

Patterns, biases and prospects in the distribution and diversity of Neotropical snakes

Thaís B. Guedes, Ricardo J. Sawaya, Alexander Zizka, Shawn Laffan, Alexander Pyron, Renato S. Bérnils, Martin Jansen, Paulo Passos, Ana L. C. Prudente, Diego F. Cisneros-Heredia, Henrique B. Braz, Cristiano de C. Nogueira & Alexandre Antonelli

Appendix S2 Database comprising the taxonomic and geographic changes performed on Raw Dataset (RD) downloaded from GBIF.

Taxonomic changes

Name provided by GBIF	Updated name
<i>Adelphicos latifasciatus</i>	<i>Adelphicos latifasciatum</i>
<i>Adelphicos quadrivirgatus</i>	<i>Adelphicos quadrivirgatum</i>
<i>Alsophis anomalus</i>	<i>Haitiophis anomalus</i>
<i>Alsophis cantherigerus</i>	<i>Cubophis cantherigerus</i>
<i>Alsophis elegans</i>	<i>Pseudalsophis elegans</i>
<i>Alsophis portoricensis</i>	<i>Borikenophis portoricensis</i>
<i>Alsophis vudii</i>	<i>Cubophis vudii</i>
<i>Antillophis andreae</i>	<i>Caraiba andreae</i>
<i>Antillophis parvifrons</i>	<i>Hypsirhynchus parvifrons</i>
<i>Arrhyton exiguum</i>	<i>Magliophis exiguum</i>
<i>Arrhyton landoi</i>	<i>Arrhyton redimitum</i>
<i>Bothriopsis bilineata</i>	<i>Bothrops bilineatus</i>
<i>Bothriopsis oligolepis</i>	<i>Bothrops oligolepis</i>
<i>Bothriopsis punctata</i>	<i>Bothrops punctatus</i>
<i>Bothriopsis taeniata</i>	<i>Bothrops taeniatus</i>
<i>Cerrophidion barbouri</i>	<i>Mixcoatlus barbouri</i>
<i>Clelia bicolor</i>	<i>Mussurana bicolor</i>
<i>Conophis pulcher</i>	<i>Conophis lineatus</i>
<i>Dendrophidion brunneus</i>	<i>Dendrophidion brunneum</i>
<i>Dendrophidion paucicarinatus</i>	<i>Dendrophidion paucicarinatum</i>
<i>Dendrophidion percarinatus</i>	<i>Dendrophidion percarinatum</i>
<i>Dipsas perijanensis</i>	<i>Plesiodipsas perijanensis</i>
<i>Drymobius margaritifera</i>	<i>Drymobius margaritiferus</i>
<i>Elapomorphus lepidus</i>	<i>Coronelaps lepidus</i>
<i>Epicrates angulifer</i>	<i>Chilabothrus angulifer</i>
<i>Epicrates fordii</i>	<i>Chilabothrus fordii</i>
<i>Epicrates gracilis</i>	<i>Chilabothrus gracilis</i>
<i>Epicrates inornatus</i>	<i>Chilabothrus inornatus</i>
<i>Epicrates striatus</i>	<i>Chilabothrus striatus</i>
<i>Epictia subcrotillus</i>	<i>Epictia subcrotilla</i>
<i>Erythrolamprus bizonus</i>	<i>Erythrolamprus bizona</i>
<i>Leptognathus mikani</i>	<i>Dipsas oreas</i>
<i>Leptotyphlops albifrons</i>	<i>Epictia tenella</i>
<i>Leptotyphlops albipuncta</i>	<i>Epictia albipuncta</i>
<i>Leptotyphlops anthracinus</i>	<i>Trilepida anthracina</i>

