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letsRept: AN R PACKAGE TO ACCESS THE GLOBAL REPTILE DATABASE AND FACILITATE TAXONOMIC HARMONIZATION

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Abstract. Taxonomy is a highly dynamic science upon which most biodiversity studies rely. Constant revisions of species delimitation hypotheses, using ever-growing amounts of data and tools cause species numbers and identities to continuously and rapidly change. Reptiles are the most species rich terrestrial vertebrate group and are amongst the most threatened and least known vertebrate taxa, representing nearly half of all data-deficient terrestrial vertebrate species. Every year hundreds of new species are described and dozens are revised, resulting in synonymizations, splittings, generic reassignments, or elevation from synonymy or from subspecies into species status. The nomenclature of this group is therefore highly dynamic and consequently, to integrate available reptile datasets generally requires extensive nomenclature review, especially for broad scale analyses. *letsRept* is a new R package that integrates the Reptile Database – the best curated and reliable global taxonomic reference for reptiles – into the R programming environment. Its main functions allow users to retrieve the most up-to-date taxonomic information in real time, to compare lists of species names to current nomenclature, and to detect names that have been changed by either lumping or splitting, all through web scraping techniques. Additional functions allow to produce quick taxonomic summaries, access species accounts, retrieve full reference lists and more. By permitting to embed the Reptile Database directly into R workflows, the *letsRept* package improves the integration of datasets from different sources, with authoritative taxonomy, reducing data loss due to nomenclature mismatch and improving the consistency in biodiversity analyses.

Keywords: data acquisition, data management, taxonomy, the Reptile Database, web scraping

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Introduction

Cataloguing the diversity of life on Earth is fundamental to the scientific endeavour, yet, we have only formally described a fraction of all living organisms (Mora et al., 2011). In some taxa, such as nematodes, our knowledge shortfalls remain vast, with most species still undiscovered or undescribed (Larsen et al., 2017). This is termed a 'Linnean Shortfall', which describes the discrepancy between the number of species that exist and the number of species that were formally described and are known to science to date (Brown and Lomolino, 1998; Hortal et al., 2015). Vertebrates are amongst the best-studied animals, and such knowledge deficit is probably relatively small in this group. Yet, even within vertebrates there is active discussion on the delimitation and nomenclature of species (Wüster et al., 2024). Furthermore, in several vertebrate taxa, such as reptiles, species continue to be discovered and described at accelerating rates (Meiri, 2016; Uetz et al., 2021). These taxonomic efforts result in ever increasing numbers of recognized species, and frequent changes of perceived species identities and taxon nomenclature. This creates taxonomic mismatches across major large databases (e.g., GenBank, GBIF, and the IUCN Red List), which pose significant challenges for researchers, the public at large, and conservation practitioners (Cordier et al., 2024; Nori et al., 2022a). Moreover, advances in our knowledge of species' natural histories, evolutionary relationships, geographical distribution, and conservation status and needs, among others, are contingent on establishing current and unified taxonomic reference across different data sources (Baranzelli et al., 2023).

To maintain consistent and up-to-date taxonomic references, several databases are being actively curated, such as the Catalogue of Life (CoL; Bánki et al., 2025) and the Integrative Taxonomic Information System (ITIS[1]). Additionally, quick nomenclature verification by querying a list of species names is available in several web servers, such as the Global Names Verifier (GNV[2]) and the GBIF name parser[3]. They are not, however, easily integrated into workflows in statistical programming environments, a problem which been addressed by, for example, the R packages *taxize* (Chamberlain and Szöcs, 2013; Chamberlain et al., 2020), and *taxadb* (Boettiger et al., 2023). These packages integrate taxonomic information from general databases, such as the previously mentioned CoL and ITIS, into the R environment. Although the *taxize* and *taxadb* packages employ sophisticated matching algorithms, and draw from multiple sources, they are limited in their ability to address taxonomy ambiguity (see the *taxize* outputs in the Example application section below). Taxonomic ambiguity may arise from species synonymization, when accumulated evidence suggests that a given taxonomic entity no longer bears enough distinctive characters to be considered a separate species. Conversely, new evidence may support the division of a previously unified taxonomic entity into multiple newly recognized species, leading to taxonomic splitting.

Complex taxonomic synonymization or splitting make database nomenclature matching difficult. For example, with regards to database management, cases of taxonomic synonymization would involve deciding on how to merge information that was previously regarded as multiple taxonomic entities. On the other hand, cases of taxonomic splitting would require detailed revision to ensure which portion of the information previously assigned to a single species should now be attributed to distinct taxonomic entities. Moreover, these challenges will vary depending on the type of data meant to be merged or separated. Distribution data from a junior synonym will in most cases just require merging the records to those of the senior synonym, conversely, cases of taxonomic splitting would require a careful revision, not only of the records related to the vouchers used in the new species description, but to some extent, most nearby records. Meanwhile, databases on species traits might involve distinct decisions with respect to, for example, categorical or continuous data. In both cases such decisions are dependent on the taxonomic authority followed. Given the dynamic nature of taxonomy, especially for historically overlooked groups such as amphibians and reptiles, taxon-specific databases, that are regularly updated with high standards of data curation, such as "Amphibian Species of the World" (Frost, 2025), and "the Reptile Database" (Uetz et al., 2025) are indispensable to ensure nomenclature consistency. Liedtke (2018) created *AmphiNom*, an R package dedicated to retrieving and synchronizing taxonomic information, and species synonyms, from the Amphibian Species of the World dataset (Frost, 2025). Conversely, reptiles still lack any comparable tool to facilitate access to their primary taxonomic database.

Properly managing reptile taxonomic information is essential, not only because they represent the richest terrestrial vertebrate group with nearly 12,500 recognized species (Uetz et al., 2025), but also because their conservation is constantly affected by taxonomic changes. Reptiles are among the most threatened vertebrate groups, with 1846 species (~18%) currently classified as threatened (IUCN, 2025) and high numbers of data-deficient, recently described, and still undescribed species

[1] https://www.itis.gov/.

[2] http://resolver.globalnames.org/.

[3] https://www.gbif.org/tools/name-parser.

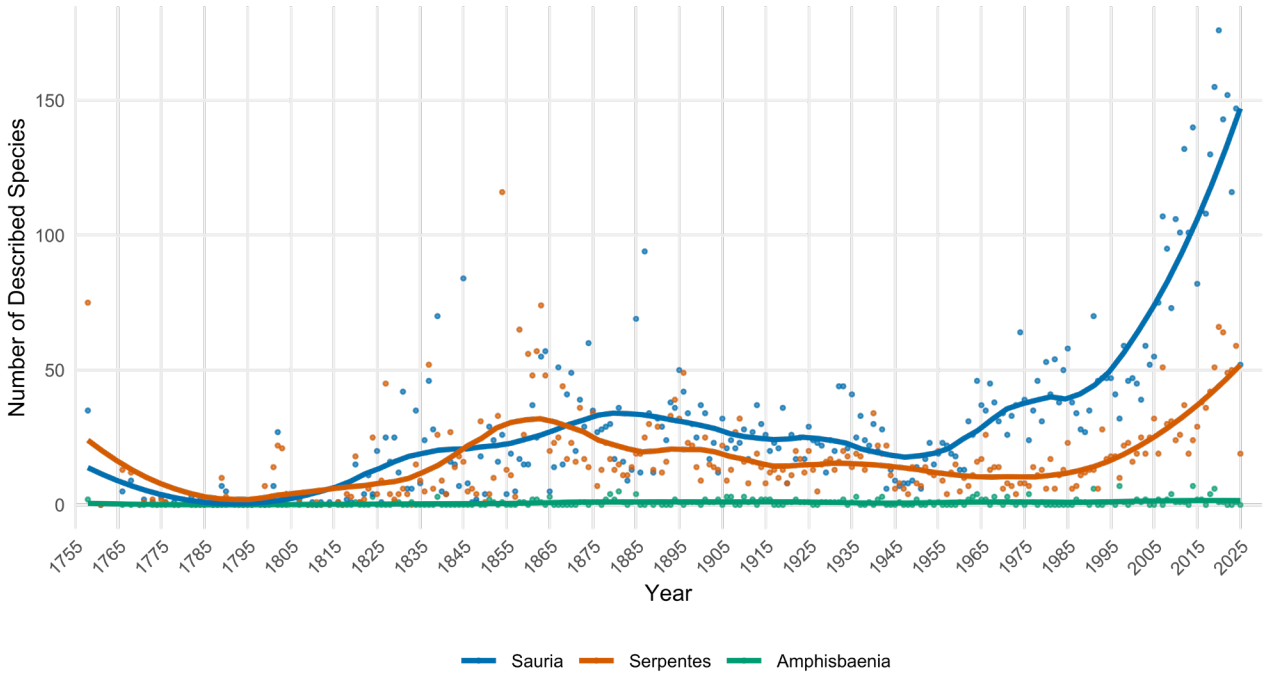

Fig 1. Annual number of species descriptions for Squamata. Points represent species counts per year, and the smoothed lines show trends over time using *loess* regression.

