

Areas of endemism: to overlap or not to overlap, that is the question

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Abstract

The concept of “areas of endemism”, and the assumption that these patterns are always a consequence of vicariant events, are reviewed. This assumption is related to the idea that areas of endemism have well-defined limits and never share any surface with other areas of endemism because they must represent sister areas supported by sister taxa. Based on this idea, overlapping areas have been considered rarely, or ignored completely. Using a data set of mammals of North America, we test here whether the overlapping areas are indeed sister areas supported by sister taxa, thus evaluating whether vicariant events are commonly the factor producing areas of endemism.

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Introduction

The literature on historical biogeography widely uses an assumption that is mostly unspoken: areas of endemism (AEs) do not overlap, ever. The notion that AEs never overlap comes from the idea that only vicariant events can produce AEs; thus, any two overlapping AEs would have to be explained by *ad hoc* hypotheses.

Additionally, a problem that plagues historical biogeography is that many of the methods proposed borrow from ideas originally developed to solve different questions (typically, phylogenetic questions), extended into biogeography by loose analogy (e.g. see criticisms by Hovenkamp, 1997; Santos, 2005). This is the case of the parsimony criterion, widely used (and justified) in phylogenetic reconstruction, but subsequently adopted for identification of AEs (e.g. the several versions of parsimony analysis of endemism (PAE)). In the context of partially overlapping areas, it is clear that parsimony (a hierarchical method) precludes recovering this kind of pattern, regardless of whether overlapping areas are common in nature (e.g. Hughes et al., 2003; Kark et al., 2007; Rensburg et al., 2009). Using methodology not originally conceived for the identification of AEs poses

another problem: the impossibility of using spatial information. The mere use of the word *biogeography* does not mean that the spatial information is actually being used; that requires methodology specifically designed to use that information. In fact, it appears that the evocations of the word “biogeography” have allowed specialists to bypass the actual use of detailed spatial information in attempts to identify AEs. An example is in those studies where the spatial variable is coarsely represented as country or continent names, or just letters. Another prime example is PAE, which started using numbered cells as analytical units (Morrone, 1994) and later turned to predefined areas (e.g. Tribisch, 2004); the phylogenetic program used to group the cells (e.g. TNT, Goloboff and Catalano, 2016) cannot use any information on the spatial proximity of cells during the parsimony analysis. Thus, the spatial information is ignored by PAE, causing serious limitations in the identification of AEs (see Szumik and Goloboff, 2004; Carine et al., 2009; Casagranda et al., 2012; Morales-Guerrero et al., 2017).

Several issues related to identification of AEs are associated with the conceptual problem of considering AEs as ideal patterns that are isolated from each other and defined by clear and sharp boundaries (Szumik and Goloboff, 2015). A logical consequence of such an

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unrealistic expectation has led to the widespread assumption that diffuse edges and overlapping areas cannot be a real phenomenon. A more realistic concept of AEs has been addressed in several previous papers (Casagrande et al., 2009; Agesen et al., 2013; Szumik and Goloboff, 2015) and considered in the implementation of the program VNDM ver. 3.1 (Goloboff, 2016). The theoretical assumption under this method is that the spatial patterns are caused by “common” factors (historical and/or ecological). When a given region is changed by a causal factor, some taxa may be affected while others may not be affected at all. Those taxa with similar responses to a given factor would converge to similar distribution ranges, while species that are not affected will not necessarily display congruent ranges. If different factors affect different portions of the biota, then this leads to the expectation of congruent ranges that are overlapping (instead of mosaic-like), yet phenomena as real as those cases of perfectly nested and disjoint areas (Szumik and Goloboff, 2004).

Following this “ideal” concept of AEs and the logic of the strict vicariance model, it is always assumed that any two neighbouring AEs must be sister areas, and thus contain sister taxa. Surprisingly, the statement that AEs cannot overlap and have neighbour sisters has never been seriously discussed or tested empirically. In this paper, we examine and discuss partially overlapping AEs (by using the mammals of North America as an empirical example) and show that they are both ubiquitous and strongly supported by the evidence.

Spatial congruence of AEs

The method applied by the program VNDM ver. 3.1 (Goloboff, 2016) follows the general concept that an AE is an area inhabited by numerous taxa with congruent distributions, occurring nowhere else (Szumik and Goloboff, 2004). The general idea was stated by Platnick (1991: xi, the most quoted definition of AEs):

An area of endemism can be defined by the congruent distributional limits of two or more species. Obviously “congruent” in this context does not demand complete agreement on those limits, at all possible scales of mapping, but relatively extensive sympatry at some scale must surely be the fundamental requirement.

The optimality criterion developed by Szumik and Goloboff (2004) follows Platnick’s concept and therefore evaluates AEs according to how well the taxon distributions are adjusted to a given area. The degree of endemism of a single taxon depends on its presence/absence inside the area and its presence/absence outside the area (Szumik and Goloboff, 2004).