Name provided by GBIF	Updated name
<i>Leptotyphlops australis</i>	<i>Epictia australis</i>
<i>Leptotyphlops borrichianus</i>	<i>Siagonodon borrichianus</i>
<i>Leptotyphlops cupinensis</i>	<i>Siagonodon cupinensis</i>
<i>Leptotyphlops dulcis</i>	<i>Rena dulcis</i>
<i>Leptotyphlops goudotii</i>	<i>Epictia goudotii</i>
<i>Leptotyphlops humilis</i>	<i>Rena humilis</i>
<i>Leptotyphlops joshuai</i>	<i>Trilepida joshuai</i>
<i>Leptotyphlops leptepileptus</i>	<i>Mithophis leptepileptus</i>
<i>Leptotyphlops macrolepis</i>	<i>Trilepida macrolepis</i>
<i>Leptotyphlops maximus</i>	<i>Rena maxima</i>
<i>Leptotyphlops melanotermus</i>	<i>Epictia albipuncta</i>
<i>Leptotyphlops munoai</i>	<i>Epictia munoai</i>
<i>Leptotyphlops pyrites</i>	<i>Mithophis pyrites</i>
<i>Leptotyphlops salgueiroi</i>	<i>Trilepida salgueiroi</i>
<i>Leptotyphlops subcrotillus</i>	<i>Epictia subcrotillus</i>
<i>Leptotyphlops unguirostris</i>	<i>Rena unguirostris</i>
<i>Leptotyphlops weyrauchi</i>	<i>Epictia albipuncta</i>
<i>Liophis almadensis</i>	<i>Erythrolamprus almadensis</i>
<i>Liophis anomalus</i>	<i>Lygophis anomalus</i>
<i>Liophis cobellus</i>	<i>Erythrolamprus cobella</i>
<i>Liophis dilepis</i>	<i>Lygophis dilepis</i>
<i>Liophis epinephelus</i>	<i>Erythrolamprus epinephelus</i>
<i>Liophis flavifrenatus</i>	<i>Lygophis flavifrenatus</i>
<i>Liophis guentheri</i>	<i>Erythrolamprus albertguentheri</i>
<i>Liophis jaegeri</i>	<i>Erythrolamprus jaegeri</i>
<i>Liophis lineatus</i>	<i>Lygophis lineatus</i>
<i>Liophis melanotus</i>	<i>Erythrolamprus melanotus</i>
<i>Liophis miliaris</i>	<i>Erythrolamprus miliaris</i>
<i>Liophis poecilogyrus</i>	<i>Erythrolamprus poecilogyrus</i>
<i>Liophis reginae</i>	<i>Erythrolamprus reginae</i>
<i>Liophis sagittifer</i>	<i>Erythrolamprus sagittifer</i>
<i>Liophis taeniurus</i>	<i>Erythrolamprus taeniurus</i>
<i>Liophis triscalis</i>	<i>Erythrolamprus triscalis</i>
<i>Liophis typhlus</i>	<i>Erythrolamprus typhlus</i>
<i>Liophis williamsi</i>	<i>Erythrolamprus williamsi</i>
<i>Ophryacus melanurus</i>	<i>Mixcoatlus melanurus</i>
<i>Oxyrhopus petola</i>	<i>Oxyrhopus petolaris</i>
<i>Pantherophis flavirufus</i>	<i>Pseudelaphe flavirufa</i>
<i>Philodryas simonsi</i>	<i>Philodryas simonsii</i>
<i>Philodryas varius</i>	<i>Philodryas varia</i>
<i>Pseudablabe agassizii</i>	<i>Philodryas agassizii</i>
<i>Pseustes poecilonotus</i>	<i>Phrynonax poecilonotus</i>
<i>Pseustes shropshirei</i>	<i>Phrynonax poecilonotus</i>
<i>Pseustes sulphureus</i>	<i>Spilotes sulphureus</i>
<i>Rhadinaea godmani</i>	<i>Rhadinella godmani</i>
<i>Rhadinaea hannsteini</i>	<i>Rhadinella hannsteini</i>
<i>Rhadinaea hempsteadae</i>	<i>Rhadinella hempsteadae</i>
<i>Rhadinaea kanalchutchan</i>	<i>Rhadinella kanalchutchan</i>
<i>Rhadinaea kinkelini</i>	<i>Rhadinella kinkelini</i>

