --N77+    -----+ [A] Hyla_chrysocelis
N188+           :        :   :    :    :
 :  :           :        :   --N79+    ----------+ [A] Hyla_versicolor
 :  :       N115+        :        :
 :  :        :  :        :        ---------------+ [A] Hyla_femoralis
 :  :        :  :        :
 :  :        :  :     N96+     ------------------+ [A] Hyla_arenicolor
 :  :        :  :     :  :     :
 :  :        :  :     :  :     :             ----+ [A] Hyla_euphorbiacea
 :  :        :  :     :  :     :         -N84+
 :  :        :  :     :  :  N91+     -N86+   ----+ [A] Hyla_plicata
 :  :        :  :     :  :  :  :     :   :
 :  :        :  :     :  :  :  :  N88+   --------+ [A] Hyla_eximia
 :  :        :  :     :  :  :  :  :  :
 :  :        :  :     :  N95+  N90+  ------------+ [A] Hyla_walkeri
 :  :        :  : N102+     :     :
 :  :        :  :  :  :     :     ---------------+ [A] Hyla_wrightorum
 :  :        :  :  :  :     :
 :  :        :  :  :  :     :         -----------+ [A] Hyla_immaculata
 :  :        :  :  :  :     -------N94+
 :  :        :  :  :  :               -----------+ [A] Hyla_japonica
 :  :        :  :  :  :
 :  :    N121+  :  :  :                 ---------+ [A] Hyla_cinerea
 :  :     :  :  :  :  :        ------N99+
 :  :     :  : N114+  -----N101+        ---------+ [A] Hyla_gratiosa
 :  :     :  :     :           :
 :  :     :  :     :           ------------------+ [A] Hyla_squirella
 :  :     :  :     :
 :  :     :  :     :                     --------+ [A] Hyla_annectans
 :  :     :  :     :             ----N105+
 :  :     :  :     :      ---N107+       --------+ [A] Hyla_tsinlingensis
 :  :     :  :     :      :      :
 :  :     :  :     :      :      ----------------+ [A] Hyla_chinensis
 :  :     :  :     ---N113+
 :  :     :  :            :              --------+ [A] Hyla_arborea
 :  :     :  :            :      ----N110+
 :  :     :  :            ---N112+       --------+ [A] Hyla_sauvignyii
 :  :     :  :                   :
 :  :     :  :                   ----------------+ [A] Hyla_meridionalis
 :  :     :  :
 :  :     :  :                       ------------+ [A] Charadrahyla_nephila
```

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    :  :     :  :           --------N118+
    :  :     :  --------N120+            ------------+ [A] Charadrahyla_taeniopus
    :  :     :              :
    :  : N149+              ------------------------+ [A] Megastomatohyla_mixe
    :  :  :  :
    :  :  :  :                 ---------------------+ [A] Bromeliohyla_bromeliacia
    :  :  :  :                 :
    :  :  :  :         ---N128+             -------+ [A] Duellmanohyla_rufiocolis
    :  :  :  :         :      :      ---N125+
    :  :  :  :         :      ---N127+      -------+ [A] Duellmanohyla_uranochroa
    :  :  :  :         :             :
    :  :  :  :         :             --------------+ [A] Duellmanohyla_soralia
    :  :  :  :         :
    :  :  :  :     N142+       --------------------+ [A] Ptychohyla_dendrophasma
    :  :  :  :     :   :       :
    :  :  :  :     :   :       :       ------------+ [A] Ptychohyla_euthysanota
    :  :  :  :     :   :   N139+       :
    :  :  :  :     :   :   :   :   N136+       ----+ [A] Ptychohyla_leonhardlschultei
    :  :  :  :     :   :   :   :   :   :   N133+
    :  :  :  :     :   :   :   :   :   N135+   ----+ [A] Ptychohyla_zophodes
    :  :  :  :  N144+   N141+   N138+       :
    :  :  :  :  :   :       :       :       --------+ [A] Ptychohyla_sp
    :  :  :  :  :   :       :       :
    :  :  :  :  :   :       :       ----------------+ [A] Ptychohyla_hypomycter
    :  :  :  :  :   :       :
    : N187+ N148+   :       ------------------------+ [A] Ptychohyla_spinipollex
    :     :     :   :
    :     :     :   --------------------------------+ [A] Ecnomiohyla_miotympanum
N258+     :     :
 :  :     :     :                 ------------------+ [A] Ecnomiohyla_miliara
 :  :     :     --------------N147+
 :  :     :                       ------------------+ [A] Ecnomiohyla_minera
 :  :     :
 :  :     :                               ----------+ [A] Exerodonta_abdivita
 :  :     :                     ------N152+
 :  :     :            -----N154+         ----------+ [A] Exerodonta_perkinsi
 :  :     :            :        :
 :  :     :            :        --------------------+ [A] Exerodonta_melanoma
 :  :     :            :
 :  :     :     ---N162+                    --------+ [A] Exerodonta_chimalapa
 :  :     :     :      :             ---N157+
 :  :     :     :      :      ---N159+      --------+ [A] Exerodonta_smaragdina
 :  :     :     :      :      :      :
 :  :     :     :      ---N161+      ---------------+ [A] Exerodonta_xera
 :  :     :     :             :
 :  :     :     :             ----------------------+ [A] Exerodonta_sumichrasti
```

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:  :     :     :

:  :     :     :                 ------------------+ [A] Plectrohyla_ameibothalamae

:  :     --N186+           --N169+

:  :           :           :     :     ------------+ [A] Plectrohyla_bistincta

:  :           :           :     --N168+

:  :           :           :           :     ------+ [A] Plectrohyla_calthula

:  :           :           :           --N167+

:  :           :     --N177+                 ------+ [A] Plectrohyla_pentheter

:  :           :     :     :

:  :           :     :     :                 ------+ [A] Plectrohyla_arborescandens

:  :           :     :     :           --N172+

:  :           :     :     :     --N174+     ------+ [A] Plectrohyla_cyclada

:  :           --N185+     :     :     :

:  :                 :     --N176+     ------------+ [A] Plectrohyla_siopela

:  :                 :           :

:  :                 :           ------------------+ [A] Plectrohyla_aff_thorectes_sp5

:  :                 :

:  :                 :      -----------------------+ [A] Plectrohyla_chrysopleura

:  :                 ---N184+

:  :                        :      ----------------+ [A] Plectrohyla_glandulosa

:  :                        ---N183+

:  :                               :       --------+ [A] Plectrohyla_guatemalensis

:  :                               ----N182+

:  :                                       --------+ [A] Plectrohyla_matudai

:  :

:  :                           --------------------+ [C] Aparasphenodon_brunoi

:  :                 ------N193+

:  :                 :         :         ----------+ [D] Argenteohyla_siemersi

:  :        -----N195+         ------N192+

:  :        :        :                   ----------+ [B] Nyctimantis_rugiceps

:  :        :        :

:  :        :        ------------------------------+ [D] Corythomantis_greenengi

:  :        :

:  :        :         -----------------------------+ [B] Trachycephalus_coriacea

:  :        :         :

:  :   -N211+         :                      ------+ [B] Trachycephalus_hadroceps

:  :   :    :         :                --N199+

:  :   :    :    -N208+          --N201+     ------+ [B] Trachycephalus_resinifrictix

:  :   :    :    :    :          :     :

:  :   :    :    :    :    --N205+     ------------+ [ABDE] Trachycephalus_venulosus

:  :   :    :    :    :    :     :

:  :   :    :    :    :    :     :        ---------+ [C] Trachycephalus_imitatrix

:  :   :    -N210+    -N207+     -----N204+

:  :   :         :         :              ---------+ [C] Trachycephalus_nigromaculatus

:  :   :         :         :

