**Supplementary Figure S1.** Distribution of New World Noctilionoidea. Color range shows the density of species per ~356 km2. Species ranges were obtained from the spatial database of terrestrial mammals of the IUCN Red List of Threatened Species (http://www.iucnredlist.org/technical-documents/spatial-data, data downloaded on October 2013).

**Supplementary Figure S2.** Primary concordance tree for a sample of 27 species of noctilionoids, generated from the overlapping set of mitochondrial, autosomal and sex-chromosome genomic regions (10 loci, ~9.5 kilobases, Supplementary Table S1). Branch labels are the concordance factors.

**Supplementary Figure S3.** Topological distance to the primary concordance tree from single-gene trees, simulated trees and multi-locus trees. *atp7a*: X-chromosome exon ATPase-7A; *bdnf*: autosomal exon of brain-derived neurotrophic factor; *plcb4*: 3’-unstranslated region or phospholipase C beta 4; *rag2*: autosomal exon of the recombination-activating protein 2; *stat5a*: intron of the signal transducer and activator 5A; *thy*: intron of thyrotropin beta chain; *ttn6*: autosomal exon titin 6; *coxI*: mitochondrial gene *cytochrome oxidase I*; *cyt-b*: mitochondrial gene *cytochrome b*; *mtr*: mitochondrial genes ribosomal RNAs 12S, tRNAVal and 16S; simulated: simulated time-calibrated phylogenies; BEAST: time-calibrated trees inferred from the multi-locus data set. The primary concordance tree was estimated using BUCKy v. 1.4.0, as explained in Methods.

**Supplementary Figure S4.** Estimates of speciation rates along the phylogeny of New World Noctilionoidea. Color at each point in time along branches represents the instantaneous rate of speciation inferred in the mean scenario, with mean rates across all the shift configurations sampled in the Bayesian posterior. *Left:* full phylogeny, *right:* truncated phylogeny (the last 180,000 years from the tree were removed to account for protracted speciation).

**Supplementary Figure S5.** Temporal dynamics in rates of speciation for New World Noctilionoidea. Curves correspond to overall mean rates through time for background lineages (gray) and for the subfamily Stenodermatinae (black). *Left:* output for the full phylogeny, *right:* output for the chopped phylogeny (the last 180,000 years from the tree were removed to account for protracted speciation).

**Supplementary Figure S6.** Macroevolutionary cohort matrices for speciation in New World Noctilionoidea. Cells in matrices show the pairwise probability that two species share a macroevolutionary rate regime (scale bars to the right show the range of probabilities). The phylogeny is shown for reference on the upper and left margins of the matrix. *Left:* cohort matrix for the full phylogeny, *right:* cohort matrix for the truncated phylogeny (the last 180,000 years from the tree were removed to account for protracted speciation).

**Supplementary Figure S7.** Number of Quaternary and pre-Quaternary speciation events between extant species across simulated distributions of trees under a birth-death model, using 100 combinations of values of speciation (*b*) and extinction (*d*) rates.

**Supplementary Figure S8.** Difference in the number of speciation events of extant sister species in New World Noctilionidea between Quaternary and pre-Quaternary time frames. The observed scenario corresponds to the events in the posterior sample of 871 time-calibrated trees of noctilionoids. The simulated scenarios correspond to 871 simulated trees under a birth-death model using different combinations of speciation (*b*) and extinction (*d*) rates.

**Supplementary Figure S9.**

Variation in the temporal pattern of pre-Quaternary and Quaternary speciation events of extant species across simulated distributions of trees with increased proportion of missing species. All trees were simulated under a birth-death model with the identical speciation and extinction rates.

**Supplementary Table S1.** Species and GenBank accession numbers for each locus analyzed. This table is provided as an independent XLS file in Dryad.

**Supplementary Table S2.** Species, GenBank accession numbers, and collection number for each sequence generated for this study. Tissue samples were obtained from collections vouchered at the American Museum of Natural History (AMNH); the Field Museum of Natural History (FMNH); the Museo Universidad San Marcos (Lima, MUSM); the Museum of Texas Tech University (TTU, listed as TK); the Museum of Vertebrate Zoology (MVZ) of the University of California at Berkeley; the National Museum of Natural History (NMNH); and the Royal Ontario Museum (ROM). Stony Brook University (SBU) samples at the Dávalos lab are identified by collector number. This table is provided as an independent XLS file in Dryad.

**Supplementary Table S3.** Partitions and nucleotide substitution models used in the estimation of the phylogeny of New World Noctilionoidea. This was the best scheme estimated using the *greedy* algorithm in PartitionFinder v.1.0.0 (ln *L* = -163,729). Numbers in square brackets refer to the codon position when applicable. GTR: General Time Reversible model, HKY: Hasegawa-Kishino-Yano model, TN93: Tamura-Nei model, Γ: gamma distributed rate variation among sites.

| Partition | Number of  sites | Substitution  model |
| --- | --- | --- |
| *atp7a*[1] - *atp7a*[2] - *rag2*[1] | 992 | GTR + Γ |
| *atp7a*[3] - *rag2*[3] - *thy* | 1302 | GTR + Γ |
| *bdnf*[1] - *ttn6*[1] | 507 | HKY + I |
| *bdnf*[2] - *rag2*[2] - *ttn6*[2] | 972 | HKY + I |
| *bdnf*[3] | 178 | HKY + Γ |
| *cox1*[3] | 219 | GTR + Γ |
| *cox1*[1] | 219 | HKY + Γ |
| *cox1*[2] | 219 | TN93 + Γ |
| *cyt-b*[1] | 260 | GTR + Γ |
| *cyt-b*[2] | 259 | GTR + Γ |
| *cyt-b*[3] | 259 | GTR + Γ |
| 12S, tRNA*val*, 16S | 2870 | GTR + Γ |
| *plcb4* - *ttn6*[3] | 645 | GTR + Γ |
| *stat5a* | 686 | GTR + Γ |

**Supplementary Table S4.** Comparison between the phylogeny inferred for the complete database of base pairs (Complete data) and the phylogeny inferred after excluding the third codon position of the *cytochrome* *b* gene (Reduced data). The most recent common ancestor (MRCA) of main clades (from the genus level to higher categories) is indicated. Age (in Ma), minimum (min) and maximum (max) values (in Ma) of the 95% high probability density (HPD 95%) interval, and Bayesian support (PP) are also provided.