suspected to be threatened (Meiri, 2016; Caetano et al., 2022; Meiri et al., 2023). Many reptile lineages exhibit high taxonomic instability, with alpha diversity estimates continuously changing due to new species descriptions and reclassifications (e.g., Uetz et al., 2020; Nori et al., 2022b), with a clear impact on their management and conservation (Cordier et al., 2021). The number of known reptiles is currently increasing, with one in six (17.0%) of all recognized species being described since 2014 and an nearly 100 additional species described between January and July of 2025 (Fig. 1; Uetz et al., 2025).

The Reptile Database (RDB), founded nearly 30 years ago (Uetz et al., 2021), has become the central resource for reptile taxonomy. It serves as a key reference for taxonomic information, on which other databases (such as CoL) are reliant. Besides highly curated taxonomy, the RDB also provides species synonyms, and their respective historical use in the literature, type series information, countries of species occurrences, a reference list for each species, and more (Uetz et al., 2025). With over 50,000 monthly users, and a rapidly growing number of citations, the RDB continues to increase in importance within the herpetological community (Uetz et al., 2021). Given the close ties between taxonomy and fields such as systematics and conservation – and considering the fast pace of taxonomic revisions and persistent knowledge gaps, particularly in species-rich regions (e.g., Melville et al., 2021) – the ability to track changes and provide expert, up-to-date taxonomic decisions is essential. The RDB has established itself as the most reliable and comprehensive source of such high-quality information for reptiles worldwide.

A growing number of databases now provide valuable information on reptile traits and distributions, such as SquamBase (Meiri, 2024) and ReptTraits (Oskyrko et al., 2024) for ecological traits, IUCN Red List (IUCN, 2025) for threats and the Global Assessment of Reptile Distributions (Roll et al., 2017; Caetano et al., 2022) for species level distribution data. Genetic information is also accessible in GenBank (Benson et al., 2015). Together, all these provide valuable information used to access reptile diversity patterns and to track threats and the evolutionary history of reptile species. However, the dynamic nature of reptile taxonomy, and frequent nomenclature changes, hamper their straightforward use, leading to potential data loss due to nomenclature mismatch and to the time-consuming (but indispensable) step of careful nomenclature unification.

Therefore, the development of a dedicated tool to address the challenges related to reptile taxonomy can greatly facilitate access and comparison of all known valid species names and their respective synonyms, as well as use of the most reliable sources of reptile information, making it both timely and valuable. Consequently, we developed *'letsRept'*, an R package to serve as a tool to

Table 1. Functions available within the *letsRept* package.

Function	Description
reptSearch	Queries the Reptile Database (RDB) for information about a single reptile species using its binomial name.
reptAdvancedSearch	Creates a search URL for retrieving species lists from RDB based on multiple filters.
reptSpecies	Retrieves a list of reptile species from the Reptile Database (RDB) based on a search URL. It optionally returns detailed taxonomic information and URLs for each species for further use. Allows parallel processing.
reptStats	Summarizes higher taxonomic information from a list of species
reptSynonyms	Retrieves a data frame containing the current valid names of reptile species along with all their recognized synonyms and chresonyms, as listed in the Reptile Database (RDB). Optionally, it returns the references citing each entry. Allows parallel processing.
reptCompare	Compares a list species with the current nomenclature and highlights mismatched names that require nomenclature review.
reptSync	Queries a user-provided list of reptile species binomials known to require review against the current nomenclature as defined in the Reptile Database and returns a list of valid names, highlighting the status of the queried nomenclature in comparison to the current. Allows parallel processing.
reptSplitCheck	Queries a user-provided list of reptile species binomials and check them as synonyms of species described after a user-defined date. Allows parallel processing.
reptTidySyn	Prints the outputs of *herpSync* and *herpSplitCheck* in a tidy way, with an optional filter to the status column.
reptRefs	Retrieves the list of references from a species account, optionally including their respective access links (when available) and summarize in a data frame.

integrate the Reptile Database with the R environment to provide a fast and efficient way to retrieve and synchronize reptile species taxonomic information.

Software Tool Description

letsRept is a package written in the R programming language (R Core Team, 2025) specifically designed to facilitate access to most reptile information available in the Reptile Database. By extracting and structuring information directly from the Reptile Database website programmatically sending queries to the web server, it enables users to retrieve summarized taxonomic information from species lists obtained from advanced searches (e.g. a country or high taxonomic level species lists); explore synonyms and other content available in the species account and track nomenclatural changes (Table 1).

The package leverages existing HTTP and web scraping tools: *httr* (Wickham, 2023a), *rvest* (Wickham, 2024), and *xml2* (Wickham et al., 2025). It uses *dplyr* (Wickham et al., 2023b), *stringr* (Wickham, 2023c), and *tidyr* (Wickham et al., 2024) to manage and manipulate character strings and data frames. It uses *parallel* (R Core Team, 2025) to implement parallel processing and enhances user experience with progress bars incorporated from *pbapply* (Solymos and Zawadzki, 2023) and *pbmcapply* (Kuang et al., 2022).

letsRept is primarily designed to facilitate the comparison and matching between datasets where the species is the primary unit of classification, and the current valid names in the Reptile Database. The package queries a vector of species names and resolves nomenclatural mismatches, including identification of cases of taxonomic splitting or synonymization. To avoid oversimplification the package highlights cases of ambiguity and enables users to focus on and investigate complex taxonomic changes. It also extracts the full taxonomic information available to allow exploratory analyses (e.g., on higher taxonomic levels). *letsRept* is also equipped with built-in datasets that comprise the full reptile taxonomic information available in the Reptile Database, including a full synonym list, that can be accessed without an active internet connection. Additionally, the package provides versions of SquamBase (Meiri, 2024) and ReptTraits (Oskyrko et al., 2024) comprising all information originally available within these datasets, with former and current suggested nomenclature (September 2025 version, Uetz et al., 2025) along with the equivalent nomenclatural status as obtained from *letsRept*.

We describe below a regional case study with detailed examples of main functions of *letsRept* (Table 1), a flowchart summarizing step-by-step the nomenclature update is illustrated in Figure 2. The script along with all necessary input data are available in the supporting information.