:  :   :         :         ------------------------+ [C] Trachycephalus_mesophaea
```

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    :  :   :         :
    :  :   :         ----------------------------------+ [E] Trachycephalus_jordani
    :  :   :
    :  :   :                       --------------------+ [CD] Itapotihyla_langsdorffii
    :  :   :   ----------------N214+
    :  N257+   :                   --------------------+ [B] Phyllodytes_auratus
    :      :   :
    :      :   :                        ---------------+ [B] Osteocephalus_alboguttatus
    :      :   :                        :
    :      :   :                   -N223+         -----+ [B] Osteocephalus_leprieurii
    :      :   :                   :    :    -N218+
    :      :   :                   :    :    :    -----+ [B] Osteocephalus_planiceps
    :      :   :                   :    -N222+
    :      :   :                   :         :    -----+ [B] Osteocephalus_oophagus
    :      :   :                   :         -N221+
    :      :   :              -N231+              -----+ [BD] Osteocephalus_taurinus
    :      :   :              :    :
    :      :   :              :    :              -----+ [BF] Osteocephalus_buckleyi
    :      :   :              :    :         -N226+
    :      :   :              :    :    -N228+    -----+ [F] Osteocephalus_verruciger
    :      :   :         -N235+    :    :    :
    :      N256+         :    :    -N230+    ----------+ [B] Osteocephalus_cabrerai
    :          :         :    :         :
    :          :         :    :         ---------------+ [BF] Osteocephalus_mutabor
    :          :         :    :
    :          :         :    :           -------------+ [G] Tepuihyla_edelcae
    :          :         :    --------N234+
    :          :         :                -------------+ [G] Tepuihyla_sp
    :          :         :
    :          :         :                        -----+ [A] Osteopilus_brunneus
    :          :    -N251+                   -N238+
    :          :    :    :                   :    -----+ [A] Osteopilus_crucialis
    :          :    :    :              -N242+
    :          :    :    :              :    :    -----+ [A] Osteopilus_marianae
    :          :    :    :              :    -N241+
    :          :    :    :         -N246+         -----+ [A] Osteopilus_wilderi
    :          :    :    :         :    :
    :          :    :    :         :    :      --------+ [A] Osteopilus_dominicensis
    :          -N255+    :    -N248+    ---N245+
    :               :    :    :    :           --------+ [A] Osteopilus_pulchrilineatus
    :               :    -N250+    :
    :               :         :    --------------------+ [A] Osteopilus_vastus
    :               :         :
    :               :         -------------------------+ [A] Osteopilus_septentrionalis
    :               :
N414+               :                ------------------+ [C] Phyllodytes_luteolus
```

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:  :               -------------N254+
:  :                                ------------------+ [C] Phyllodytes_sp
:  :
:  :           ---------------------------------------+ [B] Dendropsophus_allenorum
:  :           :
:  :           :           ---------------------------+ [C] Dendropsophus_anceps
:  :           :           :
:  :           :           :                  --------+ [C] Dendropsophus_berthalutzae
:  :           :           :           ---N263+
:  :           :           :           :      --------+ [B] Dendropsophus_minusculus
:  :           :           :           :
:  :           :           :       N273+          ----+ [BD] Dendropsophus_nanus
:  :           :           :        :  :      N266+
:  :           :           :        :  :  N268+   ----+ [B] Dendropsophus_walfordi
:  :           :           :        :  :  :   :
:  :           :       N288+        : N272+   --------+ [B] Dendropsophus_riveroi
:  :           :        :  :    N275+     :
:  :           :        :  :     :  :     :     ------+ [D] Dendropsophus_rubicundula
:  :           :        :  :     :  :     --N271+
:  :           :        :  :     :  :           ------+ [CD] Dendropsophus_sanborni
:  :           :        :  : N285+  :
:  :           :        :  :  :  :  ------------------+ [CD] Dendropsophus_bipunctata
:  :           :        :  :  :  :
:  :           :        :  :  :  :    ----------------+ [B] Dendropsophus_leali
:  :           :        :  :  :  :    :
:  :           :        :  :  :  -N284+         ------+ [ABE] Dendropsophus_microcephalus
:  :           :        : N287+       :    -N279+
:  :           :        :     :       :    :    ------+ [BF] Dendropsophus_rhodopepla
:  :       N325+        :     :       -N283+
:  :        :  :        :     :            :    ------+ [A] Dendropsophus_robertmertensi
:  :        :  :    N304+     :            -N282+
:  :        :  :     :  :     :                 ------+ [A] Dendropsophus_sartori
:  :        :  :     :  :     :
:  :        :  :     :  :     ------------------------+ [BCDF] Dendropsophus_minutus
:  :        :  :     :  :
:  :        :  :     :  :                        -----+ [BF] Dendropsophus_bifurca
:  :        :  :     :  :                   -N291+
:  :        :  :     :  :                   :    -----+ [BFG] Dendropsophus_sarayacuensis
:  :        :  :     :  :              -N295+
:  :        :  :     :  :              :    :    -----+ [BD] Dendropsophus_leucophyllatus
:  :        :  :     :  :         -N297+    -N294+
:  :        :  :     :  :         :    :         -----+ [B] Dendropsophus_triangulum
:  :        :  :     :  :    -N299+    :
:  :        :  : N318+  :    :    :    ---------------+ [AEF] Dendropsophus_ebraccatus
:  :        :  :  :  :  :    :    :
:  :        :  :  :  :  -N303+    --------------------+ [C] Dendropsophus_elegans
```

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:  :        :  :  :  :       :
:  :        :  :  :  :       :           -------------+ [B] Dendropsophus_miyatai
:  :        :  :  :  :       --------N302+
:  :    N327+  :  :  :                   -------------+ [B] Dendropsophus_schubarti
:  :     :  :  :  :  :
:  :     :  :  :  :  :                       ---------+ [B] Dendropsophus_brevifrons
:  :     :  :  :  :  :              -----N307+
:  :     :  :  :  :  :     -----N309+        ---------+ [BF] Dendropsophus_parviceps
:  :     :  : N324+  :     :        :
:  :     :  :     :  :     :        -----------------+ [B] Dendropsophus_koechlini
:  :     :  :     :  --N317+
:  :     :  :     :        :            --------------+ [F] Dendropsophus_carnifex
:  :     :  :     :        :     ---N314+
:  :     :  :     :        :     :      :      -------+ [F] Dendropsophus_labialis
:  :     :  :     :        --N316+      ---N313+
:  :     :  :     :              :             -------+ [F] Dendropsophus_pelidna
:  :     :  :     :              :
:  :     :  :     :              --------------------+ [C] Dendropsophus_giesleri
:  :     :  :     :
:  :     :  :     :           -----------------------+ [F] Dendropsophus_aperomeus
:  :     :  :     --------N323+
:  :     :  :                 :           ------------+ [B] Dendropsophus_marmoratus
:  :     :  :                 --------N322+
:  : N355+  :                             ------------+ [C] Dendropsophus_senicula
:  :  :  :  :
:  :  :  :  ------------------------------------------+ [C] Xenohyla_truncata
:  :  :  :
:  :  :  :                          -----------------+ [D] Lysapsus_caraya
:  :  :  :                 -----N332+
:  :  :  :                 :        :        ---------+ [D] Lysapsus_limellus
:  :  :  :                 :        -----N331+
:  :  :  :         ----N336+                 ---------+ [BD] Lysapsus_limellus_bolivianus
:  :  :  :         :       :
:  :  :  :         :       :            --------------+ [BD] Lysapsus_laevis
:  :  :  :         :       ---------N335+
:  :  :  :         :                    --------------+ [BD] Lysapsus_sp.
:  :  :  :    -N352+
:  :  :  :    :    :                   ---------------+ [D] Podonectes_cardosoi
:  :  :  :    :    :    -----------N339+
:  :  :  :    :    :    :              ---------------+ [D] Podonectes_minutus
:  :  :  :    :    :    :
:  :  :  :    :    :    :           -----------------+ [D] Pseudis_bolbodactyla
:  :  :  :    :    -N351+           :
:  :  :  :    :         :     --N346+           ------+ [BDE] Pseudis_paradoxa
:  :  :  -N354+         :     :     :     --N343+
:  :  :       :         :     :     --N345+     ------+ [D] Pseudis_par_platensis
```