| **MRCA** | **Complete data** | | | | **Reduced data** | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Age** | **HPD 95%** | | **PP** | **Age** | **HPD 95%** | | **PP** |
| **(min)** | **(max)** | **(min)** | **(max)** |
| Noctilionoidea | 48.48 | 41.07 | 56.57 | 1.00 | 48.17 | 41.15 | 57.68 | 1.00 |
| Mystacinidae–New World Noctilionoidea | 45.22 | 40.27 | 50.79 | 1.00 | 44.54 | 39.27 | 50.31 | 1.00 |
| New World Noctilionoidea | 42.06 | 37.56 | 46.98 | 0.97 | 41.76 | 37.05 | 47.28 | 0.95 |
| *Thyroptera spp.* | 20.59 | 15.68 | 25.66 | 1.00 | 20.65 | 16.13 | 25.64 | 1.00 |
| (Furipteridae + Noctilionidae)–(Mormoopidae + Phyllostomidae) | 40.32 | 36.24 | 45.03 | 0.94 | 40.34 | 35.67 | 45.09 | 0.92 |
| Furipteridae–Noctilionidae | 32.30 | 26.54 | 37.79 | 1.00 | 32.02 | 25.74 | 37.46 | 1.00 |
| *Noctilio spp.* | 2.55 | 1.67 | 3.56 | 1.00 | 2.60 | 1.66 | 3.76 | 1.00 |
| Mormoopidae–Phyllostomidae | 36.19 | 32.96 | 40.11 | 1.00 | 36.23 | 33.01 | 40.05 | 1.00 |
| Mormoopidae | 32.78 | 30.85 | 36.18 | 1.00 | 32.60 | 30.81 | 35.55 | 1.00 |
| *Mormoops spp.* | 14.70 | 9.32 | 19.97 | 1.00 | 13.82 | 9.51 | 18.87 | 1.00 |
| *Pteronotus spp.* | 13.86 | 11.36 | 16.46 | 1.00 | 13.06 | 10.58 | 16.14 | 1.00 |
| Phyllostomidae | 30.26 | 27.31 | 33.94 | 1.00 | 30.68 | 27.85 | 34.32 | 1.00 |
| *Macrotus spp.* | 9.17 | 6.35 | 12.71 | 1.00 | 7.22 | 4.65 | 10.58 | 1.00 |
| Micronycterinae–(Desmodontinae + Phyllostominae + Lonchorhininae + Glossophaginae + Lonchophyllinae + Glyphonycterinae + Carolliinae + Rhinophyllinae + Stenodermatinae) | 27.42 | 25.76 | 31.88 | 1.00 | 28.52 | 25.67 | 31.81 | 1.00 |
| *Lampronycteris*–*Micronycteris* | 22.86 | 19.26 | 26.18 | 1.00 | 22.61 | 18.39 | 26.62 | 1.00 |
| *Micronycteris spp.* | 14.34 | 11.76 | 17.24 | 1.00 | 13.62 | 11.11 | 17.53 | 1.00 |
| Desmodontinae–(Phyllostominae + Lonchorhininae + Glossophaginae + Lonchophyllinae + Glyphonycterinae + Carolliinae + Rhinophyllinae + Stenodermatinae) | 27.42 | 24.85 | 30.88 | 0.90 | 27.63 | 24.77 | 30.85 | 0.93 |
| *Diphylla*–(*Desmodus* + *Diaemus*) | 20.23 | 16.71 | 23.94 | 1.00 | 19.75 | 15.98 | 23.39 | 1.00 |
| *Desmodus*–*Diaemus* | 12.39 | 9.50 | 16.08 | 1.00 | 12.07 | 8.31 | 15.78 | 1.00 |
| Phyllostominae–(Lonchorhininae + Glossophaginae + Lonchophyllinae + Glyphonycterinae + Carolliinae + Rhinophyllinae + Stenodermatinae) | 24.99 | 22.62 | 28.16 | 1.00 | 25.29 | 22.75 | 28.38 | 1.00 |
| (*Mimon* + *Vampyrum* + *Chrotopterus*)–(*Trachops* + *Macrophyllum* + *Tonatia* + *Lophostoma* + *Gardnerycteris* + *Phylloderma* + *Phyllostomus*) | 22.77 | 20.46 | 25.82 | 1.00 | 22.99 | 20.41 | 25.80 | 1.00 |
| *Mimon*–(*Vampyrum* + *Chrotopterus*) | 19.15 | 16.00 | 22.28 | 1.00 | 17.85 | 14.52 | 21.45 | 1.00 |
| *Mimon spp.* |  |  |  |  | 3.68 | 2.13 | 5.75 | 1.00 |
| *Vampyrum*–*Chrotopterus* | 14.82 | 11.87 | 17.30 | 1.00 | 14.42 | 11.81 | 16.82 | 1.00 |
| (*Trachops* + *Macrophyllum*)–(*Tonatia* + *Lophostoma* + *Gardnerycteris* + *Phylloderma* + *Phyllostomus*) | 21.35 | 18.85 | 24.01 | 1.00 | 21.38 | 18.98 | 24.27 | 1.00 |
| *Trachops*–*Macrophyllum* | 19.20 | 16.51 | 22.69 | 1.00 | 19.32 | 16.36 | 22.02 | 1.00 |
| *Tonatia*–(*Lophostoma* + *Gardnerycteris* + *Phylloderma* + *Phyllostomus*) | 19.09 | 16.67 | 21.80 | 1.00 | 19.22 | 16.56 | 21.90 | 1.00 |
| *Tonatia spp.* | 4.50 | 2.84 | 6.15 | 1.00 | 3.56 | 2.13 | 4.90 | 1.00 |
| *Lophostoma*–(*Gardnerycteris* + *Phylloderma* + *Phyllostomus*) | 17.57 | 15.23 | 20.14 | 1.00 | 17.74 | 15.37 | 20.58 | 1.00 |
| *Lophostoma spp.* | 9.97 | 6.22 | 9.90 | 1.00 | 9.66 | 7.37 | 11.88 | 1.00 |
| *Gardnerycteris*–(*Phylloderma* + *Phyllostomus*) | 14.05 | 11.75 | 16.18 | 1.00 | 14.04 | 11.63 | 16.62 | 1.00 |
| *Phylloderma*–*Phyllostomus* | 12.77 | 10.78 | 15.08 | 1.00 | 12.69 | 10.18 | 15.30 | 1.00 |
| *Phyllostomus spp.* | 8.12 | 6.35 | 10.13 | 1.00 | 8.13 | 5.90 | 10.01 | 1.00 |
| (Lonchorhininae + Glossophaginae)–(Lonchophyllinae + Glyphonycterinae + Carolliinae + Rhinophyllinae + Stenodermatinae) | 24.03 | 21.48 | 26.84 | 1.00 | - | - | - | - |
| Lonchorhininae–(Glossophaginae + Lonchophyllinae + Glyphonycterinae + Carolliinae + Rhinophyllinae + Stenodermatinae) | - | - | - | - | 24.30 | 21.57 | 27.09 | 1.00 |
| Lonchorhininae–Glossophaginae | 23.18 | 20.95 | 26.36 | 0.63 | - | - | - | - |
| *Lonchorhina spp.* | 13.98 | 10.53 | 16.96 | 1.00 | 14.28 | 11.12 | 18.06 | 1.00 |
| Glossophaginae–(Lonchophyllinae + Glyphonycterinae + Carolliinae + Rhinophyllinae + Stenodermatinae) | - | - | - | - | 23.62 | 21.03 | 26.29 | 0.94 |
| (*Anoura* + *Lichonycteris* + *Hylonycteris* + *Choeroniscus* + *Choeronycteris* + *Musonycteris*)–(*Brachyphylla* + *Erophylla* + *Phyllonycteris* + *Monophyllus* + *Leptonycteris* + *Glossophaga*) | 19.41 | 17.22 | 22.21 | 1.00 | 19.37 | 16.50 | 22.06 | 1.00 |
| *Anoura*–(*Lichonycteris* + *Hylonycteris* + *Choeroniscus* + *Choeronycteris* + *Musonycteris*) | 17.02 | 14.51 | 19.34 | 1.00 | 16.93 | 14.25 | 19.45 | 1.00 |
| *Anoura spp.* | 7.62 | 5.03 | 9.75 | 1.00 | 7.50 | 5.50 | 9.37 | 1.00 |
| (*Lichonycteris* + *Hylonycteris*)–(*Choeroniscus* + *Choeronycteris* + *Musonycteris*) | 8.18 | 6.77 | 10.11 | 1.00 | 8.39 | 6.91 | 10.09 | 1.00 |
| *Lichonycteris*–*Hylonycteris* | 6.12 | 4.48 | 8.03 | 1.00 | 6.25 | 4.30 | 8.15 | 1.00 |
| *Choeroniscus*–(*Choeronycteris* + *Musonycteris*) | 6.11 | 4.78 | 7.74 | 1.00 | 6.22 | 4.72 | 7.79 | 1.00 |
| *Choeroniscus spp.* | 2.89 | 1.61 | 4.41 | 1.00 | 3.08 | 1.80 | 5.06 | 1.00 |
| *Choeronycteris*–*Musonycteris* | 1.25 | 0.79 | 1.89 | 1.00 | 1.31 | 0.68 | 1.90 | 1.00 |
| (*Brachyphylla* + *Erophylla* + *Phyllonycteris*)–(*Monophyllus* + *Leptonycteris* + *Glossophaga*) | 17.97 | 15.46 | 20.45 | 1.00 | 17.41 | 14.38 | 19.84 | 1.00 |
| *Brachyphylla*–(*Erophylla* + *Phyllonycteris*) | 14.53 | 12.06 | 17.3 | 1.00 | 14.17 | 11.30 | 16.77 | 1.00 |