Name provided by GBIF	Updated name
<i>Rhadinaea lachrymans</i>	<i>Rhadinella lachrymans</i>
<i>Sibon annulifera</i>	<i>Tropidodipsas annulifera</i>
<i>Sibon dimidiata</i>	<i>Sibon dimidiatus</i>
<i>Sibon fischeri</i>	<i>Tropidodipsas fischeri</i>
<i>Sibon sanniola</i>	<i>Sibon sanniolus</i>
<i>Sistrurus ravus</i>	<i>Crotalus ravus</i>
<i>Tantilla cuesta</i>	<i>Tantilla jani</i>
<i>Tropidophis melaneura</i>	<i>Tropidophis melanurus</i>
<i>Typhlops brongersmianus</i>	<i>Amerotyphlops brongersmianus</i>
<i>Typhlops costaricensis</i>	<i>Amerotyphlops costaricensis</i>
<i>Typhlops lehneri</i>	<i>Amerotyphlops lehneri</i>
<i>Typhlops stadelmani</i>	<i>Amerotyphlops stadelmani</i>
<i>Typhlops tasymicris</i>	<i>Amerotyphlops tasymicris</i>
<i>Typhlops tenuis</i>	<i>Amerotyphlops tenuis</i>
<i>Umbrivaga mertensi</i>	<i>Erythrolamprus mertensi</i>
<i>Umbrivaga pygmaea</i>	<i>Erythrolamprus pygmaeus</i>
<i>Waglerophis merremi</i>	<i>Xenodon merremii</i>
<i>Xenoxybelis argenteus</i>	<i>Philodryas argentea</i>
<i>Rhadinaea pilonaorum</i>	<i>Rhadinella pilonarum</i>
<i>Rhadinaea montecristi</i>	<i>Rhadinella montecristi</i>
<i>Rhadinaea schistosa</i>	<i>Rhadinella schistosa</i>
<i>Rhadinaea serperastra</i>	<i>Rhadinella seperastes</i>

Geographic changes

Species	Geographical Decision
<i>Bitis arietans</i>	Removed all records, all wrong. It doesn't occur in Neotropical region
<i>Bitis gabonica</i>	Removed all records, all wrong. It doesn't occur in Neotropical region
<i>Bothrops alternatus</i>	Removed one record in the north of the state of Minas Gerais
<i>Bothrops atrox</i>	Removed records in Central America and Southeastern Brazil
<i>Bothrops bilineatus</i>	Removed record in Central America (Guatemala)
<i>Bothrops jararaca</i>	Removed records in Bolivia
<i>Bothrops lanceolatus</i>	Removed records in Atlantic Forest
<i>Calliophis gracilis</i>	Removed all records, all wrong. It doesn't occur in Neotropical region
<i>Chilomeniscus stramineus</i>	Removed all records, all wrong. It doesn't occur in Neotropical region
<i>Chionactis palarostris</i>	Removed all records, all wrong. It doesn't occur in Neotropical region
<i>Chironius bicarinatus</i>	Removed two point records: North of the state of Minas Gerais and one in Goiás
<i>Clelia plumbea</i>	Removed records in Amazonia
<i>Clelia rustica</i>	Removed records in Amazonia
<i>Contia tenuis</i>	Removed all records, all wrong. It doesn't occur in Neotropical region