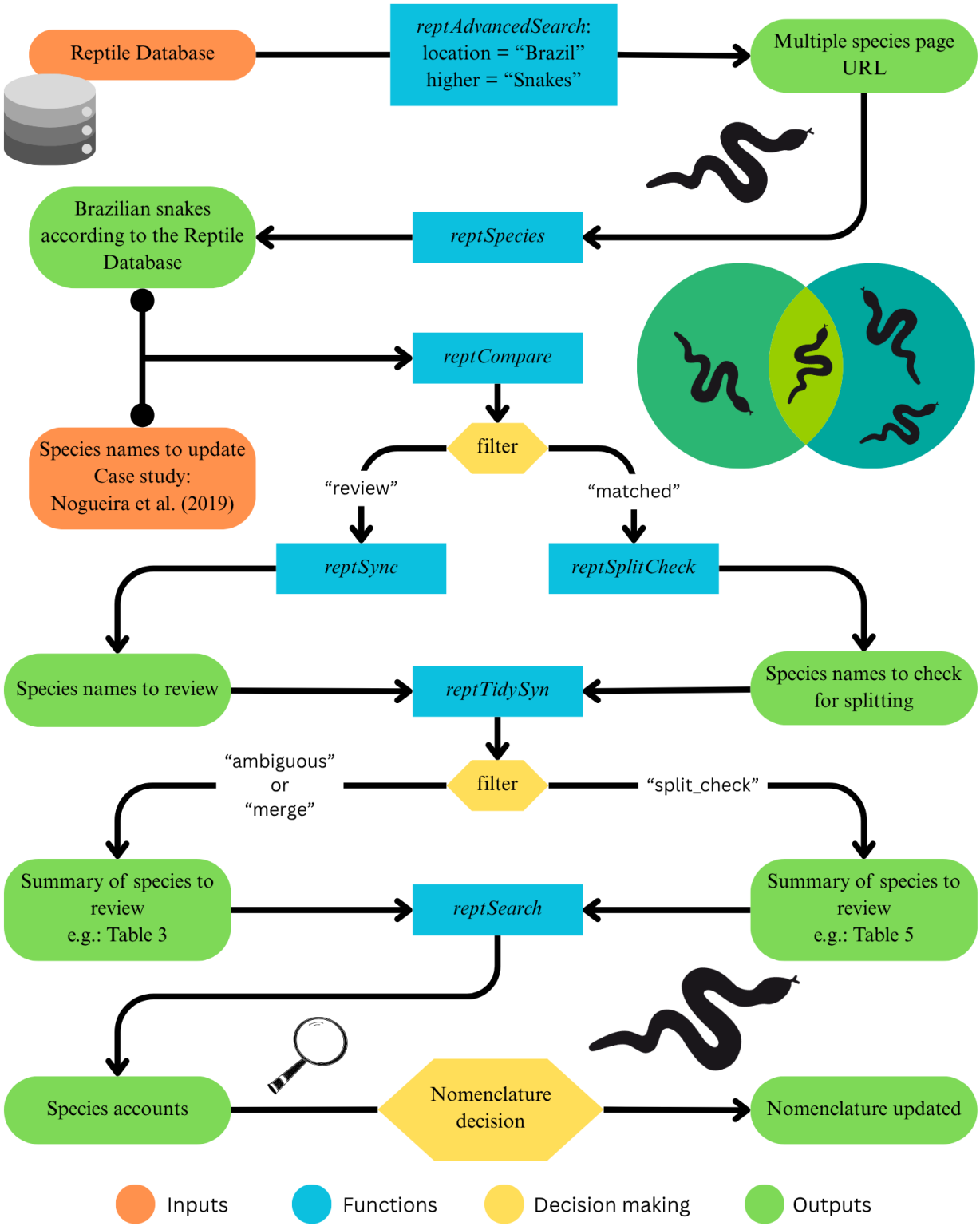

Fig 2. Summary of steps performed to update the *Atlas of Brazilian Snakes* (Nogueira et al., 2019) nomenclature.

Note that future uses of these scripts may produce different outcomes due to future taxonomic changes. A guide to install the package and reproduce all the examples along with all data used is accessible[4]. Detailed documentation and vignettes are also available through standard R help systems.

Example Application

We used the *Atlas of Brazilian Snakes* (Nogueira et al., 2019) as a case study to illustrate the utility of *letsRept* to reconcile outdated nomenclature with current taxonomic standards within an extensive and taxonomically challenging dataset. Nogueira et al. (2019) mapped the distribution of 411 snake species that occur in Brazil including georeferenced information for all available type localities (see Supplementary Material, Table S3 therein). However, Brazilian snake nomenclature has changed since 2019, with synonymizations, taxonomic splitting, and genus and species revalidations. To use this important resource, it now requires a detailed nomenclatural review.

To sample a subset of species from the Reptile Database we retrieved snake species known to occur in the Brazilian territory using the function *reptAdvancedSearch*. This function replicates the filtering logic of the Reptile Database's web interface that allow users to construct advanced queries directly from R:

```
snakes_br_link <-
reptAdvancedSearch(location =
"Brazil", higher = "snakes")
```

By specifying the location and taxonomic group of interest, we generated a search URL and obtained a count of 450 recognized Brazilian snake species. Next, we used *reptSpecies* to retrieve detailed taxonomic information for each species returned by the search. This function accepts the search URL and returns a vector of species names or, optionally, a data frame including species higher taxonomic information and the URLs to access species account:

```
snakes_br <- reptSpecies(snakes_
br_link, taxonomicInfo = TRUE,
cores = 1)
```

Note that this and other functions (Table 1) allow for parallel processing. In general, parallel processing divides the information sampling to a number of user defined computation cores. Parallelizing with four nodes:

```
snakes_br <- reptSpecies(snakes_
br_link, taxonomicInfo = TRUE,
cores = 4)
```

Using function *reptCompare*, we compared the species names from Nogueira et al. (2019) with the nomenclature sampled in the previous step and found that the names of 372 out of the 411 species (79.5%) matched the RDB nomenclature (status = "matched"; September 2025 version, Uetz et al., 2025), 38 names require nomenclatural revision (status = "review"), and one of the queried species (*Apostolepis ambiniger*) is a valid name according to RDB, but is absent from the Brazilian snakes species subset (status = "absent"):

```
reptCompare(atlas$species,
snakes_br$species)
```

We used the argument filter to select species that required nomenclature review:

```
review <- reptCompare
(atlas$species, snakes_
br$species, filter = "review")
```

And then parsed the unmatched 38 species names to *reptSync*.

```
sync <- reptSync(review,
solveAmbiguity = TRUE)
```

This function returns a data frame with three columns: a) query: The species names provided by the user; b) RDB: Species current name as accepted by the Reptile Database; and c) status: Indicating the status of the queried names in comparison with the RDB (Table 2). A total of 35 (~90%) of the queried species could be unambiguously assigned to one valid species name, three could be assigned to two or more valid names (ambiguous – *Corallus hortulanus*, *Taeniophallus occipitalis* and *Tomodon ocellatus*), and two could be assigned to only one valid name (merge – *Liotyphlops beui* and *L. sousai*, both seemingly synonyms of *L. ternetzii*). The data frame with all unmatched species reviewed nomenclature is available in the Supporting Information Table S1). To visualize a summary of species with changed nomenclatural status we used function *reptTidySyn* with the object output from *reptSync* using the argument *filter* (Table 3).

```
reptTidySyn(sync, filter =
c("merge", "ambiguous"))
```

[4] https://doi.org/10.5281/zenodo.16895979.

Table 2. Nomenclature status retrieved from *reptSync* or *reptSplitCheck*.

Status	Description
up to date	Species name provided is the current valid name found in the Reptile Database
updated	Species name provided is a synonym or a chresonym, and the current valid name is reported unambiguously
ambiguous	Species name provided is considered a synonym or a chresonym of more than one current valid species. (In RDB, chresonyms are indicated by a hyphen after their names)
not found	Species name provided in query is not a current valid name nor synonym or chresonym according to the Reptile Database
merge	Multiple names in the query are now considered synonyms of a single valid species
check split	The species name provided is possibly synonym of at least one valid species described after a user provided reference date
failed	The query failed to access the RDB server when parsing the species name

Table 3. *reptSync* function output example filtered by *reptTidySyn*. Query: list of species from Nogueira et al. (2019); RDB: current valid name for queried species according to the Reptile Database; status: condition of queried species name. Note that most of the RDB output appears ambiguous but the user can easily clarify such cases by looking at the actual database entries (e.g. using reptSearch("*Corallus hortulana*")). For instance, the combination "*Corallus hortulanus*" is only found as such in *C. hortulana. T. occipitalis* and *T. ocellatus* can be unambiguously assigned to the species with the same epithet.