| *Brachyphylla spp.* | 3.20 | 1.99 | 4.47 | 1.00 | 3.80 | 1.87 | 6.08 | 1.00 |
| *Erophylla*–*Phyllonycteris* | 6.78 | 5.12 | 8.63 | 1.00 | 5.62 | 4.08 | 7.62 | 1.00 |
| *Erophylla spp.* | 0.79 | 0.40 | 1.40 | 1.00 | 0.90 | 0.24 | 1.91 | 1.00 |
| *Phyllonycteris spp.* | 4.11 | 2.92 | 5.67 | 1.00 | 3.61 | 2.08 | 5.55 | 0.99 |
| *Monophyllus*–(*Leptonycteris* + *Glossophaga*) | 13.94 | 11.63 | 16.22 | 1.00 | 13.31 | 11.09 | 15.95 | 1.00 |
| *Monophyllus spp.* | 4.92 | 3.06 | 7.08 | 1.00 | 3.55 | 2.05 | 5.39 | 1.00 |
| *Leptonycteris*–*Glossophaga* | 11.56 | 9.62 | 13.77 | 1.00 | 10.87 | 8.81 | 13.15 | 1.00 |
| *Leptonycteris spp.* | 1.83 | 0.66 | 3.58 | 1.00 | 1.85 | 0.62 | 3.29 | 1.00 |
| *Glossophaga spp.* | 7.15 | 5.54 | 8.74 | 1.00 | 6.51 | 4.92 | 8.27 | 1.00 |
| Lonchophyllinae–(Glyphonycterinae + Carolliinae + Rhinophyllinae + Stenodermatinae) | 22.87 | 20.70 | 25.72 | 1.00 | 22.61 | 20.05 | 25.04 | 1.00 |
| (*Hsunycteris* + *Lonchophylla*a)–(*Lonchophylla*b + *Platalina* + *Lionycteris* + *Lonchophylla*c) | 15.67 | 14.15 | 17.70 | 1.00 | 15.09 | 13.48 | 17.22 | 1.00 |
| *Hsunycteris*–*Lonchophylla*a | 11.35 | 8.45 | 14.34 | 1.00 | 8.85 | 6.07 | 11.82 | 1.00 |
| *Lonchophylla*b–(*Platalina* + *Lionycteris* + *Lonchophylla*c) | 13.28 | 12.16 | 14.59 | 1.00 | 12.57 | 11.80 | 13.73 | 1.00 |
| *Lonchophylla*b *spp.* | 8.48 | 6.47 | 10.23 | 1.00 | 7.55 | 5.33 | 9.70 | 1.00 |
| *Platalina*–(*Lionycteris* + *Lonchophylla*e) | 12.08 | 11.80 | 12.92 | 0.98 | 12.18 | 11.80 | 13.10 | 1.00 |
| *Lionycteris*–*Lonchophylla*e | 9.37 | 7.23 | 11.44 | 1.00 | 9.00 | 6.85 | 11.05 | 1.00 |
| *Lonchophylla*c *spp.* | 7.64 | 5.73 | 9.94 | 1.00 | 7.33 | 5.07 | 9.51 | 1.00 |
| (Glyphonycterinae + Carolliinae)–(Rhinophyllinae + Stenodermatinae) | 21.30 | 19.18 | 24.14 | 1.00 | 21.05 | 18.63 | 23.47 | 1.00 |
| Glyphonycterinae–Carolliinae | 20.08 | 17.52 | 22.67 | 0.96 | 19.76 | 17.17 | 22.31 | 1.00 |
| *Trynicteris*–*Glyphonycteris* | 15.43 | 12.93 | 18.52 | 1.00 | 15.04 | 11.83 | 17.87 | 1.00 |
| *Glyphonycteris spp.* | 12.32 | 9.49 | 15.43 | 1.00 | 12.32 | 9.54 | 15.45 | 1.00 |
| *Carollia spp.* | 8.31 | 6.60 | 10.47 | 1.00 | 7.47 | 5.75 | 10.24 | 1.00 |
| Rhinophyllinae–Stenodermatinae | 19.68 | 17.35 | 22.08 | 1.00 | 19.22 | 16.70 | 21.52 | 1.00 |
| *Rhynophylla spp.* | 13.11 | 10.41 | 16.18 | 1.00 | 13.15 | 10.02 | 16.82 | 1.00 |
| *Sturnira*–(*Uroderma* + *Vampyriscus* + *Chiroderma* + *Mesophylla* + *Vampyressa* + *Vampyrodes* + *Platyrrhinus* + *Enchisthenes* + *Ectophylla* + *Centurio* + *Sphaeronycteris* + *Pygoderma* + *Ametrida* + *Ardops* + *Ariteus* + *Stenoderma* + *Phyllops* + *Artibeus*) | 17.78 | 15.72 | 20.25 | 1.00 | 17.37 | 15.14 | 19.57 | 1.00 |
| *Sturnira spp.* | 11.57 | 9.03 | 13.84 | 1.00 | 12.79 | 10.00 | 16.04 | 1.00 |
| (*Uroderma* + *Vampyriscus* + *Chiroderma* + *Mesophylla* + *Vampyressa* + *Vampyrodes* + *Platyrrhinus*)–(*Enchisthenes* + *Ectophylla* + *Centurio* + *Sphaeronycteris* + *Pygoderma* + *Ametrida* + *Ardops* + *Ariteus* + *Stenoderma* + *Phyllops* + *Artibeus*) | 14.80 | 12.90 | 16.74 | 1.00 | 14.25 | 12.53 | 16.09 | 1.00 |
| *Uroderma*–( *Vampyriscus* + *Chiroderma* + *Mesophylla* + *Vampyressa* + *Vampyrodes* + *Platyrrhinus*) | 12.23 | 10.51 | 13.95 | 1.00 | 11.68 | 9.86 | 13.29 | 1.00 |
| *Uroderma spp.* | 4.76 | 3.09 | 6.67 | 1.00 | 4.33 | 2.75 | 6.28 | 1.00 |
| (*Vampyriscus* + *Chiroderma*)–(*Mesophylla* + *Vampyressa* + *Vampyrodes* + *Platyrrhinus*) | 11.50 | 10.11 | 13.29 | 1.00 | 10.87 | 9.25 | 12.56 | 1.00 |
| *Vampyriscus*–*Chiroderma* | 9.19 | 7.77 | 10.82 | 1.00 | 8.58 | 7.04 | 10.00 | 1.00 |
| *Vampyriscus spp.* | 7.44 | 6.07 | 8.90 | 1.00 | 6.90 | 5.51 | 8.32 | 0.99 |
| *Chiroderma spp.* | 4.48 | 3.51 | 5.75 | 1.00 | 4.27 | 3.29 | 5.40 | 1.00 |
| (*Mesophylla* + *Vampyressa*)–(*Vampyrodes* + *Platyrrhinus*) | 10.72 | 9.28 | 12.46 | 0.68 | 10.06 | 8.40 | 11.80 | 0.66 |
| *Mesophylla*–*Vampyressa* | 7.75 | 6.31 | 9.24 | 1.00 | 7.12 | 5.25 | 8.58 | 1.00 |
| *Vampyressa spp.* | 6.16 | 4.63 | 7.71 | 0.97 | 4.22 | 2.88 | 6.33 | 1.00 |
| *Vampyrodes*–*Platyrrhinus* | 8.05 | 6.65 | 9.45 | 1.00 | 7.38 | 5.86 | 8.94 | 1.00 |
| *Vampyrodes spp.* | 3.32 | 1.92 | 4.83 | 1.00 | 2.46 | 0.75 | 4.48 | 1.00 |
| *Platyrrhinus spp.* | 6.24 | 5.16 | 7.50 | 1.00 | 5.90 | 4.80 | 7.44 | 1.00 |
| *Enchisthenes*–(*Ectophylla* + *Centurio* + *Sphaeronycteris* + *Pygoderma* + *Ametrida* + *Ardops* + *Ariteus* + *Stenoderma* + *Phyllops* + *Artibeus*) | 12.98 | 11.14 | 14.67 | 1.00 | 12.35 | 10.79 | 14.10 | 1.00 |
| *Ectophylla*–(*Centurio* + *Sphaeronycteris* + *Pygoderma* + *Ametrida* + *Ardops* + *Ariteus* + *Stenoderma* + *Phyllops* + *Artibeus*) | 12.04 | 10.31 | 13.72 | 1.00 | 11.38 | 10.02 | 13.17 | 1.00 |
| (*Centurio* + *Sphaeronycteris* + *Pygoderma* + *Ametrida* + *Ardops* + *Ariteus* + *Stenoderma* + *Phyllops*)–*Artibeus* | 10.90 | 9.37 | 12.44 | 1.00 | 10.18 | 8.86 | 11.71 | 1.00 |
| (*Centurio* + *Sphaeronycteris* + *Pygoderma* + *Ametrida*)–(*Ardops* + *Ariteus* + *Stenoderma* + *Phyllops*) | 6.16 | 5.20 | 7.24 | 1.00 | 5.96 | 4.91 | 6.95 | 1.00 |
| *Centurio*–(*Sphaeronycteris* + *Pygoderma* + *Ametrida*) | 4.78 | 3.87 | 5.83 | 1.00 | 4.58 | 3.45 | 5.61 | 1.00 |
| *Sphaeronycteris*–(*Pygoderma* + *Ametrida*) | 3.60 | 2.83 | 4.52 | 1.00 | 3.37 | 2.44 | 4.30 | 1.00 |
| *Pygoderma*–*Ametrida* | 2.75 | 2.00 | 3.65 | 1.00 | 2.89 | 1.96 | 3.97 | 0.94 |
| (*Ardops* + *Ariteus*)–(*Stenoderma* + *Phyllops*) | 5.32 | 4.30 | 6.34 | 1.00 | 5.00 | 4.02 | 6.11 | 1.00 |
| *Ardops*–*Ariteus* | 2.49 | 1.80 | 3.40 | 1.00 | 2.21 | 1.57 | 3.11 | 1.00 |
| *Stenoderma*–*Phyllops* | 1.73 | 1.15 | 2.57 | 1.00 | 1.17 | 0.50 | 1.78 | 1.00 |
| *Artibeus spp.* | 8.49 | 7.37 | 9.84 | 1.00 | 8.06 | 6.75 | 9.18 | 1.00 |