Species	Geographical Decision
<i>Corallus cookii</i>	Removed all records, all wrong
<i>Crotalus cerastes</i>	Removed all records, all wrong. It doesn't occur in Neotropical region
<i>Crotalus oreganus</i>	Removed all records, all wrong
<i>Crotalus ruber</i>	Removed all records, all wrong
<i>Dendrophidion nuchale</i>	Removed two records in Mexico, Colombia and Ecuador
<i>Dipsas latifrontalis</i>	Removed all records, all wrong. It doesn't occur in Venezuela
<i>Elapomorphus quinquelineatus</i>	Removed one point record between the state of Paraná in Brazil and Paraguay
<i>Erythrolamprus aesculapii</i>	Removed record in Central America (Honduras)
<i>Erythrolamprus almadensis</i>	Removed record in the south of Argentina
<i>Erythrolamprus cobella</i>	Removed records in Peru
<i>Helicops angulatus</i>	Removed one record in the coast of Peru
<i>Helicops carinicaudus</i>	Removed all records, all wrong
<i>Helicops hagmani</i>	Removed all records, all wrong
<i>Helicops leopardinus</i>	Removed all records, all wrong
<i>Lampropeltis getula</i>	Removed all records, all wrong. It doesn't occur in Neotropical region
<i>Lamprophis virgatus</i>	Removed all records, all wrong. It doesn't occur in Neotropical region
<i>Lygophis dilepis</i>	Removed all records, all wrong
<i>Lygophis lineatus</i>	Removed two records in the south of South America
<i>Macroprotodon cucullatus</i>	Removed all records, all wrong. It doesn't occur in Neotropical region
<i>Micrurus corallinus</i>	Removed one record in Goiás
<i>Micrurus frontalis</i>	Removed one point record in Rio Grande do Sul
<i>Micrurus fulvius</i>	Removed all records, all wrong. It doesn't occur in Neotropical region
<i>Micrurus ibiboboca</i>	Removed records in Amazonia
<i>Morelia spilota</i>	Removed all records, all wrong. It doesn't occur in Neotropical region
<i>Nerodia sipedon</i>	Removed all records, all wrong. It doesn't occur in Neotropical region
<i>Nerodia taxispilota</i>	Removed all records, all wrong. It doesn't occur in Neotropical region
<i>Oxyrhopus doliatus</i>	Removed all records, all wrong
<i>Oxyrhopus trigeminus</i>	Removed all records in Paraguay
<i>Pantherophis guttatus</i>	Removed all records, all wrong. It doesn't occur in Neotropical region
<i>Phalotris tricolor</i>	Removed records in Atlantic Forest
<i>Philodryas arnoldoi</i>	Removed records in Atlantic Forest
<i>Philodryas tachymenoides</i>	Removed records in Chile
<i>Pituophis melanoleucus</i>	Removed all records, all wrong. It doesn't occur in Neotropical region
<i>Popeia fucatus</i>	Removed. It's not a valid name for snake species
<i>Psammophis phillipsi</i>	Removed all records, all wrong. It doesn't occur in Neotropical region

Species	Geographical Decision
<i>Ramphotyphlops braminus</i>	Removed all records. This species was introduced by humans in Mexico
<i>Sibynomorphus ventrimaculatus</i>	Removed one record in Argentina
<i>Siphlophis longicaudatus</i>	Removed all records, all wrong
<i>Storeria occipitomaculata</i>	Removed all records, all wrong. It doesn't occur in Neotropical region
<i>Tachymenis affinis</i>	Removed all records, all wrong
<i>Tachymenis peruviana</i>	Removed records in Chile
<i>Tantilla capistrata</i>	Removed all records, all wrong
<i>Tantilla trilineata</i>	Removed all records, all wrong. It doesn't occur in Neotropical region
<i>Thamnodynastes pallidus</i>	Removed all records in the south of Brazil
<i>Thamnophis couchii</i>	Removed all records, all wrong. It doesn't occur in Neotropical region
<i>Thamnophis sauritus</i>	Removed records in Bahamas
<i>Thamnophis sirtalis</i>	Removed all records, all wrong
<i>Xenoxybelis boulengeri</i>	Removed. Nomenclatural uncertainty