Query	RDB	Status
Corallus hortulanus	*Corallus cookii* *Corallus hortulana*	ambiguous
Liotyphlops beui *Liotyphlops sousai*	*Liotyphlops ternetzii*	merge
Taeniophallus occipitalis	*Adelphostigma occipitalis* *Adelphostigma quadriocellata* *Eutrachelophis papilio*	ambiguous
Tomodon ocellatus	*Tachymenis ocellata* *Tachymenis trigonatus*	ambiguous

The example subset (Table 3) highlights species from Nogueira et al. (2019) for which no current valid name could be unambiguously assigned. Using the *reptSearch* function we can retrieve from RDB, and print in R, all available information of a desired species, with a valid binomial. Searching, for example, the information of *Corallus cookii* and *C. hortulana*:

```
reptSearch("Corallus cookii")
reptSearch("Corallus hortulana")
```

We find that even though the originally queried binomial (*C. hortulanus*) is considered a synonym of both species, *C. hortulanus* as used by Nogueira et al. (2019) is referable only to *C. hortulana*. Additionally, the account of *C. cookii* has no information reporting this species to the Brazilian territory suggesting that *C. hortulana* is likely the current valid name for the queried binomial. Applying a similar rationale for *Tomodon ocellatus* and *Taeniophallus occipitalis* shows the nomenclature of the former now being unambiguously updated to *Tachymenis ocellata* and the latter to *Adelphostigma occipitalis*. Finally, *Liotyphlops beui* and *L. sousai* are likely synonyms: *reptSearch* shows that these names from Nogueira et al. (2019) are in the list of synonyms of *L. ternetzii*, and that, in the comment section, there is a summarized history of the synonymization regarding these species. The logical argument *getRef* allows for printing all references mentioned in the species account in the R console and allows to quickly check the relevant literature regarding species' nomenclature changes:

```
reptSearch("Liotyphlops
ternetzii", getRef = TRUE)
```

For comparison, we parsed the species from Table 3 to *taxize* (Chamberlain and Szöcs, 2013; Chamberlain et al., 2020) – using function *gna_verifier* with default set-

Table 4. Result of species names from Nogueira et al. (2019) parsed to package *taxize*, the Catalogue of Life and the Global Names Verifier (GNV). NAs represents searches where no results were found.

Query	*taxize*	Catalogue of Life	GNV
Corallus hortulanus	NA	*Corallus cookii* *Corallus hortulana*	*Corallus hortulanus*
Liotyphlops beui	NA	NA	*Liotyphlops beui*
Liotyphlops sousai	*Liotyphlops ternetzii*	*Liotyphlops ternetzii*	*Liotyphlops ternetzii*
Taeniophallus occipitalis	*Psilops paeminosus*	*Psilops paeminosus*	*Psilops paeminosus*
Tomodon ocellatus	*Tachymenis trigonatus*	*Tachymenis trigonatus*	*Tachymenis trigonatus*

tings, the Catalogue of Life (Bánki et al., 2025), and the Global Names Verifier[5] (see Table 4). All tools overlooked the status of *Liotyphlops beui* but correctly identified *L. sousai* is a synonym of *L. ternetzii*. On the other hand, only the Catalogue of Life mentions the ambiguity of *Corallus hortulanus* as a synonym, and none of the tools suggested that *Tomodon ocellatus* is a synonym of *Tachymenis ocellata* – all suggesting *T. trigonatus* as the current valid name. In *taxize,* using argument *all_matches*, overlooked *C. cookii* as an optional solution, but identified *C. hortulana* as a possible current name for *C. hortulanus.* However, following the "sort score" for suggesting the most likely current name, the function default settings also overlooked *C. hortulana* as one of the possible current names and returned an "empty" resolution. Intriguingly, all these general tools considered *Taeniophallus occipitalis* a synonym of the gymnophthalmid lizard *Psilops paeminosus*, which points to an alarming nomenclatural misinterpretation within these databases, that was avoided using *letsRept*.

We further checked if the 372 species names with matching nomenclature in Nogueira et al. (2019) and Brazilian snakes according to RDB could have been subjected to taxonomic splits after the Atlas' 2019 publication. To do so, we filtered the species names with *reptCompare* and queried the binomials with the function *reptSplitCheck* setting the argument *pubDate* to 2019:

```
matched <- reptCompare
(atlas$species, snakes_
br$species, filter = "matched")

split_check <- reptSplitCheck
(matched, pubDate = 2019)
```

This is one of the most innovative functions of the package since it goes beyond simple nomenclature matching, as most tools do. It provides a clear output warning for cases in which data from the queried species need to be checked as it could possibly be split into distinct newly described species. The function reveals that most of the queried binomials (N = 353; 94.3%) are not synonyms of any species described in or after 2019 or were already included in Nogueira et al. (2019; e.g.: *Atractus dapsilis* and *A. trefauti*). We used the function *reptTidySyn* to examine the remaining 19 species names that require attention (Table 5; see also Supporting Information Table S2):

```
reptTidySyn(split_check, filter =
"check_split")
```

With the function *reptSearch* we accessed each species account, and found, for example, a publication that described four new species in the *Atractus snethlageae* species complex (Melo-Sampaio et al., 2021):

```
reptSearch("Atractus akerios",
getRef = TRUE)
reptSearch("Atractus nawa",
getRef = TRUE)
```

This suggests that the distributional information originally attributed to *A. snethlageae* in Nogueira et al (2019) should be reviewed as some of it might now be related to different species (see Table 5). Similarly, *Chironius* species accounts led to the works of Eutiaspe-Neto et al. (2020), Jadin et al. (2024) and Sudré et al. (2024), while the account of *Oxybelis aeneus* pointed to the works of Jadin et al. (2020; 2021). With the function *reptRefs* users can access these publications URLs and can retrieve the publications related to the species taxonomic split.

Conclusion

Summarizing taxonomic information and ensuring nomenclature consistency across studies and datasets are unarguably necessary steps towards successful integrative approaches. Despite recent efforts to facilitate retrieving reptile information from the Reptile Database using R environment (e.g. Santos-Andrade, 2025), to date there was no tool for reliable reptile nomenclature check and update.

[5] http://resolver.globalnames.org.

Table 5. Example of *reptSplitCheck* output filtered by *reptTidySyn*. Query: list of species from Nogueira et al. (2019); RDB: species described in or after 2019 of which the queried species is considered a synonym according to the Reptile Database; Status: condition of queried species name.

Query	RDB	Status
Atractus badius	*Atractus akerios*	check split
Atractus major	*Atractus nawa*	check split
Atractus snethlageae	*Atractus akerios* *Atractus ukupacha*	check split
Bothrocophias microphthalmus	*Bothrocophias myrringae* *Bothrocophias tulitoi*	check split
Bothrops brazili	*Bothrops oligobalius*	check split
Bothrops mattogrossensis	*Bothrops monsignifer*	check split
Bothrops neuwiedi	*Bothrops sonene*	check split
Chironius bicarinatus	*Chironius dracomaris* *Chironius gouveai*	check split
Chironius carinatus	*Chironius dracomaris* *Chironius gouveai* *Chironius nigelnoriegai*	check split
Chironius fuscus	*Chironius nigelnoriegai*	check split
Erythrolamprus poecilogyrus	*Erythrolamprus aenigma*	check split
Erythrolamprus reginae	*Erythrolamprus pseudoreginae*	check split
Helicops leopardinus	*Helicops phantasma*	check split
Leptophis ahaetulla	*Leptophis mystacinus*	check split
Micrurus ibiboboca	*Micrurus anibal*	check split
Micrurus lemniscatus	*Micrurus anibal*	check split
Oxybelis aeneus	*Oxybelis inkaterra* *Oxybelis koehleri* *Oxybelis rutherfordi*	check split
Taeniophallus brevirostris	*Chlorosoma dunupyana*	check split
Tantilla melanocephala	*Tantilla selmae*	check split

Most general tools as those mentioned in the case study above rely solely on nomenclature matching, overlooking cases of taxonomic ambiguity or split.