Notes:

a *Lonchophylla mordax*.

b *Lonchophylla chocoana*, *Lonchophylla robusta*, and *Lonchophylla handleyi*.

c *Lonchophylla dekeyseri* and *Lonchophylla hesperia*.

**Supplementary Table S5.** Distribution of New World Noctilionoidea in Central and North America, South America, and the Antilles. Taxa were assigned to one or more of the three biogeographic regions based on their current distribution determined using the mammal distributions compiled by the IUCN (data downloaded on October 2013), and the literature since 2008. 1 = present, 0 = absent. This table is provided as an independent XLS file in Dryad.

**Supplementary Table S6.** Number of anagenetic dispersal events and founder events between regions in the phylogeny of New World Noctilionoidea. Values represent the mean ± standard deviation over 1000 biogeographic stochastic mappings. S: South America, C: Central and North America, A: Antilles.

*Anagenetic dispersal*

|  |  |  |  |
| --- | --- | --- | --- |
|  | **S** | **C** | **A** |
| **S** | - | 49.15 ± 3.95 | 5.80 ± 1.59 |
| **C** | 17.15 ± 4.00 | - | 3.25 ± 1.55 |
| **A** | 1.64 ± 1.23 | 2.65 ± 1.48 | - |

*Cladogenetic dispersal (founder event)*

|  |  |  |  |
| --- | --- | --- | --- |
|  | **S** | **C** | **A** |
| **S** | - | 8.53 ± 2.37 | 3.48 ± 1.58 |
| **C** | 2.49 ± 1.55 | - | 1.01 ± 0.92 |
| **A** | 1.10 ± 0.99 | 0.67 ± 1.82 | - |

**Supplementary Table S7.** Bayes factors for diversification models tested using BAMM. Results are provided for the maximum clade credibility tree (MCCT) and for this same phylogeny excluding the last 180,000 years to account for protracted speciation (Truncated MCCT). We highlight in bold the model with the highest Bayes factor (BF) relative to the model of zero rate shifts. Although a few other models have higher BF than the two-rate model relative to the single-rate model, their BF compared to the two-rate model was < 3.

| **Shifts** | **MCCT** | **Truncated MCCT** |
| --- | --- | --- |
| 0 | 1.00 | 1.00 |
| 1 | **27.70** | **32.36** |
| 2 | 54.70 | 57.56 |
| 3 | 53.61 | 58.74 |
| 4 | 47.19 | 45.51 |
| 5 | 24.09 | 29.65 |
| 6 | 16.18 | 2.53 |
| 7 | 4.58 | 9.97 |

Bayesian majority-rule consensus tree of noctilionoids, inferred from an alignment of 107 sequences of the autosomal exon titin 6 (*ttn6*). Branch lengths are in number of substitutions per site.