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:  :  :       :         --N350+           :
:  :  :       :               :           ------------+ [D] Pseudis_par_occidentalis
:  :  :       :               :
:  :  :       :               :           ------------+ [D] Pseudis_fusca
:  :  :       :               --------N349+
:  :  :       :                           ------------+ [D] Pseudis_tocantins
:  :  :       :
:  :  :       ----------------------------------------+ [B] Scarthyla_goinorum
:  :  :
:  :  :                 ------------------------------+ [D] Scinax_acuminatus
:  :  :                 :
:  :  :                 :                       ------+ [A] Scinax_boulengeri
:  :  :                 :                 --N359+
:  :  :           --N366+           --N361+     ------+ [E] Scinax_sugillatus
:  :  :           :     :           :     :
:  :  :           :     :     --N363+     ------------+ [B] Scinax_garbei
: N413+           :     :     :     :
:     :           :     --N365+     ------------------+ [B] Scinax_pedromedinai
:     :           :           :
:     :           :           ------------------------+ [E] Scinax_quinquefasciata
:     :           :
:     :           :                 ------------------+ [B] Scinax_bosemani
:     :           :           --N373+
:     :           :           :     :     ------------+ [CD] Scinax_fuscovarius
:     :           :           :     --N372+
:     :           :           :           :     ------+ [D] Scinax_nasicus
:     :           :           :           --N371+
:     :           :           :                 ------+ [ABEF] Scinax_rubra
:     :           :           :
:     :           :           :                   ----+ [B] Scinax_chiquitana
:     :       N398+       N387+               N376+
:     :        :  :        :  :           N378+   ----+ [B] Scinax_funerea
:     :        :  :        :  :           :   :
:     :        :  :        :  :       N380+   --------+ [F] Scinax_oreites
:     :        :  :        :  :        :  :
:     :        :  :        :  :    N382+  ------------+ [B] Scinax_icterica
:     :        :  :        :  :     :  :
:     :        :  :    N393+  : N384+  ---------------+ [C] Scinax_hayi
:     :        :  :     :  :  :  :  :
:     :        :  :     :  : N386+  ------------------+ [C] Scinax_similis
:     :        :  :     :  :     :
:     :    N400+  :     :  :     ---------------------+ [D] Scinax_duartei
:     :     :  :  :     :  :
:     :     :  :  : N395+  :                 ---------+ [B] Scinax_cruentomma
:     :     :  :  :  :  :  :        -----N390+
:     :     :  :  :  :  :  -----N392+        ---------+ [A] Scinax_elaeochroa
```

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    :     :     :  :  :  :  :           :
    :     :     :  : N397+  :           ------------------+ [A] Scinax_staufferi
    :     : N406+  :     :  :
    :     :  :  :  :     :  ------------------------------+ [CD] Scinax_squalirostris
    :     :  :  :  :     :
    :     :  :  :  :     ---------------------------------+ [D] Scinax_crospedospilus
    :     :  :  :  :
    :     :  :  :  ---------------------------------------+ [D] Scinax_uruguaya
    :     :  :  :
    :    N412+  :             ----------------------------+ [CD] Scinax_berthae
    :        :  ----------N405+
N568+        :                :             --------------+ [C] Scinax_catharinae
 :  :        :                ----------N404+
 :  :        :                              --------------+ [C] Scinax_obtriangulata
 :  :        :
 :  :        :                             ---------------+ [B] Sphaenorhynchus_dorisae
 :  :        :              -----------N409+
 :  :        -----------N411+              ---------------+ [B] Sphaenorhynchus_lacteus
 :  :                       :
 :  :                       ------------------------------+ [C] Sphaenorynchus_orophilus
 :  :
 :  :                                            ---------+ [C] Aplastodiscus_albofrenatus
 :  :                                    ----N417+
 :  :                            ----N419+       ---------+ [C] Aplastodiscus_weygoldti
 :  :                            :       :
 :  :                    ----N421+       -----------------+ [C] Aplastodiscus_arildae
 :  :                    :       :
 :  :                    :       -------------------------+ [C] Aplastodiscus_aff_ehrhardtii_s
 :  :                    :
 :  :              --N433+           ---------------------+ [C] Aplastodiscus_albosignata
 :  :              :     :           :
 :  :              :     :     --N428+             -------+ [C] Aplastodiscus_cavicola
 :  :              :     :     :     :      ---N425+
 :  :              :     :     :     ---N427+      -------+ [C] Aplastodiscus_leucopygius
 :  :              :     --N432+            :
 :  :              :           :            --------------+ [C] Hypsiboas_callipygia
 :  :              :           :
 :  :              :           :            --------------+ [C] Aplastodiscus_cochranae
 :  :              :           ---------N431+
 :  :              :                        --------------+ [CD] Aplastodiscus_perviridis
 :  :              :
 :  :              :                  --------------------+ [E] Hypsiboas_picturatus
 :  :              :        ------N438+
 :  :              :        :         :         ----------+ [B] Hypsiboas_granosa
 :  :              :        :         ------N437+
 :  :              :        :                   ----------+ [BCD] Hypsiboas_punctata
```

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:  :              :        :
:  :              :        :                       ------+ [BG] Hypsiboas_benitezi
:  :              :  --N452+                 --N441+
:  :              :  :     :           --N443+     ------+ [G] Hypsiboas_lemai
:  :              :  :     :           :     :
:  :              :  :     :           :     ------------+ [G] Hypsiboas_sp8
:  :              :  :     :     --N449+
:  :              :  :     :     :     :           ------+ [B] Hypsiboas_microderma
:  :              :  :     :     :     :     --N446+
:  :              :  :     --N451+     --N448+     ------+ [B] Hypsiboas_sp2
:  :          N525+  :           :           :
:  :           :  :  :           :           ------------+ [G] Hypsiboas_roraima
:  :           :  :  :           :
:  :           :  :  :           ------------------------+ [G] Hypsiboas_siblezi
:  :           :  :  :
:  :           :  :  :               --------------------+ [C] Hypsiboas_albomarginata
:  :           :  :  :               :
:  :           :  :  :           N463+           --------+ [CD] Hypsiboas_crepitans
:  :           :  :  :           :   :    ---N456+
:  :           :  :  :           :   :    :      --------+ [AE] Hypsiboas_rosenbergi
:  :           :  :  :           :   -N462+
:  :           :  :  :           :        :    ----------+ [CD] Hypsiboas_faber
:  :           :  :  :           :        -N461+
:  :           :  :  :           :             :    -----+ [D] Hypsiboas_lundii
:  :           :  :  :           :             -N460+
:  :           :  :  :           :                  -----+ [C] Hypsiboas_pardalis
:  :           :  :  :           :
:  :           :  :  :           :                  -----+ [DF] Hypsiboas_andina
:  :           :  :  :           :             -N466+
:  :           :  :  :           :             :    -----+ [DF] Hypsiboas_riojanae
:  :           :  :  :           :        -N470+
:  :           :  :  :           :        :    :    -----+ [BDF] Hypsiboas_balzani
:  :           :  :  :           :        :    -N469+
:  :           :  :  :           :        :         -----+ [DF] Hypsiboas_marianitae
:  :           :  :  :       N499+        :
:  :           :  :  :        :  :    N484+          ----+ [C] Hypsiboas_bischoffi
:  :           :  :  :        :  :     :  :      N473+
:  :           : N524+        :  :     :  :  N475+   ----+ [C] Hypsiboas_marginata
:  :           :     :        :  :     :  :  :   :
:  :           :     :        :  :     :  :  :   --------+ [C] Hypsiboas_guentheri
:  :           :     :        :  :     : N483+
:  :           :     :        :  :     :     :  ---------+ [CD] Hypsiboas_caingua
:  :           :     :        :  :     :     :  :
:  :           :     :        :  :     :    N482+     ---+ [F] Hypsiboas_cordobae
:  :           :     :        :  : N496+        : N479+
:  :           :     :        :  :  :  :       N481+  ---+ [CD] Hypsiboas_pulchella
```

```
:  :           :     :        :  :  :  :           :
:  :           :     :        :  :  :  :           ------+ [CD] Hypsiboas_prasina
:  :           :     :        :  :  :  :
:  :           :     :    N503+  :  :  :            -----+ [D] Hypsiboas_joaquini
:  :           :     :     :  :  :  :  :       -N487+
:  :           :     :     :  :  :  :  :   N489+    -----+ [D] Hypsiboas_aff_semiguttata_sp7
:  :           :     :     :  : N498+  :   :   :
:  :       N541+     :     :  :     :  :   :   ----------+ [C] Hypsiboas_semiguttata
:  :        :  :     :     :  :     :  N495+
:  :        :  :     :     :  :     :      :        -----+ [C] Hypsiboas_latistriata
:  :        :  :     :     :  :     :      :   -N492+
:  :        :  :     :     :  :     :      N494+    -----+ [C] Hypsiboas_polytaenia
:  :        :  :     :     :  :     :          :
:  :        :  :     :     :  :     :          ----------+ [D] Hypsiboas_leptolineata
:  :        :  :     :     :  :     :
:  :        :  :     :     :  :     ---------------------+ [D] Hypsiboas_ericae
:  :        :  :     : N517+  :
:  :        :  :     :  :  :  :            --------------+ [E] Hypsiboas_pellucens
:  :        :  :     :  :  :  ---------N502+
:  :        :  :     :  :  :               --------------+ [A] Hypsiboas_rufitela
:  :        :  :     :  :  :
:  :        :  :     :  :  :                        -----+ [BCD] Hypsiboas_albopunctata
:  :        :  :     :  :  :                   -N506+
:  :        :  :     :  :  :              -N508+    -----+ [B] Hypsiboas_multifasciata
:  :        :  :     :  :  :              :    :
:  :        :  :     :  :  :         -N512+    ----------+ [BF] Hypsiboas_lanciformis
:  :        :  :    N523+  :         :    :
:  :        :  :        :  :         :    :      --------+ [B] Hypsiboas_calcarata
:  :        :  :        :  :    -N514+    ---N511+
:  :        :  :        :  :    :    :           --------+ [B] Hypsiboas_fasciata
:  :        :  :        :  -N516+    :
:  :        :  :        :       :    --------------------+ [BD] Hypsiboas_raniceps
:  :        :  :        :       :
:  :        :  :        :       -------------------------+ [A] Hypsiboas_heilprini
:  :        :  :        :
:  :        :  :        :          ----------------------+ [BE] Hypsiboas_boans
:  :        :  :        -------N522+
:  :    N563+  :                   :          -----------+ [BCD] Hypsiboas_geographica
:  :     :  :  :                   -------N521+
:  :     :  :  :                              -----------+ [C] Hypsiboas_semilineata
:  :     :  :  :
:  :     :  :  :                 ------------------------+ [C] Bokermannohyla_astartea
:  :     :  :  :                 :
:  :     :  :  :           --N534+     ------------------+ [C] Bokermannohyla_circumdata
:  :     :  :  :           :     :     :
:  :     :  :  :           :     --N533+           ------+ [C] Bokermannohyla_hylax
```