Despite the novelty of checking for taxonomic splitting, *letsRept* is limited to verifying that only for new species description, overlooking nomenclatural changes regarding for example, cases of species that were described (e.g. as a split from another species), synonymized, and further revalidated, keeping the original description date. Such complex changes and the decision on how to manage dataset information still requires careful attention. The *letsRept* package makes no authoritative decisions. It does not provide a silver bullet solution to the complexity of tracking taxonomic changes. It is also probably not needed if only a single species or species complex is studied. Rather, it facilitates nomenclature checks by providing clear summaries of species that might need some attention prior to merging datasets or evaluating a species distribution or threat status.

It is mandatory to note the most important functions require stable internet connection and server responsiveness, which otherwise might lead to unsatisfactory processing time and minor errors beyond the package usefulness. Meanwhile, the package internal datasets offer a palliative opportunity for offline nomenclature checking. Ensuring a fast and consistent reptile nomenclature check can save scientists and decision makers time, while avoiding data loss due to simple nomenclature mismatches. *letsRept* also allows for large scale syntheses, summarizing the most up to date taxonomic information for a clade or a region of interest with just a few steps. For example, only three lines of code are needed to identify the number of species within each of the nine snake families occurring in Brazil (see script in the Supplementary Material). With multiple users

accessing data, we will also have the opportunity to detect inconsistencies within the Reptile Database itself, which could be improved by constructive feedback, e.g., using the feedback function on the individual species pages.

In summary, *letsRept* makes the voluminous reptile information hosted in the Reptile Database, quickly, reliably, and easily accessible to enable straightforward analyses. Overall, *letsRept* can support more robust and harmonized analyses of reptile diversity, conservation, and evolution. Given the clear lack of such a resource for reptiles, despite their taxonomic complexity and conservation importance, we hope it to be well received not only by the extensive herpetological community, but also to play a central role in broad-scale assessments across multiple scientific disciplines and in the wider biodiversity research community.

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Conflict of Interest Statement

The authors have declared that no competing interests exist.

Data Availability

All data used in examples are referenced and publicly available. A short guide to installing the package and reproducing all the examples, along with all data used, is accessible[6]. Detailed examples of each function uses are described in the package help and vignettes.

Author Contributions

JPSV-A developed the package and led the manuscript draft writing; HCL tested and contributed to package development; All authors made conceptual and intellectual contributions, reviewed the manuscript and contributed to the final version of the text.

Software Availability

The *letsRept* package is implemented in the R programming language (R Core Team, 2025) and is freely available under the MIT License. The stable release can be downloaded from the Comprehensive R Archive Network (CRAN)[7]. Development versions, issue tracking, and source code are maintained on GitHub[8]. All functions are documented within the package, and usage examples are provided in the help files and vignettes. The package is platform-independent and has been tested on macOS, Linux, and Windows operating systems.

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letsRept: An R Package to Access the Global Reptile Database and Facilitate Taxonomic Harmonization

João Paulo dos Santos Vieira-Alencar, H. Christoph Liedtke, Shai Meiri, Uri Roll, Peter Uetz, Javier Nori

Supplementary Table S1:

Query	RDB	Status
Apostolepis ambiniger	*Apostolepis ambiniger*	absent
Apostolepis ammodites	*Apostolepis sanctaeritae*	updated
Apostolepis barrioi	*Apostolepis dimidiata*	updated
Apostolepis cerradoensis	*Apostolepis albicollaris*	updated
Apostolepis mariae	*Apostolepis thalesdelemai*	updated
Apostolepis phillipsi	*Apostolepis phillipsae*	updated
Apostolepis roncadori	*Apostolepis vittata*	updated
Apostolepis tertulianobeui	*Apostolepis assimilis*	updated
Chironius laurenti	*Chironius dixoni*	updated
Chironius scurrulus	*Chironius scurrula*	updated
Corallus hortulanus	*Corallus cookii;* *Corallus hortulana*	ambiguous
Echinanthera amoena	*Amnisiophis amoenus*	updated
Epictia collaris	*Habrophallos collaris*	updated
Erythrolamprus cobellus	*Erythrolamprus cobella*	updated
Hydrodynastes melanogigas	*Hydrodynastes gigas*	updated
Liotyphlops beui	*Liotyphlops ternetzii*	merge
Liotyphlops sousai	*Liotyphlops ternetzii*	merge
Philodryas argentea	*Xenoxybelis argenteus*	updated
Philodryas georgeboulengeri	*Xenoxybelis boulengeri*	updated
Philodryas laticeps	*Chlorosoma laticeps*	updated
Philodryas viridissima	*Chlorosoma viridissimum*	updated
Phrynonax polylepis	*Phrynonax sexcarinatus*	updated
Siagonodon acutirostris	*Trilepida acutirostris*	updated
Taeniophallus affinis	*Dibernardia affinis*	updated
Taeniophallus bilineatus	*Dibernardia bilineata*	updated
Taeniophallus occipitalis	*Adelphostigma occipitalis;* *Adelphostigma quadriocellata;* *Eutrachelophis papilio*	ambiguous
Taeniophallus persimilis	*Dibernardia persimilis*	updated
Taeniophallus poecilopogon	*Dibernardia poecilopogon*	updated
Taeniophallus quadriocellatus	*Adelphostigma quadriocellata*	updated

Query	RDB	Status
Thamnodynastes almae	*Dryophylax almae*	updated
Thamnodynastes cf. nattereri	*Dryophylax nattereri*	updated
Thamnodynastes chaquensis	*Dryophylax chaquensis*	updated
Thamnodynastes hypoconia	*Dryophylax hypoconia*	updated
Thamnodynastes lanei	*Zonateres lanei*	updated
Thamnodynastes phoenix	*Dryophylax phoenix*	updated
Thamnodynastes ramonriveroi	*Dryophylax ramonriveroi*	updated
Thamnodynastes rutilus	*Mesotes rutilus*	updated
Thamnodynastes strigatus	*Mesotes strigatus*	updated
Tomodon ocellatus	*Tachymenis ocellata; Tachymenis trigonatus*	ambiguous

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Supplementary Table S2:

Query	RDB	Status
Amerotyphlops amoipira	*Amerotyphlops amoipira*	up to date
Amerotyphlops arenensis	*Amerotyphlops arenensis*	up to date
Amerotyphlops brongersmianus	*Amerotyphlops brongersmianus*	up to date
Amerotyphlops minuisquamus	*Amerotyphlops minuisquamus*	up to date
Amerotyphlops paucisquamus	*Amerotyphlops paucisquamus*	up to date
Amerotyphlops reticulatus	*Amerotyphlops reticulatus*	up to date
Amerotyphlops yonenagae	*Amerotyphlops yonenagae*	up to date
Anilius scytale	*Anilius scytale*	up to date
Apostolepis adhara	*Apostolepis adhara*	up to date
Apostolepis albicollaris	*Apostolepis albicollaris*	up to date
Apostolepis arenaria	*Apostolepis arenaria*	up to date
Apostolepis assimilis	*Apostolepis assimilis*	up to date
Apostolepis borellii	*Apostolepis borellii*	up to date
Apostolepis cearensis	*Apostolepis cearensis*	up to date
Apostolepis christineae	*Apostolepis christineae*	up to date
Apostolepis dimidiata	*Apostolepis dimidiata*	up to date
Apostolepis flavotorquata	*Apostolepis flavotorquata*	up to date
Apostolepis gaboi	*Apostolepis gaboi*	up to date
Apostolepis goiasensis	*Apostolepis goiasensis*	up to date
Apostolepis intermedia	*Apostolepis intermedia*	up to date
Apostolepis kikoi	*Apostolepis kikoi*	up to date
Apostolepis lineata	*Apostolepis lineata*	up to date
Apostolepis longicaudata	*Apostolepis longicaudata*	up to date
Apostolepis nelsonjorgei	*Apostolepis nelsonjorgei*	up to date
Apostolepis nigrolineata	*Apostolepis nigrolineata*	up to date
Apostolepis nigroterminata	*Apostolepis nigroterminata*	up to date
Apostolepis polylepis	*Apostolepis polylepis*	up to date
Apostolepis quinquelineata	*Apostolepis quinquelineata*	up to date
Apostolepis quirogai	*Apostolepis quirogai*	up to date
Apostolepis serrana	*Apostolepis serrana*	up to date
Apostolepis striata	*Apostolepis striata*	up to date
Apostolepis thalesdelemai	*Apostolepis thalesdelemai*	up to date
Apostolepis vittata	*Apostolepis vittata*	up to date
Atractus aboiporu	*Atractus aboiporu*	up to date
Atractus albuquerquei	*Atractus albuquerquei*	up to date