(Mystacina\_tuberculata:0.014334,(Mormoops\_blainvillei:0.024736,(Thyroptera\_lavali:0.001464,Thyroptera\_tricolor:0.004812):0.067293,(Noctilio\_albiventris:0.001359,Noctilio\_leporinus:0.002411):0.02318,(Pteronotus\_parnellii\_pusillus:0.004045,(Pteronotus\_davyi\_davyi:0.001482,Pteronotus\_gymnonotus:0.000597):0.001414,(Pteronotus\_macleayii:0.006133,Pteronotus\_quadridens:0.003944):0.001507):0.020422,(Lampronycteris\_brachyotis:0.013392,(Macrotus\_waterhousii\_waterhousii:0.034121,(Diphylla\_ecaudata:0.012354,(Desmodus\_rotundus:0.007537,Diaemus\_youngi:0.008409):0.005039):0.002481):0.001998,((Chrotopterus\_auritus:0.003117,Mimon\_cozumelae:0.010941,Vampyrum\_spectrum:0.006748,(Macrophyllum\_macrophyllum:0.007633,Tonatia\_saurophila:0.010404,((Lophostoma\_carrikeri:0.003187,Lophostoma\_silvicolum\_laephotis:0.001444,(Lophostoma\_brasiliense:0.004929,Lophostoma\_schulzi:0.002315):0.00233):0.006167,(Mimon\_crenulatum:0.006742,Phylloderma\_stenops:0.001499,(Phyllostomus\_discolor:0.003189,Phyllostomus\_latifolius:0.003211,(Phyllostomus\_elongatus:0.004121,Phyllostomus\_hastatus:0.001507):0.001458):0.002318):0.001574):0.001607):0.002144):0.007371,(((Anoura\_caudifer:0.004991,Anoura\_cultrata:0.000598,(Anoura\_geoffroyi:0.002319,Anoura\_latidens:0.001513):0.002296):0.006877,(Hylonycteris\_underwoodi:0.004384,Lichonycteris\_obscura:0.004042,(Choeroniscus\_godmani:0.001494,Choeroniscus\_minor:0.000616):0.00178):0.010496):0.004196,((Brachyphylla\_cavernarum:0.012204,Monophyllus\_redmani:0.005607):0.002723,(Erophylla\_sezekorni:0.002355,Phyllonycteris\_poeyi\_poeyi:0.00148):0.003149,(Glossophaga\_commissarisi:0.002401,Glossophaga\_soricina:0.00147,(Glossophaga\_leachii:0.00148,Glossophaga\_longirostris:0.000605):0.003177):0.008492):0.001507):0.002374,((Micronycteris\_schmidtorum:0.004366,(Micronycteris\_hirsuta:0.000629,(Micronycteris\_matses:0.002731,(Micronycteris\_megalotis:0.001791,Micronycteris\_microtis:0.002812):0.004144):0.002179):0.013682):0.010463,((Lonchorhina\_aurita:0.005153,Lonchorhina\_orinocensis:0.005061):0.005653,((Lonchophylla\_mordax:0.005114,Lonchophylla\_thomasi:0.002639):0.004756,(Lionycteris\_spurrelli:0.005952,Lonchophylla\_dekeyseri:0.004975,Lonchophylla\_hesperia:0.004123):0.00414):0.003523):0.001869,((Glyphonycteris\_daviesi:0.002861,(Glyphonycteris\_sylvestris:0.008067,Trinycteris\_nicefori:0.007104):0.001785):0.004193,((Rhinophylla\_fischerae:0.008282,Rhinophylla\_pumilio:0.005551):0.008893,(Carollia\_castanea:0.002458,(Carollia\_brevicauda:0.00868,Carollia\_perspicillata:0.00151):0.001418):0.007237):0.001603,((Sturnira\_bogotensis:0.000602,Sturnira\_magna:0.002304,Sturnira\_oporaphilum:0.000612,Sturnira\_tildae:0.0006):0.007512,((Uroderma\_bilobatum:0.002339,Uroderma\_magnirostrum:0.00405):0.003258,(Mesophylla\_macconnelli:0.00355,Platyrrhinus\_brachycephalus:0.000578,Platyrrhinus\_helleri:0.001433,Platyrrhinus\_incarum:0.001241,(Platyrrhinus\_albericoi:0.00147,Platyrrhinus\_infuscus:0.001445,Platyrrhinus\_ismaeli:0.003236,Platyrrhinus\_nigellus:0.001477,(Platyrrhinus\_aurarius:0.001457,Platyrrhinus\_dorsalis:0.000062):0.00148):0.001427):0.002087,(Vampyressa\_brocki:0.004119,Vampyressa\_pusilla:0.002375,Vampyressa\_thyone:0.000614,(Chiroderma\_improvisum:0.002382,Chiroderma\_salvini:0.001484,Chiroderma\_trinitatum:0.003232):0.001476,(Ectophylla\_alba:0.006106,((Ariteus\_flavescens:0.003296,(Ametrida\_centurio:0.001482,(Centurio\_senex:0.004105,Pygoderma\_bilabiatum:0.003203):0.002297):0.004086):0.003294,(Artibeus\_intermedius:0.000604,Artibeus\_jamaicensis:0.000583,Artibeus\_obscurus:0.001439,(Artibeus\_concolor:0.00317,Artibeus\_fraterculus:0.001449,Artibeus\_lituratus:0.001459):0.001341,(Artibeus\_glaucus:0.000725,Artibeus\_incomitatus:0.005772,(Artibeus\_cinereus:0.000593,Artibeus\_phaeotis:0.004076,Artibeus\_watsoni:0.001448,(Artibeus\_anderseni:0.000645,Artibeus\_gnomus:0.004142):0.001446):0.001366):0.001403):0.002425):0.001484):0.00223):0.001473):0.005239):0.003769):0.001819):0.003185):0.002961):0.00548):0.014334);

Bayesian majority-rule consensus tree of noctilionoids, inferred from an alignment of 122 sequences of the mitochondrial gene *cytochrome oxidase I* (*coxI*). Branch lengths are in number of substitutions per site.