```
    :  :     :  :  :           :           :     --N530+
    :  :     :  :  :     --N536+           --N532+     ------+ [C] Bokermannohyla_sp3
    :  :     :  :  :     :     :                 :
    :  :     :  :  :     :     :                 ------------+ [C] Bokermannohyla_sp4
    :  :     :  :  --N540+     :
N722+  :     :  :        :     ------------------------------+ [D] Bokermannohyla_cf_martinsi
    :  :     :  :        :
    :  :     :  :        :                 ------------------+ [D] Bokermannohyla_aff_pseudopseud
    :  :     :  :        --------------N539+
    :  :     :  :                          ------------------+ [D] Bokermannohyla_aff_alverangai
    :  :     :  :
    :  :     :  :                              --------------+ [F] Hyloscirtus_armatus
    :  : N565+  :                 ---------N544+
    :  :  :  :  :                 :            --------------+ [F] Hyloscirtus_charazani
    :  :  :  :  :                 :
    :  :  :  :  :        -----N552+                 ---------+ [F] Hyloscirtus_lindae
    :  :  :  :  :        :        :        -----N547+
    :  :  :  :  :        :        :        :        ---------+ [F] Hyloscirtus_tapichalaca
    :  :  :  :  :        :        -----N551+
    :  :  :  :  :        :                 :        ---------+ [F] Hyloscirtus_pachus
    :  :  :  :  :        :                 -----N550+
    :  :  :  :  -----N562+                          ---------+ [F] Hyloscirtus_pantostictus
    :  :  :  :           :
    : N567+  :           :                          ---------+ [A] Hyloscirtus_colymbus
    :     :  :           :                 -----N555+
    :     :  :           :        -----N557+        ---------+ [F] Hyloscirtus_simmonsi
    :     :  :           :        :        :
    :     :  :           -----N561+        ------------------+ [BF] Hyloscirtus_phyllognathus
    :     :  :                    :
    :     :  :                    :            --------------+ [F] Hyloscirtus_lascinius
    :     :  :                    ---------N560+
    :     :  :                                 --------------+ [AEF] Hyloscirtus_palmeri
    :     :  :
    :     :  ------------------------------------------------+ [G] Myersiohyla_inparquesi
    :     :
    :     ---------------------------------------------------+ [G] Myersiohyla_kanaima
    :
    :                                                 -------+ [H] Cyclorana_alboguttata
    :                                          ---N571+
    :                                          :      -------+ [H] Cyclorana_cryptotis
    :                                     -N577+
    :                                     :    :    ---------+ [H] Cyclorana_breviceps
    :                                     :    -N576+
    :                                -N579+         :    ----+ [H] Cyclorana_longipes
    :                                :    :         -N575+
    :                                :    :              ----+ [H] Cyclorana_manya
```

```
:                           -N583+    :
:                           :    :    -------------------+ [H] Cyclorana_australis
:                           :    :
:                           :    :           ------------+ [H] Litoria_dahlii
:                       N587+    --------N582+
:                       :   :                ------------+ [H] Litoria_eucnemis
:                       :   :
:                       :   :              --------------+ [H] Litoria_aurea
:                       :   -----------N586+
:                   N595+                  --------------+ [H] Litoria_cyclorhyncha
:                   :   :
:                   :   :                     -----------+ [H] Litoria_genimaculata
:                   :   :          -------N590+
:                   :   :          :          -----------+ [H] Litoria_lesueurii
:                   :   -------N594+
:                   :              :          -----------+ [H] Litoria_nannotis
:               N607+              -------N593+
:               :   :                         -----------+ [H] Nyctimystes_dayi
:               :   :
:               :   :                 -------------------+ [H] Litoria_caerulea
:               :   :        -----N600+
:               :   :        :        :         ---------+ [H] Litoria_gilleni
:               :   :        :        ------N599+
:               :   -----N606+                  ---------+ [H] Litoria_splendida
:           N611+            :
:           :   :            :                  ---------+ [H] Litoria_chloris
:           :   :            :        ------N603+
:           :   :            -----N605+         ---------+ [H] Litoria_xanthomera
:           :   :                     :
:           :   :                     -------------------+ [H] Litoria_gracilenta
:           :   :
:           :   :                   ---------------------+ [H] Litoria_phyllochroa
:       N627+   ----------------N610+
:       :   :                       ---------------------+ [H] Litoria_subglandulos
:       :   :
:       :   :     ---------------------------------------+ [H] Litoria_infrafrenata
:       :   :     :
:       :   :     :                 ---------------------+ [H] Nyctimystes_cheesmani
:       :   :     :           --N619+
:       :   :     :           :     :      --------------+ [H] Nyctimystes_foricula
:       :   --N626+           :     ---N618+
:       :         :           :            :      -------+ [H] Nyctimystes_humeralis
:       :         :     --N623+            ---N617+
:       :         :     :     :                   -------+ [H] Nyctimystes_pulchra
:       :         :     :     :
:       :         --N625+     :            --------------+ [H] Nyctimystes_kubori
```

```
:       :               :     ---------N622+
:       :               :                  --------------+ [H] Nyctimystes_narinosus
:       :               :
:       :               ---------------------------------+ [H] Nyctimystes_papua
:       :
:       :                                      ----------+ [H] Litoria_amboinensis
:       :                            ------N630+
:       :                  ------N632+         ----------+ [H] Litoria_peronii
:       :                  :         :
:   N669+         -----N636+         --------------------+ [H] Litoria_rothii
:   :   :         :        :
:   :   :         :        :              ---------------+ [H] Litoria_dentata
:   :   :         :        -----------N635+
:   :   :         :                       ---------------+ [H] Litoria_rubella
:   :   :         :
:   :   :         :                               -------+ [H] Litoria_arfakiana
:   :   :         :                        ---N639+
:   :   :         :                 ---N641+      -------+ [H] Litoria_thesaurensis
:   :   :         :                 :      :
:   :   :    -N666+                 :      --------------+ [H] Litoria_modica
:   :   :    :    :          ---N647+
:   :   :    :    :          :      :             -------+ [H] Litoria_bicolor
:   :   :    :    :          :      :      ---N644+
:   :   :    :    :    --N649+      ---N646+      -------+ [H] Litoria_booroolongensis
:   :   :    :    :    :     :             :
:   :   :    :    :    :     :             --------------+ [H] Litoria_fallax
:   :   :    :    :    :     :
:   :   :    :    :    :     ----------------------------+ [H] Litoria_microbelos
:   :   :    :    :    :
:   :   :    :    :    :                 ----------------+ [H] Litoria_coplandi
:   :   :    :    -N665+         ----N654+
:   :   :    :         :         :       :       --------+ [H] Litoria_watjulumensis
:   :   -N668+         :         :       ----N653+
:   :        :         :         :               --------+ [H] Litoria_wollastoni
:   :        :         :    -N662+
:   :        :         :    :    :           ------------+ [H] Litoria_frecyneti
:   :        :         :    :    :     --N659+
:   :        :         :    :    :     :     :     ------+ [H] Litoria_inermis
:   :        :         -N664+    --N661+     --N658+
:   :        :              :          :           ------+ [H] Litoria_pallida
:   :        :              :          :
:   :        :              :          ------------------+ [H] Litoria_nasuta
:   :        :              :
:   :        :              -----------------------------+ [H] Litoria_tornieri
:   :        :
N721+        --------------------------------------------+ [H] Litoria_meiriana
```