Query	RDB	Status
Atractus alphonsehogei	*Atractus alphonsehogei*	up to date
Atractus altagratiae	*Atractus altagratiae*	up to date
Atractus badius	*Atractus akerios*	check split
Atractus boimirim	*Atractus boimirim*	up to date
Atractus caete	*Atractus caete*	up to date
Atractus caxiuana	*Atractus caxiuana*	up to date
Atractus collaris	*Atractus collaris*	up to date
Atractus dapsilis	*Atractus dapsilis*	up to date
Atractus edioi	*Atractus edioi*	up to date
Atractus elaps	*Atractus elaps*	up to date
Atractus emmeli	*Atractus emmeli*	up to date
Atractus flammigerus	*Atractus flammigerus*	up to date
Atractus francoi	*Atractus francoi*	up to date
Atractus guentheri	*Atractus guentheri*	up to date
Atractus hoogmoedi	*Atractus hoogmoedi*	up to date
Atractus insipidus	*Atractus insipidus*	up to date
Atractus latifrons	*Atractus latifrons*	up to date
Atractus maculatus	*Atractus maculatus*	up to date
Atractus major	*Atractus nawa*	check split
Atractus natans	*Atractus natans*	up to date
Atractus pantostictus	*Atractus pantostictus*	up to date
Atractus paraguayensis	*Atractus paraguayensis*	up to date
Atractus poeppigi	*Atractus poeppigi*	up to date
Atractus potschi	*Atractus potschi*	up to date
Atractus reticulatus	*Atractus reticulatus*	up to date
Atractus riveroi	*Atractus riveroi*	up to date
Atractus ronnie	*Atractus ronnie*	up to date
Atractus serranus	*Atractus serranus*	up to date
Atractus snethlageae	*Atractus akerios;* *Atractus ukupacha*	check split
Atractus spinalis	*Atractus spinalis*	up to date
Atractus stygius	*Atractus stygius*	up to date
Atractus surucucu	*Atractus surucucu*	up to date
Atractus tartarus	*Atractus tartarus*	up to date
Atractus thalesdelemai	*Atractus thalesdelemai*	up to date
Atractus torquatus	*Atractus torquatus*	up to date
Atractus trefauti	*Atractus trefauti*	up to date
Atractus trihedrurus	*Atractus trihedrurus*	up to date
Atractus trilineatus	*Atractus trilineatus*	up to date
Atractus zebrinus	*Atractus zebrinus*	up to date
Atractus zidoki	*Atractus zidoki*	up to date
Boa constrictor	*Boa constrictor*	up to date

Query	RDB	Status
Boiruna maculata	*Boiruna maculata*	up to date
Boiruna sertaneja	*Boiruna sertaneja*	up to date
Bothrocophias hyoprora	*Bothrocophias hyoprora*	up to date
Bothrocophias microphthalmus	*Bothrocophias myrringae;* *Bothrocophias tulitoi*	check split
Bothrops alcatraz	*Bothrops alcatraz*	up to date
Bothrops alternatus	*Bothrops alternatus*	up to date
Bothrops atrox	*Bothrops atrox*	up to date
Bothrops bilineatus	*Bothrops bilineatus*	up to date
Bothrops brazili	*Bothrops oligobalius*	check split
Bothrops cotiara	*Bothrops cotiara*	up to date
Bothrops diporus	*Bothrops diporus*	up to date
Bothrops erythromelas	*Bothrops erythromelas*	up to date
Bothrops fonsecai	*Bothrops fonsecai*	up to date
Bothrops insularis	*Bothrops insularis*	up to date
Bothrops itapetiningae	*Bothrops itapetiningae*	up to date
Bothrops jararaca	*Bothrops jararaca*	up to date
Bothrops jararacussu	*Bothrops jararacussu*	up to date
Bothrops leucurus	*Bothrops leucurus*	up to date
Bothrops lutzi	*Bothrops lutzi*	up to date
Bothrops marajoensis	*Bothrops marajoensis*	up to date
Bothrops marmoratus	*Bothrops marmoratus*	up to date
Bothrops mattogrossensis	*Bothrops monsignifer*	check split
Bothrops moojeni	*Bothrops moojeni*	up to date
Bothrops muriciensis	*Bothrops muriciensis*	up to date
Bothrops neuwiedi	*Bothrops sonene*	check split
Bothrops otavioi	*Bothrops otavioi*	up to date
Bothrops pauloensis	*Bothrops pauloensis*	up to date
Bothrops pirajai	*Bothrops pirajai*	up to date
Bothrops pubescens	*Bothrops pubescens*	up to date
Bothrops sazimai	*Bothrops sazimai*	up to date
Bothrops taeniatus	*Bothrops taeniatus*	up to date
Caaeteboia amarali	*Caaeteboia amarali*	up to date
Calamodontophis paucidens	*Calamodontophis paucidens*	up to date
Calamodontophis ronaldoi	*Calamodontophis ronaldoi*	up to date
Cercophis auratus	*Cercophis auratus*	up to date
Chironius bicarinatus	*Chironius dracomaris;* *Chironius gouveai*	check split
Chironius brazili	*Chironius brazili*	up to date
Chironius carinatus	*Chironius dracomaris;* *Chironius gouveai;* *Chironius nigelnoriegai*	check split
Chironius diamantina	*Chironius diamantina*	up to date

Query	RDB	Status
Chironius exoletus	*Chironius exoletus*	up to date
Chironius flavolineatus	*Chironius flavolineatus*	up to date
Chironius foveatus	*Chironius foveatus*	up to date
Chironius fuscus	*Chironius nigelnoriegai*	check split
Chironius laevicollis	*Chironius laevicollis*	up to date
Chironius maculoventris	*Chironius maculoventris*	up to date
Chironius multiventris	*Chironius multiventris*	up to date
Chironius quadricarinatus	*Chironius quadricarinatus*	up to date
Clelia clelia	*Clelia clelia*	up to date
Clelia hussami	*Clelia hussami*	up to date
Clelia plumbea	*Clelia plumbea*	up to date
Corallus batesii	*Corallus batesii*	up to date
Corallus caninus	*Corallus caninus*	up to date
Corallus cropanii	*Corallus cropanii*	up to date
Coronelaps lepidus	*Coronelaps lepidus*	up to date
Crotalus durissus	*Crotalus durissus*	up to date
Dendrophidion atlantica	*Dendrophidion atlantica*	up to date
Dendrophidion dendrophis	*Dendrophidion dendrophis*	up to date
Dipsas albifrons	*Dipsas albifrons*	up to date
Dipsas alternans	*Dipsas alternans*	up to date
Dipsas bucephala	*Dipsas bucephala*	up to date
Dipsas catesbyi	*Dipsas catesbyi*	up to date
Dipsas copei	*Dipsas copei*	up to date
Dipsas indica	*Dipsas indica*	up to date
Dipsas lavillai	*Dipsas lavillai*	up to date
Dipsas mikanii	*Dipsas mikanii*	up to date
Dipsas neuwiedi	*Dipsas neuwiedi*	up to date
Dipsas pavonina	*Dipsas pavonina*	up to date
Dipsas sazimai	*Dipsas sazimai*	up to date
Dipsas turgida	*Dipsas turgida*	up to date
Dipsas variegata	*Dipsas variegata*	up to date
Dipsas ventrimaculata	*Dipsas ventrimaculata*	up to date
Ditaxodon taeniatus	*Ditaxodon taeniatus*	up to date
Drepanoides anomalus	*Drepanoides anomalus*	up to date
Drymarchon corais	*Drymarchon corais*	up to date
Drymobius rhombifer	*Drymobius rhombifer*	up to date
Drymoluber brazili	*Drymoluber brazili*	up to date
Drymoluber dichrous	*Drymoluber dichrous*	up to date
Echinanthera cephalomaculata	*Echinanthera cephalomaculata*	up to date
Echinanthera cephalostriata	*Echinanthera cephalostriata*	up to date
Echinanthera cyanopleura	*Echinanthera cyanopleura*	up to date
Echinanthera melanostigma	*Echinanthera melanostigma*	up to date