(Mystacina\_tuberculata:0.257426,(Pteronotus\_personatus\_personatus:0.321335,((Pteronotus\_parnellii\_parnellii:0.042307,Pteronotus\_parnellii\_rubiginosus\_2:0.034984):0.19218,(((Mormoops\_megalophylla:0.650346,Thyroptera\_tricolor:0.329377):0.195675,(Pteronotus\_davyi\_davyi:0.056929,Pteronotus\_gymnonotus:0.020384):0.228982):0.155053,(((Noctilio\_leporinus:0.059315,Noctilio\_albiventris:0.03278):0.509149,(Furipterus\_horrens:0.521089,Thyroptera\_lavali:0.47595):0.149782):0.147063,((Lampronycteris\_brachyotis:0.290864,((Micronycteris\_minuta:0.314744,Micronycteris\_hirsuta:0.137796):0.034817,(Micronycteris\_brosseti:0.172076,(Lonchorhina\_aurita:0.031761,(Micronycteris\_microtis:0.010198,Micronycteris\_megalotis:0.003129):0.023608):0.065552):0.05553):0.071139):0.082727,((Diaemus\_youngi:0.181014,(Diphylla\_ecaudata:0.072155,Desmodus\_rotundus:0.00253):0.258804):0.196409,(Brachyphylla\_cavernarum:3.986417,Macrophyllum\_macrophyllum:0.372206,Trachops\_cirrhosus:0.283829,(Micronycteris\_schmidtorum:0.069799,Trinycteris\_nicefori:0.005825):0.263876,(Mimon\_bennettii:0.07172,Mimon\_cozumelae:0.02354):0.242714,(Chrotopterus\_auritus:0.274663,Vampyrum\_spectrum:0.250447):0.116474,(Glyphonycteris\_daviesi:0.304637,Glyphonycteris\_sylvestris:0.168887):0.070081,(Lonchorhina\_inusitata:0.273248,Lonchorhina\_orinocensis:0.220841):0.124636,(Rhinophylla\_fischerae:0.304871,(Rhinophylla\_pumilio:0.264027,Rhinophylla\_alethina:0.292668):0.078946):0.100697,(Anoura\_cultrata:0.13474,(Anoura\_caudifer:0.110965,(Anoura\_geoffroyi:0.060824,Anoura\_latidens:0.152806):0.074116):0.086698):0.172681,(Choeroniscus\_minor:0.03341,(Choeroniscus\_godmani:0.027365,(Lichonycteris\_obscura:0.120568,Hylonycteris\_underwoodi:0.112514):0.057963):0.017096):0.138131,(Glossophaga\_soricina:0.143875,(Glossophaga\_commissarisi:0.214602,(Glossophaga\_longirostris:0.06438,Glossophaga\_leachii:0.06812):0.066144):0.087277):0.272718,(Carollia\_castanea:0.213398,(Carollia\_subrufa:0.037141,(Carollia\_brevicauda:0.017308,(Carollia\_sowelli:0.055438,Carollia\_perspicillata:0.002502):0.008021):0.025931):0.044497):0.213809,(Lionycteris\_spurrelli:0.215158,((Lonchophylla\_thomasi:0.196965,Lonchophylla\_mordax:0.184979):0.077717,(Lonchophylla\_robusta:0.202035,Lonchophylla\_chocoana:0.148271):0.130646):0.042662):0.113802,(Lophostoma\_schulzi:0.149879,(Lophostoma\_brasiliense:0.115027,Lophostoma\_carrikeri:0.143991):0.084984,(Lophostoma\_silvicolum\_laephotis:0.024284,Lophostoma\_evotis:0.036516):0.106778):0.126087,(Tonatia\_saurophila:0.282998,(Mimon\_crenulatum:0.216772,(Phylloderma\_stenops:0.348732,(Phyllostomus\_discolor:0.142482,(Phyllostomus\_latifolius:0.118767,Phyllostomus\_elongatus:0.104191,Phyllostomus\_hastatus:0.139816):0.05866):0.059227):0.059201):0.065314):0.060891,((Sturnira\_bidens:0.255898,((Sturnira\_lilium:0.00539,Sturnira\_luisi:0.00277):0.101026,(Sturnira\_tildae:0.058766,Sturnira\_ludovici:0.057394,(Sturnira\_magna:0.037398,Sturnira\_erythromos:0.01726):0.039745):0.031815):0.13295):0.117029,((Ectophylla\_alba:0.299006,((Ametrida\_centurio:0.06773,Centurio\_senex:0.032112):0.12018,(((Artibeus\_watsoni:0.101689,Artibeus\_aztecus:0.09646):0.034292,((Artibeus\_phaeotis:0.034501,Artibeus\_toltecus:0.018115):0.03771,((Artibeus\_anderseni:0.030687,Artibeus\_cinereus:0.035523):0.032553,(Artibeus\_glaucus:0.044153,(Artibeus\_bogotensis:0.038344,Artibeus\_gnomus:0.03348):0.015331):0.026803):0.021097):0.021211):0.039512,(Artibeus\_concolor:0.092101,Artibeus\_fimbriatus:0.019121,Artibeus\_fraterculus:0.072959,((Artibeus\_lituratus:0.003882,Artibeus\_intermedius:0.003091):0.018079,(Artibeus\_amplus:0.020835,(Artibeus\_planirostris:0.01117,(Artibeus\_jamaicensis:0.066839,Artibeus\_obscurus:0.03612):0.008393):0.006495):0.005145):0.033464):0.035741):0.043949):0.091096):0.095984,(Enchisthenes\_hartii:0.187645,((Vampyrodes\_caraccioli:0.144296,Platyrrhinus\_lineatus:0.118523,((Platyrrhinus\_helleri:0.015909,Platyrrhinus\_recifinus:0.041126):0.049848,(Platyrrhinus\_brachycephalus:0.081528,(Platyrrhinus\_aurarius:0.020919,Platyrrhinus\_infuscus:0.011197,Platyrrhinus\_vittatus:0.052316):0.018681):0.022952):0.020512):0.043008,((Mesophylla\_macconnelli:0.18202,(Vampyressa\_thyone:0.091793,Vampyressa\_pusilla:0.153322):0.117139):0.080112,((Uroderma\_magnirostrum:0.061865,Uroderma\_bilobatum:0.085936):0.164934,((Chiroderma\_salvini:0.07262,(Chiroderma\_villosum:0.03866,(Chiroderma\_trinitatum:0.009616,Chiroderma\_doriae:0.016877):0.033371):0.045667):0.110697,((Vampyriscus\_bidens:0.00172,Vampyressa\_bidens:0.002813):0.152544,(Vampyressa\_brocki:0.089876,Vampyressa\_nymphaea:0.114438):0.096644):0.063408):0.050462):0.038314):0.021578):0.05082):0.047008):0.049769):0.048558):0.067894):0.042836):0.071132):0.157103):0.110569):0.152102):0.257426);

Bayesian majority-rule consensus tree of noctilionoids, inferred from an alignment of 173 sequences of the mitochondrial gene *cytochrome b* gene (*cyt-b*). Branch lengths are in number of substitutions per site.