```
:
:                                               -----+ [A] Agalychnis_annae
:                                         --N672+
:                                   --N674+     -----+ [A] Agalychnis_moreleti
:                                   :     :
:                                   :     -----------+ [A] Agalychnis_callidryas
:                             --N680+
:                             :     :           -----+ [AE] Agalychnis_litodryas
:                             :     :     --N677+
:                        -N682+     --N679+     -----+ [AE] Agalychnis_spurrelli
:                        :    :           :
:                        :    :           -----------+ [A] Agalychnis_saltator
:                   -N684+    :
:                   :    :    -----------------------+ [A] Pachymedusa_dacnicolor
:              -N686+    :
:              :    :    ----------------------------+ [C] Hylomantis_granulosa
:         -N688+    :
:         :    :    ---------------------------------+ [A] Hylomantis_lemur
:         :    :
:         :    --------------------------------------+ [C] Phrynomedusa_marginata
:         :
:         :                       -------------------+ [C] Phasmahyla_cochranae
:    -N718+     --------------N691+
:    :    :     :                 -------------------+ [C] Phasmahyla_guttata
:    :    :     :
:    :    :     :                        ------------+ [B] Phyllomedusa_atelopoides
:    :    :     :                 ---N696+
:    :    :     :                 :      :     ------+ [F] Phyllomedusa_duellmani
:    :    :     :                 :      --N695+
:    :    --N717+           --N702+            ------+ [F] Phyllomedusa_perinesos
:    :          :           :     :
:    :          :           :     :            ------+ [D] Phyllomedusa_azurea
:    :          :           :     :      --N699+
:    :          :     --N704+     ---N701+     ------+ [BDF] Phyllomedusa_hypochondrialis
:    :          :     :     :            :
:    :          :     :     :            ------------+ [B] Phyllomedusa_palliata
-N720+          :     :     :
     :          --N716+     -------------------------+ [B] Phyllomedusa_tomopterna
     :                :
     :                :                 -------------+ [B] Phyllomedusa_bicolor
     :                :     --------N707+
     :                :     :           -------------+ [B] Phyllomedusa_vaillanti
     :                --N715+
     :                      :     -------------------+ [BDF] Phyllomedusa_boliviana
     :                      :     :
     :                      --N714+            ------+ [B] Phyllomedusa_tarsius
```

```
           :                        :      --N711+
           :                        ---N713+     ------+ [BF] Phyllomedusa_trinitatus
           :                               :
           :                               ------------+ [CD] Phyllomedusa_tetraploidea
           :
           ----------------------------------------------+ [AE] Cruziohyla_calcarifer
```

Global ML at root node:
-lnL = 650.1
dispersal = 0.005045
extinction = 0.002908

Ancestral range subdivision/inheritance scenarios ('splits') at internal nodes.

* Split format: [left|right], where 'left' and 'right' are the ranges inherited by each descendant branch (on the printed tree, 'left' is the upper branch, and 'right' the lower branch).

* Only splits within 2 log-likelihood units of the maximum for each node are shown. 'Rel.Prob' is the relative probability (fraction of the global likelihood) of a split.

At node N722:

split	lnL	Rel.Prob
[ABDE|E]	-651.9	0.1576
[ABE|E]	-652.1	0.1293
[B|BH]	-652.3	0.111
[ABDE|B]	-652.6	0.081
[ABE|B]	-652.8	0.06647
[BE|E]	-653.1	0.05037
[BFG|B]	-653.1	0.04737
[BDE|E]	-653.2	0.04292
[B|B]	-653.3	0.04279
[BG|B]	-653.5	0.03367
[BE|B]	-653.8	0.02589
[BDE|B]	-653.9	0.02206
[B|H]	-653.9	0.02154

At node N568:

split	lnL	Rel.Prob
[ABDE|B]	-651.3	0.2883
[ABE|B]	-651.6	0.2123
[B|B]	-651.9	0.1699
[BE|B]	-652.5	0.09427
[B|BFG]	-652.9	0.05899
[BDE|B]	-653.1	0.0521
[B|BG]	-653.1	0.05038

At node N414:

split	lnL	Rel.Prob
[ABDE|B]	-651.4	0.262
[ABE|B]	-651.6	0.2179
[B|B]	-651.7	0.1985
[BE|B]	-652.3	0.108
[AE|B]	-653	0.05351
[ABDE|D]	-653.1	0.04815

At node N258:

split	lnL	Rel.Prob
[A|ABE]	-651.5	0.2403

```
[A|BE]     -651.6  0.2304
[A|ABDE]   -651.7  0.2099
[A|BDE]    -651.7  0.2016
[A|AE]     -653.3  0.0398

At node N188:
split  lnL     Rel.Prob
[A|A]  -650.1  0.9843

At node N257:
split     lnL     Rel.Prob
[B|ABDE]  -651.7  0.202
[BDE|B]   -651.7  0.1969
[D|ABDE]  -652    0.146
[B|ABE]   -652.1  0.1338
[D|ABE]   -652.6  0.08099
[BE|B]    -653    0.05434
[B|BE]    -653.2  0.04402

At node N211:
split    lnL     Rel.Prob
[B|B]    -651.2  0.3225
[D|D]    -651.8  0.1819
[D|BE]   -652    0.1489
[D|BDE]  -652.8  0.06937
[BD|B]   -652.8  0.06769
[B|BE]   -653.1  0.05201

At node N195:
split    lnL     Rel.Prob
[D|D]    -650.9  0.4395
[BD|D]   -651.2  0.3184
[BCD|D]  -652.6  0.08251

At node N193:
split   lnL     Rel.Prob
[C|BD]  -650.6  0.6298
[C|D]   -652.1  0.1336

At node N192:
split  lnL     Rel.Prob
[D|B]  -650.4  0.7335

At node N210:
split   lnL     Rel.Prob
[B|E]   -650.7  0.5265
[BD|E]  -651.4  0.2806
[B|B]   -652.7  0.07777


At node N208:
split    lnL     Rel.Prob
[B|B]    -650.8  0.4956
[B|BC]   -651.9  0.1603
[B|BD]   -652    0.1449
[B|BCD]  -652.1  0.136

At node N207:
split    lnL     Rel.Prob
[BC|C]   -650.6  0.6256
[BCD|C]  -651.3  0.3123

At node N205:
split   lnL     Rel.Prob
```

```
[B|C]   -650.6  0.5865
[BD|C]  -651.1  0.3641

At node N201:
split     lnL     Rel.Prob
[B|B]     -651    0.3909
[B|BD]    -651.6  0.2247
[B|BDE]   -651.7  0.1991
[B|BE]    -652.5  0.09446
[B|ABDE]  -652.9  0.06299

At node N199:
split  lnL     Rel.Prob
[B|B]  -650.1  0.999

At node N204:
split  lnL     Rel.Prob
[C|C]  -650.1  0.992

At node N256:
split     lnL     Rel.Prob
[B|B]     -651.4  0.2809
[B|ABE]   -651.6  0.216
[B|ABDE]  -651.9  0.1573
[D|ABE]   -652.3  0.1092
[D|ABDE]  -652.4  0.1018
[B|BE]    -652.9  0.05997

At node N214:
split  lnL     Rel.Prob
[B|B]  -650.9  0.4647
[D|D]  -652    0.1532
[D|B]  -652    0.1459
[C|B]  -652.3  0.1128

At node N255:
split    lnL     Rel.Prob
[ABE|B]  -651.2  0.319
[ABE|D]  -651.5  0.2587
[B|B]    -651.6  0.2244
[BE|B]   -652.6  0.08069
[B|C]    -652.9  0.06124


At node N251:
split   lnL     Rel.Prob
[B|AE]  -650.9  0.4419
[BE|A]  -651.5  0.2537
[B|E]   -651.7  0.2011

At node N235:
split  lnL     Rel.Prob
[B|G]  -650.7  0.5408
[B|B]  -651.3  0.2916

At node N231:
split  lnL     Rel.Prob
[B|B]  -650.2  0.8631

At node N223:
split  lnL     Rel.Prob
[B|B]  -650.1  0.9929

At node N222:
```

```
split  lnL     Rel.Prob
[B|B]  -650.1  0.988

At node N218:
split  lnL     Rel.Prob
[B|B]  -650.1  0.9986

At node N221:
split   lnL     Rel.Prob
[B|B]   -650.3  0.8071
[B|BD]  -651.8  0.1857

At node N230:
split  lnL     Rel.Prob
[B|B]  -650.4  0.7381

At node N228:
split   lnL     Rel.Prob
[B|B]   -650.5  0.6378
[BF|B]  -651.3  0.3141

At node N226:
split   lnL     Rel.Prob
[BF|F]  -650.2  0.9361

At node N234:
split  lnL     Rel.Prob
[G|G]  -650.1  0.9515

At node N250:
split   lnL     Rel.Prob
[A|A]   -650.5  0.6517
[A|AE]  -651.6  0.2289