Query	RDB	Status
Echinanthera undulata	*Echinanthera undulata*	up to date
Elapomorphus quinquelineatus	*Elapomorphus quinquelineatus*	up to date
Elapomorphus wuchereri	*Elapomorphus wuchereri*	up to date
Epicrates assisi	*Epicrates assisi*	up to date
Epicrates cenchria	*Epicrates cenchria*	up to date
Epicrates crassus	*Epicrates crassus*	up to date
Epicrates maurus	*Epicrates maurus*	up to date
Epictia albifrons	*Epictia albifrons*	up to date
Epictia borapeliotes	*Epictia borapeliotes*	up to date
Epictia clinorostris	*Epictia clinorostris*	up to date
Epictia munoai	*Epictia munoai*	up to date
Epictia striatula	*Epictia striatula*	up to date
Epictia vellardi	*Epictia vellardi*	up to date
Erythrolamprus aesculapii	*Erythrolamprus aesculapii*	up to date
Erythrolamprus almadensis	*Erythrolamprus almadensis*	up to date
Erythrolamprus atraventer	*Erythrolamprus atraventer*	up to date
Erythrolamprus breviceps	*Erythrolamprus breviceps*	up to date
Erythrolamprus carajasensis	*Erythrolamprus carajasensis*	up to date
Erythrolamprus dorsocorallinus	*Erythrolamprus dorsocorallinus*	up to date
Erythrolamprus frenatus	*Erythrolamprus frenatus*	up to date
Erythrolamprus jaegeri	*Erythrolamprus jaegeri*	up to date
Erythrolamprus macrosomus	*Erythrolamprus macrosomus*	up to date
Erythrolamprus maryellenae	*Erythrolamprus maryellenae*	up to date
Erythrolamprus miliaris	*Erythrolamprus miliaris*	up to date
Erythrolamprus mossoroensis	*Erythrolamprus mossoroensis*	up to date
Erythrolamprus oligolepis	*Erythrolamprus oligolepis*	up to date
Erythrolamprus poecilogyrus	*Erythrolamprus aenigma*	check split
Erythrolamprus pygmaeus	*Erythrolamprus pygmaeus*	up to date
Erythrolamprus reginae	*Erythrolamprus pseudoreginae*	check split
Erythrolamprus rochai	*Erythrolamprus rochai*	up to date
Erythrolamprus semiaureus	*Erythrolamprus semiaureus*	up to date
Erythrolamprus taeniogaster	*Erythrolamprus taeniogaster*	up to date
Erythrolamprus trebbaui	*Erythrolamprus trebbaui*	up to date
Erythrolamprus typhlus	*Erythrolamprus typhlus*	up to date
Erythrolamprus viridis	*Erythrolamprus viridis*	up to date
Eunectes deschauenseei	*Eunectes deschauenseei*	up to date
Eunectes murinus	*Eunectes murinus*	up to date
Eunectes notaeus	*Eunectes notaeus*	up to date
Gomesophis brasiliensis	*Gomesophis brasiliensis*	up to date
Helicops angulatus	*Helicops angulatus*	up to date
Helicops apiaka	*Helicops apiaka*	up to date
Helicops boitata	*Helicops boitata*	up to date

Query	RDB	Status
Helicops carinicaudus	*Helicops carinicaudus*	up to date
Helicops gomesi	*Helicops gomesi*	up to date
Helicops hagmanni	*Helicops hagmanni*	up to date
Helicops infrataeniatus	*Helicops infrataeniatus*	up to date
Helicops leopardinus	*Helicops phantasma*	check split
Helicops modestus	*Helicops modestus*	up to date
Helicops nentur	*Helicops nentur*	up to date
Helicops polylepis	*Helicops polylepis*	up to date
Helicops tapajonicus	*Helicops tapajonicus*	up to date
Helicops trivittatus	*Helicops trivittatus*	up to date
Helicops yacu	*Helicops yacu*	up to date
Hydrodynastes bicinctus	*Hydrodynastes bicinctus*	up to date
Hydrodynastes gigas	*Hydrodynastes gigas*	up to date
Hydrops caesurus	*Hydrops caesurus*	up to date
Hydrops martii	*Hydrops martii*	up to date
Hydrops triangularis	*Hydrops triangularis*	up to date
Imantodes cenchoa	*Imantodes cenchoa*	up to date
Imantodes lentiferus	*Imantodes lentiferus*	up to date
Lachesis muta	*Lachesis muta*	up to date
Leptodeira annulata	*Leptodeira annulata*	up to date
Leptomicrurus collaris	*Leptomicrurus collaris*	up to date
Leptomicrurus narduccii	*Leptomicrurus narduccii*	up to date
Leptomicrurus scutiventris	*Leptomicrurus scutiventris*	up to date
Leptophis ahaetulla	*Leptophis mystacinus*	check split
Lioheterophis iheringi	*Lioheterophis iheringi*	up to date
Liotyphlops caissara	*Liotyphlops caissara*	up to date
Liotyphlops schubarti	*Liotyphlops schubarti*	up to date
Liotyphlops taylori	*Liotyphlops taylori*	up to date
Liotyphlops ternetzii	*Liotyphlops ternetzii*	up to date
Liotyphlops trefauti	*Liotyphlops trefauti*	up to date
Liotyphlops wilderi	*Liotyphlops wilderi*	up to date
Lygophis anomalus	*Lygophis anomalus*	up to date
Lygophis dilepis	*Lygophis dilepis*	up to date
Lygophis flavifrenatus	*Lygophis flavifrenatus*	up to date
Lygophis lineatus	*Lygophis lineatus*	up to date
Lygophis meridionalis	*Lygophis meridionalis*	up to date
Lygophis paucidens	*Lygophis paucidens*	up to date
Mastigodryas boddaerti	*Mastigodryas boddaerti*	up to date
Mastigodryas moratoi	*Mastigodryas moratoi*	up to date
Mastigodryas pleei	*Mastigodryas pleei*	up to date
Micrurus albicinctus	*Micrurus albicinctus*	up to date
Micrurus altirostris	*Micrurus altirostris*	up to date

