METADATA: Digital Distribution Maps of the Mammals of the Western Hemisphere

By Patterson et al. (2007)

Version 3.0

Identification Information

1   Abstract: This data set contains distribution information for all mammals occurring in the Western Hemisphere. The goal of this project is to make this distributional information freely available to the public to inform conservation and other land-use decisions. A Memorandum of Understanding signed by NatureServe (then known as the Association for Biodiversity Information), The Nature Conservancy/Migratory Bird Program, Conservation International/CABS, World Wildlife Fund-US, and in 2000, with the subsequent addition of Environment Canada, governed the initial development and guidelines for sharing of these data.   The MOU expired in 2003, but NatureServe, the compiler of the data set, continues to maintain the data largely in the spirit of the original MOU.

The ArcView shape files contain the known range of each species. Ranges may be depicted as polygons where a species is widespread, as points where there are isolated records, or both. Not all vagrant occurrences are depicted, especially those in the US and Canada. The files are arranged in folders by family. The file naming convention, designed to allow manipulation of the files in Arc/Info, is as follows.

POLYGON files are named: gggg_ssss_pl.xxx where gggg are the first 4 letters of the genus name, ssss are the first 4 letters of the specific name, and xxx are the extensions (e.g., shp, dbf) that ArcView attaches to shapefiles.

POINT files are named: gggg_ssss_pt.xxx.

If a genus or species name has fewer than 4 letters, the entire name is used (e.g., the polygon file for *Lasiurus ega* would be lasi_ega_pl.xxx).

If >1 species in the same family has the same first four letters of both the genus and species names, then the numbers 1, 2, etc. are added after the "ssss". Where possible, the "1" is assigned to the species that comes earliest in alphabetical order). For example, polygon files for the rodent *Perognathus flavescens* would be named pero_flav1_pl.xxx and *Perognathus flavus* would be named pero_flav2_pl.xxx.

DBF files accompanying each polygon contain taxonomic information, distribution status, sources and other details about the maps (see Data Attributes section below).

2   Use Constraints: These data may not be used for commercial purposes.

3   Dataset Credit: Users MUST Credit all partners of the MOU in any product produced in any media that uses information contained in this database. Such credit should read:

    "Data provided by NatureServe in collaboration with Bruce Patterson, Wes Sechrest, Marcelo Tognelli, Gerardo Ceballos, The Nature Conservancy – Migratory Bird Program, Conservation International – CABS, World Wildlife Fund – US, and Environment Canada – WILDSPACE."

Citation
12   Citation:

Patterson, B. D., G. Ceballos, W. Sechrest, M. F. Tognelli, T. Brooks, L. Luna, P. Ortega, I. Salazar, and B. E. Young. 2007. Digital Distribution Maps of the Mammals of the Western Hemisphere, version 3.0. NatureServe, Arlington, Virginia, USA.

Spatial Reference Information
13   Projection: Unprojected (ESRI Geographic)

14   Projection Parameters: Units: decimal degrees

15   Datum: North American 1983

16   Base Map: Most maps are based on the Digital Chart of the World as a basemap (1:1,000,000 scale), developed by the Defense Mapping Agency of the United States of America. Several edits where performed on this coverage by Environment Canada's Meterological Service of Canada - Ontario Region - Geomatics Unit to correct errors and omissions. For more details see http://map.on.ec.gc.ca/wildspace/hemi-ims.html and click on the link "More About Base Maps." Some Middle American ranges and most South American ranges use a slightly different basemap, called "Lacpol", provided by the GIS lab of the Latin American Science Department of The Nature Conservancy in 2000. Lacpol was produced at a coarser scale than the DCW. The coastlines of the two basemaps rarely vary by more than 1.5 km, although the boundaries of estuaries and islands may vary by as much as 4 km. Both base maps are provided with the CD. A few maps use the "Cntry98" basemap that ESRI once provided with their software.

Data Attributes
17   Number of Items in Attribute Table: 13

18   Names of Attributes:
* Shape - Point or Polygon
* English Name
* Scientific Name [genus + species (+subspecies)]
* Authority [name + year; in parentheses if genus has changed]
* Family
* Presence - Is/was it there (Codes are listed below)

* Origin - How/why is it there (Codes are listed below)
* Compiler [Name + date]
* Scale of source map
* Taxonomic comments
* Distribution comments
* References [authors name and publication date]
* Reviewers [names + dates]

19 Codes:
Presence
1 - Extant
2 - Possibly present
3 - Probably extinct/Historically present but no recent records
4 - Extinct
5 - Extirpated purposely - (applies to introduced species only)
6 - Occurs on indicated island chain, but not necessarily on every island in the chain
7 - Subfossil/fossil

Origin
1 - Native (year round)
2 - Native (breeding seasons only)
3 - Native (nonbreeding seasons only)
4 - Native (as a passage migrant or wanderer)
5 - Native (seasonal permanence uncertain)
6 – Introduced (Alien) – [anthropogenically since 1600]
7 - Either introduced or native
8 - Reintroduced
9 - Either reintroduced or introduced
10 - Vagrant (an unusual record where a species does not regularly occur or migrate; only applicable to points)
11 – Unknown

20 Data Compilation Notes: Most maps were digitized either by scanning source documents, georeferencing the resulting image, and digitizing over range boundaries on the screen; or by eye from the source maps occurring in field guides or species accounts (such as the Mammalian Species Account series). These maps were then reviewed and appropriate corrections made to the database. Each point or polygon is linked to one or more bibliographic references. For the full citation, see the account for the species on InfoNatura (www.natureserve.org/infonatura). When more than one reference was used for a particular polygon or point, the references for the northern portions of the range generally precede references for the southern portion of the range.

Metadata Reference Information
21 Metadata Date: 15 May 2002

22 Creation Date: 25 May 2003

23 Most recent Update: 18 October 2007

24 Update Notes: Version 3.0. Major taxonomic revisions since version 2.0 reflect Wilson and Reeder (2005) *Mammal Species of the World*, third edition. Due to a lack of time and access to some slightly obscure literature sources, not all updates dictated by MSW were possible. The following species that have been recently described or split are not included in this database:

Alouatta macconnelli
Saguinus melanoleucus

Saguinus pileatus
Ctenomys budini
Ctenomys sylvanus
Ctenomys coludo
Ctenomys famosus
Ctenomys johannis
Ctenomys tulduco
Ctenomys fochi
Ctenomys juris
Ctenomys pundti
Ctenomys viperinus
Rhipidomys emiliae
Rhipidomys macrurus
Rhipidomys modicus
Proechimys roberti
Hydrochoerus isthmius
Akodon pervalens
Oryzomys caracolus
Oryzomys meridensis
Oryzomys curasoae
Oryzomys lamia
Oryzomys legatus
Oryzomys maracajuensis
Oryzomys scotti

Numerous updates to the maps reflect literature that has appeared since version 2.0. The ranges of 55 species of mammals endemic to the east slope of the Andes in Peru and Bolivia were revised based on the results of a NatureServe-led project to predict distributions of these species. In addition, more extensive QC has cleaned up a number of problems such as typographical errors and overlapping polygons. Overall, this version includes maps for 1,737 mammal species of the Western Hemisphere derived from over 500 references.

Version 2.0 (20 September 2005) First major revision of the original 2003 database. Taxonomy and distributions of numerous species from throughout the hemisphere updated based on the recent literature. Ranges of threatened US species updated based largely on the NatureServe database of occurrences of populations of these species.