At node N248:
split  lnL     Rel.Prob
[A|A]  -650.2  0.9499

At node N246:
split  lnL     Rel.Prob
[A|A]  -650.1  0.9954

At node N242:
split  lnL     Rel.Prob
[A|A]  -650.1  0.9988

At node N238:
split  lnL     Rel.Prob
[A|A]  -650.1  0.9992

At node N241:
split  lnL     Rel.Prob
[A|A]  -650.1  0.9994

At node N245:
split  lnL     Rel.Prob
[A|A]  -650.1  0.9978

At node N254:
split  lnL     Rel.Prob
[C|C]  -650.4  0.7149

At node N413:
split  lnL     Rel.Prob
```

```
[B|B]  -650.3  0.8434

At node N355:
split  lnL     Rel.Prob
[B|B]  -650.3  0.8324

At node N327:
split  lnL     Rel.Prob
[B|B]  -650.9  0.4497
[B|C]  -651.1  0.3632

At node N325:
split  lnL     Rel.Prob
[B|B]  -650.2  0.9077

At node N324:
split  lnL     Rel.Prob
[B|B]  -650.2  0.9047

At node N318:
split  lnL     Rel.Prob
[B|B]  -650.2  0.9283

At node N304:
split  lnL     Rel.Prob
[B|B]  -650.3  0.8357

At node N288:
split   lnL     Rel.Prob
[B|B]   -651    0.4163
[C|BC]  -651.3  0.3115
[C|B]   -651.9  0.1607

At node N287:
split   lnL     Rel.Prob
[B|B]   -650.7  0.5535
[B|BC]  -652    0.1556
[BC|B]  -652.6  0.08392

At node N285:
split   lnL     Rel.Prob
[B|B]   -650.5  0.6529
[BC|B]  -651.9  0.1664

At node N275:
split    lnL     Rel.Prob
[BD|D]   -651.2  0.3285
[BC|C]   -651.2  0.3246
[BCD|C]  -653    0.05511
[BCD|D]  -653.1  0.05185
[B|C]    -653.1  0.04777

At node N273:
split   lnL     Rel.Prob
[B|BD]  -651.3  0.3103
[BC|B]  -651.8  0.1799
[B|B]   -652.3  0.1111
[BC|D]  -652.6  0.08555
[C|BC]  -653    0.05641
[B|BC]  -653.1  0.05037

At node N263:
split  lnL     Rel.Prob
[C|B]  -650.4  0.7586
```

```
[B|B]  -652.3  0.1101

At node N272:
split   lnL     Rel.Prob
[B|D]   -651.4  0.2833
[BD|D]  -651.5  0.2479
[D|D]   -652.1  0.1299
[B|C]   -652.3  0.1098
[B|B]   -652.6  0.08608
[B|CD]  -652.6  0.07932

At node N268:
split   lnL     Rel.Prob
[B|B]   -650.6  0.5773
[BD|B]  -651    0.3892

At node N266:
split   lnL     Rel.Prob
[BD|B]  -650.8  0.5111
[B|B]   -650.9  0.4709

At node N271:
split   lnL     Rel.Prob
[D|D]   -650.6  0.6102
[D|CD]  -651.2  0.3173

At node N284:
split    lnL     Rel.Prob
[B|B]    -650.7  0.5757
[B|BE]   -651.4  0.2708
[B|ABE]  -652.3  0.1131

At node N283:
split    lnL     Rel.Prob
[ABE|A]  -650.5  0.6939
[BE|A]   -651.5  0.2347

At node N279:
split    lnL     Rel.Prob
[ABE|B]  -650.7  0.5741
[BE|B]   -651.6  0.2153
[AE|B]   -652.2  0.12

At node N282:
split  lnL     Rel.Prob
[A|A]  -650.1  0.9918

At node N303:
split  lnL     Rel.Prob
[B|B]  -650.2  0.9135

At node N299:
split  lnL     Rel.Prob
[B|B]  -650.9  0.4473
[B|C]  -651    0.4037

At node N297:
split   lnL     Rel.Prob
[B|E]   -651.3  0.3038
[BF|F]  -651.6  0.2274
[B|F]   -651.9  0.1654
[B|B]   -651.9  0.1624
[B|AE]  -653.2  0.04687
```

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At node N295:
split   lnL     Rel.Prob
[B|B]   -650.5  0.6986
[BF|B]  -651.7  0.21

At node N291:
split   lnL     Rel.Prob
[B|B]   -650.8  0.5079
[F|BF]  -652.4  0.09787
[B|BF]  -652.5  0.08658
[BF|B]  -652.6  0.08588

At node N294:
split   lnL     Rel.Prob
[B|B]   -650.3  0.8536
[BD|B]  -652.2  0.1278

At node N302:
split  lnL     Rel.Prob
[B|B]  -650.1  0.9872

At node N317:
split  lnL     Rel.Prob
[B|B]  -650.3  0.8185

At node N309:
split  lnL     Rel.Prob
[B|B]  -650.1  0.9636

At node N307:
split  lnL     Rel.Prob
[B|B]  -650.2  0.9027

At node N316:
split  lnL     Rel.Prob
[B|B]  -651.1  0.3625
[F|B]  -651.1  0.3503
[B|C]  -651.8  0.1901

At node N314:
split  lnL     Rel.Prob
[F|F]  -650.3  0.8447

At node N313:
split  lnL     Rel.Prob
[F|F]  -650.1  0.9912

At node N323:
split  lnL     Rel.Prob
[B|B]  -650.6  0.6013
[F|B]  -651.4  0.2824

At node N322:
split  lnL     Rel.Prob
[B|C]  -650.4  0.7392
[B|B]  -652.2  0.1243

At node N354:
split   lnL     Rel.Prob
[D|B]   -651.1  0.3806
[B|B]   -651.1  0.3802
[BD|B]  -652.4  0.09688

At node N352:
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split   lnL     Rel.Prob
[D|D]   -650.7  0.5323
[BD|D]  -651    0.3888

At node N336:
split   lnL     Rel.Prob
[D|D]   -650.7  0.5306
[D|BD]  -651.3  0.3118

At node N332:
split   lnL     Rel.Prob
[D|D]   -650.3  0.8519
[D|BD]  -652.1  0.1384

At node N331:
split   lnL     Rel.Prob
[D|D]   -650.5  0.702
[D|BD]  -651.3  0.2893

At node N335:
split   lnL     Rel.Prob
[BD|D]  -651.5  0.236
[D|BD]  -651.5  0.236
[BD|B]  -651.5  0.2345
[B|BD]  -651.5  0.2345
[D|D]   -653.1  0.04747

At node N351:
split  lnL     Rel.Prob
[D|D]  -650.1  0.9685

At node N339:
split  lnL     Rel.Prob
[D|D]  -650.1  0.9983

At node N350:
split  lnL     Rel.Prob
[D|D]  -650.1  0.9626

At node N346:
split  lnL     Rel.Prob
[D|D]  -650.2  0.9164

At node N345:
split   lnL     Rel.Prob
[D|D]   -650.4  0.7505
[BD|D]  -651.9  0.1685

At node N343:
split    lnL     Rel.Prob
[BDE|D]  -651.2  0.3388
[D|D]    -651.2  0.3384
[BD|D]   -651.3  0.3134

At node N349:
split  lnL     Rel.Prob
[D|D]  -650.1  0.9976

At node N412:
split   lnL     Rel.Prob
[B|B]   -650.7  0.5545
[D|B]   -652.3  0.1088
[C|BC]  -652.7  0.07605
```

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At node N406:
split    lnL     Rel.Prob
[BD|D]   -651.5  0.2536
[D|D]    -651.6  0.2156
[BD|C]   -652.6  0.0833
[D|CD]   -652.7  0.07323
[B|B]    -652.9  0.06076
[D|C]    -653    0.05523
[B|C]    -653.1  0.04935
[BDE|D]  -653.2  0.04307
[D|BD]   -653.4  0.03638

At node N400:
split    lnL     Rel.Prob
[D|D]    -651    0.4068
[BD|D]   -651.1  0.3823
[BDE|D]  -652.5  0.09135

At node N398:
split    lnL     Rel.Prob
[D|D]    -651.2  0.3431
[BD|D]   -651.5  0.2544
[BDE|D]  -652.2  0.126
[B|BD]   -652.9  0.05948

At node N366:
split   lnL     Rel.Prob
[D|BE]  -650.8  0.5011
[D|B]   -651.4  0.2801

At node N365:
split    lnL     Rel.Prob
[BE|E]   -650.5  0.6514
[ABE|E]  -652.3  0.115
[B|E]    -652.3  0.108

At node N363:
split    lnL     Rel.Prob
[BE|B]   -650.6  0.5899
[ABE|B]  -651.8  0.1738
[B|B]    -652    0.155

At node N361:
split   lnL     Rel.Prob
[E|B]   -650.8  0.4834
[AE|B]  -651.2  0.3388

At node N359:
split  lnL     Rel.Prob
[A|E]  -650.2  0.8959

At node N397:
split   lnL     Rel.Prob
[D|D]   -650.4  0.7097
[BD|D]  -652.1  0.142