(Myzopoda\_aurita:0.311304,((Diaemus\_youngi:0.510551,Diphylla\_ecaudata:0.635514):0.075811,(((Furipterus\_horrens:0.344902,(Noctilio\_albiventris:0.028232,Noctilio\_leporinus:0.051253):0.5634):0.165416,(Mormoops\_megalophylla:0.155466,(Mormoops\_blainvillei:0.161738,Thyroptera\_tricolor:0.744379):0.086123):0.11749):0.085904,(Lampronycteris\_brachyotis:0.446563,(Micronycteris\_hirsuta:0.077843,((Micronycteris\_minuta:0.033506,(Micronycteris\_homezi:0.039081,Micronycteris\_schmidtorum:0.039124):0.017403):0.211106,(Micronycteris\_brosseti:0.125628,((Micronycteris\_giovanniae:0.048846,Micronycteris\_sp:0.056632):0.008558,(Micronycteris\_megalotis:0.043614,(Micronycteris\_matses:0.015868,Micronycteris\_microtis:0.024726):0.020714):0.008346):0.079808):0.046393):0.043092):0.114884):0.076901,(Pteronotus\_macleayii:0.1567,((Pteronotus\_personatus\_personatus:0.090492,Pteronotus\_personatus\_psilotis:0.119508):0.108101,(Pteronotus\_davyi\_fulvus:0.080398,(Pteronotus\_davyi\_davyi:0.037741,Pteronotus\_gymnonotus:0.07041):0.016875):0.114026):0.050735,(Pteronotus\_quadridens:0.110131,(Pteronotus\_parnellii\_rubiginosus\_1:0.062095,(Pteronotus\_parnellii\_parnellii:0.057463,((Pteronotus\_parnellii\_portoricensis:0.01324,Pteronotus\_parnellii\_pusillus:0.036417):0.011356,(Pteronotus\_parnellii\_rubiginosus\_3:0.160797,Pteronotus\_parnellii\_rubiginosus\_2:0.023108):0.035227):0.043211):0.06499):0.205039):0.042609):0.404064,(Lonchorhina\_aurita:0.314144,Mimon\_bennettii:0.486975,Trinycteris\_nicefori:0.228858,(Chrotopterus\_auritus:0.266501,Vampyrum\_spectrum:0.286822):0.145605,(Glyphonycteris\_daviesi:0.166092,Glyphonycteris\_sylvestris:0.177672):0.081367,(Macrophyllum\_macrophyllum:0.332785,Trachops\_cirrhosus:0.273831):0.067596,(Macrotus\_californicus:0.259441,Macrotus\_waterhousii\_mexicanus:0.162241):0.272412,(Rhinophylla\_alethina:0.202629,(Rhinophylla\_fischerae:0.180656,Rhinophylla\_pumilio:0.156791):0.061034):0.174075,((Carollia\_benkeithi:0.090423,Carollia\_castanea:0.035711):0.099988,(Carollia\_subrufa:0.082143,(Carollia\_sowelli:0.030667,(Carollia\_brevicauda:0.018177,Carollia\_perspicillata:0.026085):0.021546):0.014018):0.039179):0.139951,((Anoura\_caudifer:0.180369,Anoura\_geoffroyi:0.14358):0.109655,(Brachyphylla\_nana:0.029897,(Brachyphylla\_cavernarum:0.015451,Brachyphylla\_pumila:0.019688):0.028962):0.181251,((Mystacina\_tuberculata:0.698373,(Erophylla\_bombifrons:0.014887,Erophylla\_sezekorni:0.005224):0.070002):0.096461,(Phyllonycteris\_poeyi\_obtusa:0.027651,(Phyllonycteris\_aphylla:0.073068,Phyllonycteris\_poeyi\_poeyi:0.032134):0.033772):0.079604):0.135567):0.04546,(Phyllostomus\_hastatus:0.171971,((Mimon\_crenulatum:0.20168,(Phylloderma\_stenops:0.338747,(Tonatia\_bidens:0.166577,Tonatia\_saurophila:0.207227):0.055655):0.038029):0.025297,((Lophostoma\_brasiliense:0.175893,Lophostoma\_carrikeri:0.103697,Lophostoma\_schulzi:0.135104):0.052035,(Lophostoma\_silvicolum\_laephotis:0.02692,(Lophostoma\_evotis:0.048512,Lophostoma\_silvicolum\_centralis:0.061081):0.018958):0.154667):0.0727):0.023493):0.074109,((Lonchophylla\_thomasi:0.20146,((Lonchophylla\_mordax:0.177993,(Lionycteris\_spurrelli:0.16182,Platalina\_genovensium:0.19534):0.04545):0.038886,(Lonchophylla\_chocoana:0.137474,(Lonchophylla\_handleyi:0.11777,Lonchophylla\_robusta:0.098372):0.089599):0.037981):0.08742):0.08457,(Leptonycteris\_curasoae:0.259038,((Monophyllus\_plethodon:0.107975,Monophyllus\_redmani:0.06901):0.108632,(Glossophaga\_soricina:0.100479,((Glossophaga\_commissarisi:0.081892,Glossophaga\_morenoi:0.102516):0.023906,(Glossophaga\_leachii:0.07311,Glossophaga\_longirostris:0.046987):0.021498):0.038822):0.091709):0.051787):0.053139):0.026104,(Enchisthenes\_hartii:0.246137,(Ectophylla\_alba:0.284422,((Phyllops\_falcatus:0.03066,Stenoderma\_rufum:0.021602):0.021798,((Ardops\_nichollsi:0.055942,Ariteus\_flavescens:0.039635):0.048695,(Centurio\_senex:0.068134,Sphaeronycteris\_toxophyllum:0.053458,(Ametrida\_centurio:0.041199,Pygoderma\_bilabiatum:0.047632):0.030689):0.024867):0.030792):0.105795):0.068198,(((Artibeus\_phaeotis:0.051156,(Artibeus\_aztecus:0.023003,(Artibeus\_incomitatus:0.019708,Artibeus\_watsoni:0.006619):0.010058):0.038573):0.030471,(Artibeus\_anderseni:0.044695,Artibeus\_cinereus:0.043366,Artibeus\_toltecus:0.076228,(Artibeus\_bogotensis:0.048327,Artibeus\_gnomus:0.039958):0.046431):0.02662):0.024198,(Artibeus\_concolor:0.096965,((Artibeus\_inopinatus:0.057955,(Artibeus\_fraterculus:0.044423,Artibeus\_hirsutus:0.057662):0.016769):0.01716,(Artibeus\_fimbriatus:0.061776,(Artibeus\_jamaicensis:0.047726,(Artibeus\_obscurus:0.033983,(Artibeus\_schwartzi:0.024241,((Artibeus\_amplus:0.028219,Artibeus\_planirostris:0.029802):0.011654,(Artibeus\_intermedius:0.006354,Artibeus\_lituratus:0.006425):0.028992):0.006443):0.010654):0.013232):0.01118):0.010921):0.037931):0.031732):0.095677,(Sturnira\_bidens:0.108892,(Sturnira\_nana:0.073033,(Sturnira\_aratathomasi:0.075242,(((Sturnira\_parvidens:0.014198,Sturnira\_bakeri:0.030903):0.039323,((Sturnira\_erythromos:0.00602,Sturnira\_sp:0.008379):0.003622,(Sturnira\_angeli:0.030077,(Sturnira\_luisi:0.005948,Sturnira\_paulsoni:0.010277):0.003031):0.005027):0.011786):0.011062,(Sturnira\_bogotensis:0.052749,Sturnira\_tildae:0.050619,(Sturnira\_magna:0.08306,Sturnira\_perla:0.045442):0.01219,(Sturnira\_koopmanhilli:0.04234,(Sturnira\_mordax:0.021849,((Sturnira\_lilium:0.007085,Sturnira\_oporaphilum:0.010995):0.038905,(Sturnira\_hondurensis:0.045641,(Sturnira\_ludovici:0.004056,Sturnira\_burtonlimi:0.001099):0.016173):0.015942):0.030624):0.009063):0.0136):0.026638):0.009342):0.042202):0.048714):0.125767,((Uroderma\_bilobatum:0.073739,Uroderma\_magnirostrum:0.07331):0.14732,(Mesophylla\_macconnelli:0.165465,(Vampyressa\_melissa:0.116729,(Vampyressa\_pusilla:0.007496,Vampyressa\_thyone:0.001246):0.125764):0.029212):0.050699,((Vampyressa\_nymphaea:0.082113,Vampyressa\_brocki:0.084573):0.093294,(Vampyressa\_bidens:0.007793,Vampyriscus\_bidens:0.006754):0.111472):0.02984,((Chiroderma\_doriae:0.019798,Chiroderma\_trinitatum:0.00995):0.017971,(Chiroderma\_salvini:0.09152,(Chiroderma\_improvisum:0.033306,Chiroderma\_villosum:0.018246):0.028086):0.013485):0.077627,((Vampyrodes\_caraccioli:0.035887,Vampyrodes\_major:0.041576):0.050224,((Platyrrhinus\_matapalensis:0.006545,(Platyrrhinus\_helleri:0.023083,(Platyrrhinus\_incarum:0.030987,(Platyrrhinus\_lineatus:0.002479,Platyrrhinus\_recifinus:0.00109):0.027405):0.012779):0.007521):0.081744,(Platyrrhinus\_brachycephalus:0.083952,((Platyrrhinus\_albericoi:0.015428,Platyrrhinus\_vittatus:0.005046):0.04334,(Platyrrhinus\_dorsalis:0.038062,(Platyrrhinus\_aurarius:0.032018,Platyrrhinus\_infuscus:0.032936):0.00904,(Platyrrhinus\_nigellus:0.045811,(Platyrrhinus\_ismaeli:0.022634,Platyrrhinus\_masu:0.008423):0.016335):0.008316):0.01805):0.026539):0.022485):0.042295):0.046673):0.038585):0.05431):0.06246):0.108117):0.311304);