Query	RDB	Status
Micrurus annellatus	*Micrurus annellatus*	up to date
Micrurus averyi	*Micrurus averyi*	up to date
Micrurus boicora	*Micrurus boicora*	up to date
Micrurus brasiliensis	*Micrurus brasiliensis*	up to date
Micrurus corallinus	*Micrurus corallinus*	up to date
Micrurus decoratus	*Micrurus decoratus*	up to date
Micrurus diana	*Micrurus diana*	up to date
Micrurus diutius	*Micrurus diutius*	up to date
Micrurus filiformis	*Micrurus filiformis*	up to date
Micrurus frontalis	*Micrurus frontalis*	up to date
Micrurus hemprichii	*Micrurus hemprichii*	up to date
Micrurus ibiboboca	*Micrurus anibal*	check split
Micrurus isozonus	*Micrurus isozonus*	up to date
Micrurus langsdorffi	*Micrurus langsdorffi*	up to date
Micrurus lemniscatus	*Micrurus anibal*	check split
Micrurus mipartitus	*Micrurus mipartitus*	up to date
Micrurus nattereri	*Micrurus nattereri*	up to date
Micrurus obscurus	*Micrurus obscurus*	up to date
Micrurus pacaraimae	*Micrurus pacaraimae*	up to date
Micrurus paraensis	*Micrurus paraensis*	up to date
Micrurus potyguara	*Micrurus potyguara*	up to date
Micrurus psyches	*Micrurus psyches*	up to date
Micrurus putumayensis	*Micrurus putumayensis*	up to date
Micrurus pyrrhocryptus	*Micrurus pyrrhocryptus*	up to date
Micrurus remotus	*Micrurus remotus*	up to date
Micrurus silviae	*Micrurus silviae*	up to date
Micrurus spixii	*Micrurus spixii*	up to date
Micrurus surinamensis	*Micrurus surinamensis*	up to date
Micrurus tikuna	*Micrurus tikuna*	up to date
Micrurus tricolor	*Micrurus tricolor*	up to date
Mussurana bicolor	*Mussurana bicolor*	up to date
Mussurana montana	*Mussurana montana*	up to date
Mussurana quimi	*Mussurana quimi*	up to date
Ninia hudsoni	*Ninia hudsoni*	up to date
Oxybelis aeneus	*Oxybelis inkaterra;* *Oxybelis koehleri;* *Oxybelis rutherfordi*	check split
Oxybelis fulgidus	*Oxybelis fulgidus*	up to date
Oxyrhopus clathratus	*Oxyrhopus clathratus*	up to date
Oxyrhopus formosus	*Oxyrhopus formosus*	up to date
Oxyrhopus guibei	*Oxyrhopus guibei*	up to date
Oxyrhopus melanogenys	*Oxyrhopus melanogenys*	up to date
Oxyrhopus petolarius	*Oxyrhopus petolarius*	up to date

Query	RDB	Status
Oxyrhopus rhombifer	*Oxyrhopus rhombifer*	up to date
Oxyrhopus trigeminus	*Oxyrhopus trigeminus*	up to date
Oxyrhopus vanidicus	*Oxyrhopus vanidicus*	up to date
Palusophis bifossatus	*Palusophis bifossatus*	up to date
Paraphimophis rusticus	*Paraphimophis rusticus*	up to date
Phalotris concolor	*Phalotris concolor*	up to date
Phalotris labiomaculatus	*Phalotris labiomaculatus*	up to date
Phalotris lativittatus	*Phalotris lativittatus*	up to date
Phalotris lemniscatus	*Phalotris lemniscatus*	up to date
Phalotris matogrossensis	*Phalotris matogrossensis*	up to date
Phalotris mertensi	*Phalotris mertensi*	up to date
Phalotris multipunctatus	*Phalotris multipunctatus*	up to date
Phalotris nasutus	*Phalotris nasutus*	up to date
Phalotris reticulatus	*Phalotris reticulatus*	up to date
Phalotris tricolor	*Phalotris tricolor*	up to date
Philodryas aestiva	*Philodryas aestiva*	up to date
Philodryas agassizii	*Philodryas agassizii*	up to date
Philodryas arnaldoi	*Philodryas arnaldoi*	up to date
Philodryas livida	*Philodryas livida*	up to date
Philodryas mattogrossensis	*Philodryas mattogrossensis*	up to date
Philodryas nattereri	*Philodryas nattereri*	up to date
Philodryas olfersii	*Philodryas olfersii*	up to date
Philodryas patagoniensis	*Philodryas patagoniensis*	up to date
Philodryas psammophidea	*Philodryas psammophidea*	up to date
Phimophis guerini	*Phimophis guerini*	up to date
Phimophis guianensis	*Phimophis guianensis*	up to date
Pseudoboa coronata	*Pseudoboa coronata*	up to date
Pseudoboa haasi	*Pseudoboa haasi*	up to date
Pseudoboa martinsi	*Pseudoboa martinsi*	up to date
Pseudoboa neuwiedii	*Pseudoboa neuwiedii*	up to date
Pseudoboa nigra	*Pseudoboa nigra*	up to date
Pseudoboa serrana	*Pseudoboa serrana*	up to date
Pseudoeryx plicatilis	*Pseudoeryx plicatilis*	up to date
Psomophis genimaculatus	*Psomophis genimaculatus*	up to date
Psomophis joberti	*Psomophis joberti*	up to date
Psomophis obtusus	*Psomophis obtusus*	up to date
Ptychophis flavovirgatus	*Ptychophis flavovirgatus*	up to date
Rhachidelus brazili	*Rhachidelus brazili*	up to date
Rhinobothryum lentiginosum	*Rhinobothryum lentiginosum*	up to date
Rodriguesophis chui	*Rodriguesophis chui*	up to date
Rodriguesophis iglesiasi	*Rodriguesophis iglesiasi*	up to date
Rodriguesophis scriptorcibatus	*Rodriguesophis scriptorcibatus*	up to date

Query	RDB	Status
Siagonodon cupinensis	*Siagonodon cupinensis*	up to date
Siagonodon septemstriatus	*Siagonodon septemstriatus*	up to date
Sibon nebulatus	*Sibon nebulatus*	up to date
Simophis rhinostoma	*Simophis rhinostoma*	up to date
Siphlophis cervinus	*Siphlophis cervinus*	up to date
Siphlophis compressus	*Siphlophis compressus*	up to date
Siphlophis leucocephalus	*Siphlophis leucocephalus*	up to date
Siphlophis longicaudatus	*Siphlophis longicaudatus*	up to date
Siphlophis pulcher	*Siphlophis pulcher*	up to date
Siphlophis worontzowi	*Siphlophis worontzowi*	up to date
Sordellina punctata	*Sordellina punctata*	up to date
Spilotes pullatus	*Spilotes pullatus*	up to date
Spilotes sulphureus	*Spilotes sulphureus*	up to date
Taeniophallus brevirostris	*Chlorosoma dunupyana*	check split
Taeniophallus nicagus	*Taeniophallus nicagus*	up to date
Tantilla boipiranga	*Tantilla boipiranga*	up to date
Tantilla melanocephala	*Tantilla selmae*	check split
Thamnodynastes longicaudus	*Thamnodynastes longicaudus*	up to date
Thamnodynastes pallidus	*Thamnodynastes pallidus*	up to date
Thamnodynastes sertanejo	*Thamnodynastes sertanejo*	up to date
Tomodon dorsatus	*Tomodon dorsatus*	up to date
Trilepida brasiliensis	*Trilepida brasiliensis*	up to date
Trilepida dimidiata	*Trilepida dimidiata*	up to date
Trilepida fuliginosa	*Trilepida fuliginosa*	up to date
Trilepida jani	*Trilepida jani*	up to date
Trilepida koppesi	*Trilepida koppesi*	up to date
Trilepida macrolepis	*Trilepida macrolepis*	up to date
Trilepida salgueiroi	*Trilepida salgueiroi*	up to date
Tropidodryas serra	*Tropidodryas serra*	up to date
Tropidodryas striaticeps	*Tropidodryas striaticeps*	up to date
Tropidophis grapiuna	*Tropidophis grapiuna*	up to date
Tropidophis paucisquamis	*Tropidophis paucisquamis*	up to date
Tropidophis preciosus	*Tropidophis preciosus*	up to date
Typhlophis squamosus	*Typhlophis squamosus*	up to date
Xenodon dorbignyi	*Xenodon dorbignyi*	up to date
Xenodon guentheri	*Xenodon guentheri*	up to date
Xenodon histricus	*Xenodon histricus*	up to date
Xenodon matogrossensis	*Xenodon matogrossensis*	up to date
Xenodon merremii	*Xenodon merremii*	up to date
Xenodon nattereri	*Xenodon nattereri*	up to date
Xenodon neuwiedii	*Xenodon neuwiedii*	up to date
Xenodon pulcher	*Xenodon pulcher*	up to date

Query	RDB	Status
Xenodon rabdocephalus	*Xenodon rabdocephalus*	up to date
Xenodon severus	*Xenodon severus*	up to date
Xenodon werneri	*Xenodon werneri*	up to date
Xenopholis scalaris	*Xenopholis scalaris*	up to date
Xenopholis undulatus	*Xenopholis undulatus*	up to date
Xenopholis werdingorum	*Xenopholis werdingorum*	up to date