At node N395:
split    lnL     Rel.Prob
[D|D]    -650.9  0.4468
[BD|D]   -651.8  0.1753
[B|D]    -652.6  0.07812
[BDE|D]  -652.7  0.07097

At node N393:
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split    lnL     Rel.Prob
[BD|B]   -651    0.3965
[B|B]    -652.5  0.09002
[BCD|B]  -652.6  0.08277
[BDE|E]  -652.7  0.07665
[BD|E]   -652.7  0.07192

At node N387:
split     lnL     Rel.Prob
[B|BD]    -651.7  0.2066
[B|B]     -652.1  0.1419
[BD|D]    -652.2  0.119
[B|BCD]   -652.4  0.1034
[BDE|D]   -652.7  0.07105
[D|D]     -653.1  0.04903
[BD|B]    -653.1  0.04807
[ABDE|D]  -653.3  0.03978
[D|BD]    -653.6  0.03161
[B|CD]    -653.6  0.02998
[BDE|B]   -653.6  0.02869

At node N373:
split     lnL     Rel.Prob
[B|B]     -650.9  0.4337
[B|BD]    -651.5  0.2346
[B|BDE]   -652.2  0.1238
[B|ABDE]  -652.7  0.07472

At node N372:
split     lnL     Rel.Prob
[D|BD]    -651    0.3866
[D|BDE]   -651.4  0.2858
[D|ABDE]  -652    0.1458
[D|D]     -653    0.05771

At node N371:
split    lnL     Rel.Prob
[D|ABE]  -651    0.3974
[D|BE]   -651.1  0.3541
[D|B]    -652    0.1535

At node N386:
split   lnL     Rel.Prob
[BC|D]  -651.5  0.2492
[C|D]   -651.7  0.1971
[B|D]   -651.7  0.1947
[B|B]   -652.2  0.1264
[D|D]   -652.6  0.08486

At node N384:
split   lnL     Rel.Prob
[BC|C]  -650.6  0.6245
[C|C]   -651.7  0.2119

At node N382:
split  lnL     Rel.Prob
[B|C]  -650.3  0.7878

At node N380:
split  lnL     Rel.Prob
[B|B]  -650.3  0.8442

At node N378:
split  lnL     Rel.Prob
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At node N376:
split  lnL     Rel.Prob
[B|B]  -650.1  0.9923

At node N392:
split    lnL     Rel.Prob
[ABE|A]  -650.5  0.6524
[AE|A]   -652.1  0.1315

At node N390:
split   lnL     Rel.Prob
[BE|A]  -650.9  0.4575
[B|AE]  -651.1  0.3564
[E|A]   -652.6  0.08032

At node N405:
split   lnL     Rel.Prob
[CD|C]  -650.6  0.5922
[C|C]   -651.5  0.2562

At node N404:
split  lnL     Rel.Prob
[C|C]  -650.1  0.9867

At node N411:
split  lnL     Rel.Prob
[B|C]  -650.4  0.7165

At node N409:
split  lnL     Rel.Prob
[B|B]  -650.1  0.9548

At node N567:
split    lnL     Rel.Prob
[BG|G]   -650.8  0.4927
[BFG|G]  -651.3  0.2914
[B|B]    -652.2  0.1232

At node N565:
split   lnL     Rel.Prob
[BF|G]  -651    0.422
[B|G]   -651.2  0.3333
[B|B]   -652.1  0.1344

At node N563:
split   lnL     Rel.Prob
[B|F]   -650.7  0.5609
[B|B]   -651.9  0.1668
[BD|F]  -652.3  0.1081

At node N541:
split   lnL     Rel.Prob
[BC|C]  -650.9  0.4564
[BC|D]  -652    0.1498
[B|D]   -652.3  0.1122
[B|B]   -652.7  0.07664
[BD|D]  -652.8  0.06433

At node N525:
split   lnL     Rel.Prob
[C|B]   -650.6  0.6205
[C|BC]  -652.4  0.1029
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[B|B]   -652.4  0.0994

At node N433:
split  lnL     Rel.Prob
[C|C]  -650.3  0.8534

At node N421:
split  lnL     Rel.Prob
[C|C]  -650.1  0.9852

At node N419:
split  lnL     Rel.Prob
[C|C]  -650.1  0.9977

At node N417:
split  lnL     Rel.Prob
[C|C]  -650.1  0.9996

At node N432:
split  lnL     Rel.Prob
[C|C]  -650.2  0.8886

At node N428:
split  lnL     Rel.Prob
[C|C]  -650.1  0.9976

At node N427:
split  lnL     Rel.Prob
[C|C]  -650.1  0.9994

At node N425:
split  lnL     Rel.Prob
[C|C]  -650.1  0.9995

At node N431:
split   lnL     Rel.Prob
[C|C]   -650.4  0.7762
[C|CD]  -651.7  0.2091

At node N524:
split  lnL     Rel.Prob
[B|B]  -650.4  0.7462

At node N452:
split   lnL     Rel.Prob
[B|B]   -650.5  0.6666
[B|G]   -651.7  0.1957
[B|BG]  -652.4  0.09742

At node N438:
split  lnL     Rel.Prob
[B|B]  -650.7  0.5705
[E|B]  -651.3  0.305

At node N437:
split   lnL     Rel.Prob
[B|B]   -650.5  0.6489
[B|BC]  -652.1  0.1294
[B|BD]  -652.4  0.1004

At node N451:
split   lnL     Rel.Prob
[BG|G]  -650.5  0.6585
[G|G]   -651.7  0.2074
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At node N449:
split   lnL     Rel.Prob
[G|BG]  -650.5  0.6959
[G|G]   -651.6  0.2191

At node N443:
split  lnL     Rel.Prob
[G|G]  -650.1  0.9536

At node N441:
split   lnL     Rel.Prob
[G|G]   -650.4  0.7688
[BG|G]  -651.6  0.2161

At node N448:
split  lnL     Rel.Prob
[B|G]  -650.3  0.7893

At node N446:
split  lnL     Rel.Prob
[B|B]  -650.2  0.9314

At node N523:
split  lnL     Rel.Prob
[B|B]  -650.3  0.7987

At node N517:
split  lnL     Rel.Prob
[B|B]  -650.6  0.6034

At node N503:
split    lnL     Rel.Prob
[B|B]    -651.5  0.2345
[BD|E]   -652    0.1466
[B|E]    -652    0.145
[C|B]    -652.5  0.09435
[D|B]    -652.9  0.05817
[BE|E]   -653    0.05352
[D|BE]   -653.3  0.04203

[BDE|E]  -653.4  0.03749

At node N499:
split    lnL     Rel.Prob
[BD|D]   -651.4  0.2616
[BCD|D]  -652.2  0.1179
[D|D]    -652.4  0.1007
[BDE|D]  -652.5  0.09466
[BC|C]   -652.6  0.08598
[C|C]    -652.6  0.08529
[BC|D]   -653.2  0.04316
[B|D]    -653.3  0.0415

At node N463:
split    lnL     Rel.Prob
[C|BCD]  -651.6  0.2266
[C|C]    -652    0.1499
[C|BC]   -652    0.1496
[C|BD]   -652.1  0.1339
[C|CD]   -652.6  0.08131
[D|BDE]  -653.1  0.04856
[B|BDE]  -653.2  0.0442
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At node N462:
split      lnL     Rel.Prob
[BD|D]     -652.1  0.1385
[C|C]      -652.1  0.1339
[BC|C]     -652.3  0.1096
[BDE|D]    -652.4  0.09972
[BCD|C]    -652.8  0.06742
[BD|C]     -652.8  0.06512
[BCD|D]    -652.9  0.06137
[D|D]      -652.9  0.05785
[B|CD]     -653.2  0.04407
[D|CD]     -653.2  0.04406
[ABDE|D]   -653.5  0.03198
[B|C]      -653.6  0.0295

At node N456:
split     lnL     Rel.Prob
[CD|B]    -651.5  0.2498
[C|B]     -651.9  0.1598
[D|BE]    -652.1  0.1325
[BD|E]    -652.2  0.1274
[D|ABE]   -652.3  0.106
[D|B]     -653    0.05638

At node N461:
split    lnL     Rel.Prob
[D|D]    -651.2  0.3467
[C|C]    -651.2  0.3335
[C|CD]   -652.3  0.1098
[D|CD]   -652.4  0.104

At node N460:
split  lnL     Rel.Prob
[D|C]  -650.4  0.7533

At node N498:
split    lnL     Rel.Prob
[D|D]    -650.5  0.6949
[CD|D]   -651.5  0.2462

At node N496:
split    lnL     Rel.Prob
[D|D]    -650.6  0.5813
[D|CD]   -652.2  0.1279
[CD|C]   -652.3  0.1083
[CD|D]   -652.3  0.107