Bayesian majority-rule consensus tree of noctilionoids, inferred from an alignment of 100 sequences of the mitochondrial genes ribosomal RNAs 12S, tRNAVal and 16S. Branch lengths are in number of substitutions per site.

(Myzopoda\_aurita:0.251354,(Mystacina\_tuberculata:0.21111,(((Furipterus\_horrens:0.338758,(Noctilio\_leporinus:0.021841,Noctilio\_albiventris:0.007849):0.244008):0.060352,(Thyroptera\_discifera:0.150356,(Thyroptera\_lavali:0.07766,Thyroptera\_tricolor:0.090438):0.14138):0.307605):0.026053,(((Mormoops\_blainvillei:0.104396,Mormoops\_megalophylla:0.115621):0.099407,((Pteronotus\_davyi\_davyi:0.013862,Pteronotus\_gymnonotus:0.018803):0.06416,((Pteronotus\_macleayii:0.043734,Pteronotus\_quadridens:0.052293):0.033547,(Pteronotus\_personatus\_psilotis:0.082997,(Pteronotus\_parnellii\_rubiginosus\_1:0.033925,(Pteronotus\_parnellii\_rubiginosus\_3:0.012696,Pteronotus\_parnellii\_rubiginosus\_2:0.009031):0.018602):0.065005):0.015889):0.01366):0.097163):0.033029,(Macrotus\_waterhousii\_waterhousii:0.301299,((Lampronycteris\_brachyotis:0.218118,((Micronycteris\_hirsuta:0.111743,(Micronycteris\_megalotis:0.012912,Micronycteris\_microtis:0.005813):0.05237):0.033583,(Micronycteris\_schmidtorum:0.017447,(Micronycteris\_homezi:0.017124,Micronycteris\_minuta:0.011882):0.006049):0.119766):0.047515):0.051701,((Diphylla\_ecaudata:0.353555,(Desmodus\_rotundus:0.200605,Diaemus\_youngi:0.114983):0.13853):0.049705,(((Chrotopterus\_auritus:0.155104,Vampyrum\_spectrum:0.127195):0.065523,(Trachops\_cirrhosus:0.178379,((Tonatia\_bidens:0.003385,Tonatia\_saurophila:0.000642):0.18243,(Macrophyllum\_macrophyllum:0.276825,((Phylloderma\_stenops:0.175201,(Phyllostomus\_hastatus:0.092308,Mimon\_crenulatum:0.191001):0.009951):0.036995,((Lophostoma\_schulzi:0.05593,(Lophostoma\_brasiliense:0.07092,Lophostoma\_carrikeri:0.06983):0.011719):0.017368,(Lophostoma\_silvicolum\_centralis:0.016654,(Lophostoma\_evotis:0.018621,Lophostoma\_silvicolum\_laephotis:0.012736):0.005297):0.055987):0.070689):0.008534):0.01681):0.012921):0.015575):0.021259,((Lonchorhina\_aurita:0.123247,Lonchorhina\_orinocensis:0.110339):0.087497,(Lonchophylla\_thomasi:0.137661,(Lionycteris\_spurrelli:0.133791,Lonchophylla\_handleyi:0.087896):0.017559):0.087534,((Anoura\_caudifer:0.151569,(Hylonycteris\_underwoodi:0.081317,(Choeroniscus\_minor:0.05461,(Choeronycteris\_mexicana:0.006186,Musonycteris\_harrisoni:0.005635):0.06605):0.019113):0.114796):0.02151,((Brachyphylla\_cavernarum:0.09856,Erophylla\_sezekorni:0.124031):0.021684,(Monophyllus\_redmani:0.080272,(Glossophaga\_soricina:0.102803,Leptonycteris\_curasoae:0.088933):0.033964):0.018982):0.020789):0.042971,(Carollia\_perspicillata:0.151262,((Trinycteris\_nicefori:0.138433,(Glyphonycteris\_sylvestris:0.114271,Glyphonycteris\_daviesi:0.144349):0.035985):0.029624,(Rhinophylla\_pumilio:0.305336,(Sturnira\_magna:0.125074,((((Mesophylla\_macconnelli:0.057669,Vampyressa\_pusilla:0.062397):0.031962,(Platyrrhinus\_brachycephalus:0.043846,Vampyrodes\_caraccioli:0.047836):0.008797):0.006849,(Uroderma\_bilobatum:0.096601,((Chiroderma\_salvini:0.02705,Chiroderma\_trinitatum:0.023336):0.037092,(Vampyressa\_brocki:0.061904,Vampyriscus\_bidens:0.061959):0.018224):0.013327):0.004721):0.015288,(Enchisthenes\_hartii:0.085716,(Ectophylla\_alba:0.143843,(((Stenoderma\_rufum:0.044522,(Ardops\_nichollsi:0.017345,Ariteus\_flavescens:0.019778):0.028347):0.004857,(Centurio\_senex:0.031115,(Sphaeronycteris\_toxophyllum:0.023767,(Ametrida\_centurio:0.017495,Pygoderma\_bilabiatum:0.021811):0.003185):0.011853):0.00729):0.068073,(((Artibeus\_aztecus:0.038971,Artibeus\_watsoni:0.063263):0.005981,((Artibeus\_cinereus:0.022614,Artibeus\_anderseni:0.024456):0.012827,(Artibeus\_phaeotis:0.042342,(Artibeus\_glaucus:0.026532,(Artibeus\_gnomus:0.020592,Artibeus\_bogotensis:0.019704):0.01073):0.01748):0.00472):0.003513):0.017581,(Artibeus\_concolor:0.065228,((Artibeus\_inopinatus:0.028544,Artibeus\_hirsutus:0.023698,Artibeus\_fraterculus:0.02579):0.01409,(Artibeus\_jamaicensis:0.025264,(Artibeus\_obscurus:0.015784,(Artibeus\_planirostris:0.018513,(Artibeus\_intermedius:0.022324,Artibeus\_schwartzi:0.009632):0.003063):0.002394):0.005537):0.007865):0.004236):0.016339):0.023687):0.011292):0.009274):0.014894):0.057856):0.021013):0.020672):0.015734):0.018744):0.014876):0.02802):0.026302):0.020217):0.049224):0.05713):0.027152):0.251354);