At node N484:
split    lnL     Rel.Prob
[D|D]    -650.7  0.532
[D|CD]   -651.1  0.3822

At node N470:
split  lnL     Rel.Prob
[D|D]  -650.3  0.7788

At node N466:
split    lnL     Rel.Prob
[D|D]    -651.2  0.3252
[DF|F]   -651.9  0.1621
[F|DF]   -651.9  0.1621
[DF|D]   -651.9  0.1606
[D|DF]   -651.9  0.1606
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At node N469:
split  lnL     Rel.Prob
[D|D]  -650.5  0.6584

At node N483:
split   lnL     Rel.Prob
[C|CD]  -650.4  0.7336
[C|D]   -651.7  0.1932

At node N475:
split  lnL     Rel.Prob
[C|C]  -650.1  0.9891

At node N473:
split  lnL     Rel.Prob
[C|C]  -650.1  0.9978

At node N482:
split   lnL     Rel.Prob
[CD|D]  -650.8  0.475
[D|D]   -651.7  0.2022
[C|CD]  -652.4  0.1045
[D|CD]  -652.4  0.1009

At node N481:
split   lnL     Rel.Prob
[D|D]   -650.7  0.5739
[D|CD]  -651.3  0.29
[DF|D]  -652.5  0.09218

At node N479:
split  lnL     Rel.Prob
[F|D]  -650.2  0.8813

At node N495:
split   lnL     Rel.Prob
[D|D]   -650.9  0.4401
[D|CD]  -652.1  0.1391
[C|CD]  -652.2  0.1271
[CD|C]  -652.4  0.1047
[CD|D]  -652.4  0.09643
[C|C]   -652.6  0.08373

At node N489:
split  lnL     Rel.Prob
[D|C]  -650.3  0.8332

At node N487:
split  lnL     Rel.Prob
[D|D]  -650.1  0.9867

At node N494:
split  lnL     Rel.Prob
[C|D]  -650.4  0.7203
[D|D]  -652    0.1558

At node N492:
split  lnL     Rel.Prob
[C|C]  -650.1  0.9855

At node N502:
split   lnL     Rel.Prob
[E|A]   -650.4  0.7769
[BE|A]  -652.1  0.1406
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At node N516:
split   lnL     Rel.Prob
[B|E]   -651    0.3993
[B|B]   -651.4  0.2728
[B|AE]  -652.4  0.09779
[BE|A]  -652.6  0.07995

At node N514:
split  lnL     Rel.Prob
[B|B]  -650.3  0.8094

At node N512:
split  lnL     Rel.Prob
[B|B]  -650.1  0.9696

At node N508:
split  lnL     Rel.Prob
[B|B]  -650.3  0.8576

At node N506:
split  lnL     Rel.Prob
[B|B]  -650.4  0.7583

At node N511:
split  lnL     Rel.Prob
[B|B]  -650.1  0.9947

At node N522:
split    lnL     Rel.Prob
[B|B]    -651.1  0.3633
[B|BC]   -651.6  0.2212
[B|BCD]  -652.3  0.1065
[BE|B]   -652.4  0.1011
[B|BD]   -652.9  0.06128

At node N521:
split    lnL     Rel.Prob
[BCD|C]  -650.8  0.506
[BC|C]   -651.1  0.3687

At node N540:
split   lnL     Rel.Prob
[CD|D]  -650.8  0.5137
[D|D]   -651.2  0.3472

At node N536:
split  lnL     Rel.Prob
[C|D]  -650.3  0.8329

At node N534:
split  lnL     Rel.Prob
[C|C]  -650.1  0.9725

At node N533:
split  lnL     Rel.Prob
[C|C]  -650.1  0.9975

At node N532:
split  lnL     Rel.Prob
[C|C]  -650.1  0.9996

At node N530:
split  lnL     Rel.Prob
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[C|C]  -650.1  0.9999

At node N539:
split  lnL     Rel.Prob
[D|D]  -650.1  0.9776

At node N562:
split  lnL     Rel.Prob
[F|F]  -650.3  0.8164

At node N552:
split  lnL     Rel.Prob
[F|F]  -650.1  0.9778

At node N544:
split  lnL     Rel.Prob
[F|F]  -650.1  0.9933

At node N551:
split  lnL     Rel.Prob
[F|F]  -650.1  0.993

At node N547:
split  lnL     Rel.Prob
[F|F]  -650.1  0.9963

At node N550:
split  lnL     Rel.Prob
[F|F]  -650.1  0.9952

At node N561:
split  lnL     Rel.Prob
[F|F]  -650.3  0.7932

At node N557:
split  lnL     Rel.Prob
[F|F]  -650.4  0.7555

At node N555:
split   lnL     Rel.Prob
[E|F]   -651.2  0.3377
[A|EF]  -651.3  0.2905
[AE|F]  -651.6  0.2318
[F|F]   -652.8  0.0666

At node N560:
split  lnL     Rel.Prob
[F|F]  -650.2  0.8657

At node N721:
split  lnL     Rel.Prob
[H|B]  -651.2  0.3326
[H|E]  -651.2  0.3204
[E|E]  -652.5  0.09348
[B|B]  -652.8  0.06578

At node N669:
split  lnL     Rel.Prob
[H|H]  -650.3  0.8386

At node N720:
split    lnL     Rel.Prob
[BE|E]   -651.6  0.2191
[E|E]    -652    0.1541
```

```
[B|E]     -652.1  0.1362
[ABE|A]   -652.6  0.08338
[B|B]     -652.6  0.08215
[ABE|E]   -653    0.05687
[B|AE]    -653.4  0.0387

At node N718:
split      lnL      Rel.Prob
[BE|B]     -651.2  0.3341
[ABE|B]    -651.5  0.241
[B|B]      -651.5  0.241
[ABDE|B]   -652.9  0.06087

At node N688:
split     lnL      Rel.Prob
[BE|B]    -651.4  0.2678
[ABE|B]   -651.6  0.2337
[B|B]     -651.7  0.2106
[B|C]     -652.8  0.06488
[ABE|D]   -652.9  0.06322
[AE|B]    -652.9  0.05797

At node N686:
split     lnL      Rel.Prob
[ABE|A]   -650.3  0.7945

At node N684:
split    lnL      Rel.Prob
[AE|B]   -650.6  0.6109
[A|BE]   -651.5  0.236

At node N682:
split    lnL      Rel.Prob
[A|A]    -650.8  0.515
[AE|A]   -651    0.387

At node N680:
split    lnL      Rel.Prob
[A|A]    -650.6  0.6007
[A|AE]   -651.1  0.3802

At node N674:
split  lnL      Rel.Prob
[A|A]  -650.1  0.998

At node N672:
split  lnL      Rel.Prob
[A|A]  -650.1  0.9995

At node N679:
split    lnL      Rel.Prob
[A|A]    -650.6  0.5868
[AE|A]   -651.1  0.3752

At node N677:
split    lnL      Rel.Prob
[AE|A]   -651.6  0.2187
[A|AE]   -651.6  0.2187
[AE|E]   -651.6  0.2157
[E|AE]   -651.6  0.2157
[A|A]    -652.2  0.1201

At node N717:
split  lnL      Rel.Prob
```

```
[B|B]  -650.7  0.5612
[C|B]  -651.2  0.3211

At node N691:
split  lnL     Rel.Prob
[C|C]  -650.3  0.8546

At node N716:
split  lnL     Rel.Prob
[B|B]  -650.2  0.9071

At node N704:
split  lnL     Rel.Prob
[B|B]  -650.2  0.9361

At node N702:
split  lnL     Rel.Prob
[B|B]  -650.3  0.8274

At node N696:
split  lnL     Rel.Prob
[B|F]  -650.3  0.8068

At node N695:
split  lnL     Rel.Prob
[F|F]  -650.2  0.9231

At node N701:
split   lnL     Rel.Prob
[B|B]   -650.6  0.6136
[BD|B]  -651.8  0.1872

At node N699:
split    lnL     Rel.Prob
[D|BD]   -650.6  0.601
[D|BDF]  -651.6  0.2255

At node N715:
split  lnL     Rel.Prob
[B|B]  -650.3  0.8361

At node N707:
split  lnL     Rel.Prob
[B|B]  -650.1  0.9913

At node N714:
split   lnL     Rel.Prob
[B|B]   -650.6  0.5998
[B|BC]  -652.6  0.08404

At node N713:
split   lnL     Rel.Prob
[B|C]   -651.5  0.2573
[B|D]   -651.5  0.2566
[B|B]   -651.9  0.1687
[B|CD]  -652.1  0.1374
[BF|D]  -652.8  0.06962

At node N711:
split   lnL     Rel.Prob
[B|B]   -650.7  0.5485
[B|BF]  -650.9  0.4353
```