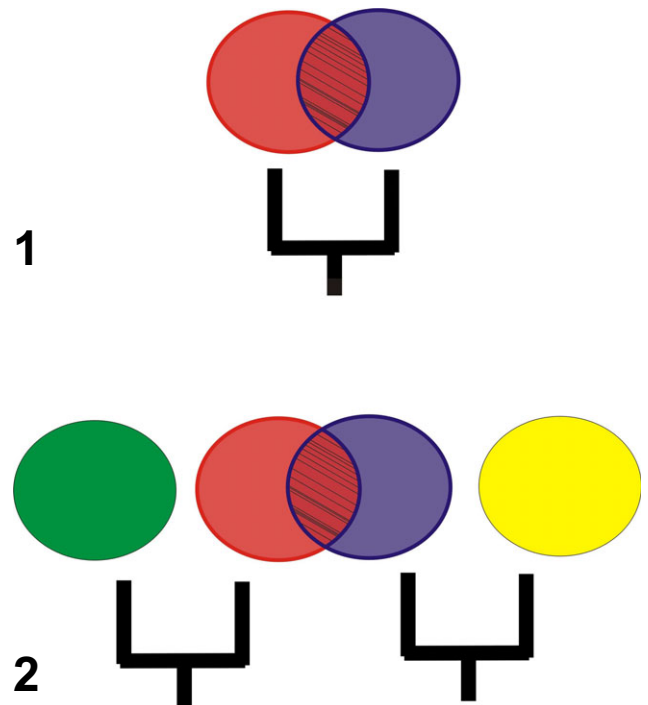
Partially overlapping and perfectly nested patterns are expected, and the method should be able to recognize them if present in the data, as clearly stressed by Szumik and Goloboff (2004: 968):

The causal factor producing the given distributional pattern may, but need not be, history or vicariance; more importantly, the causal factor need not have affected the entirety of the biota, so that different groups (with different ecological requirements, for example) may have different—even overlapping—distributional patterns. Yet all the several repetitive patterns are (regardless of overlaps) equally real, in the sense that each of them is the result of some common factor.

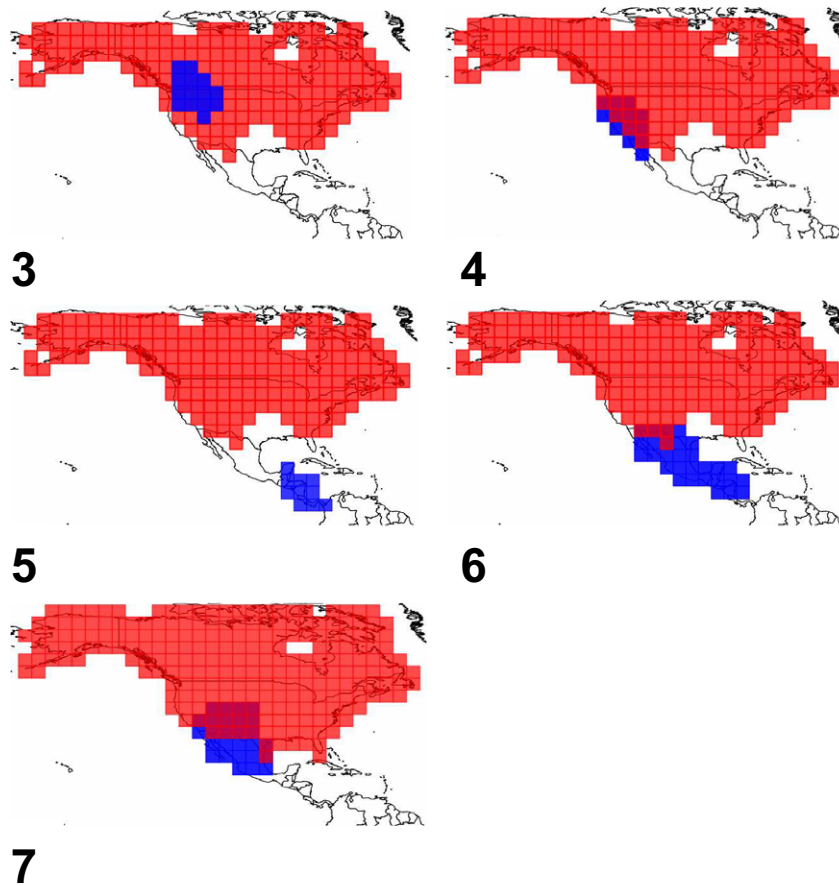
Nelson and Platnick (1981) did not base their statements on a restrictive vicariant model, on p. 47:

Clearly, then, neither dispersal nor vicariance explanations can be discounted *a priori* as irrelevant for any particular group of organisms, and it might seem that the ideal method of biogeographic analysis would be one that allows us to choose objectively between these two types of explanations for particular groups.

However, the concept of AEs has been seen as an exclusively vicariant model (e.g. Harold and Mooi, 1994), and because vicariance is seen as the only possible factor producing AEs, this leads to focus on the boundaries of the AEs rather than the sympatry of endemic taxa (see e.g. Hausdorf, 2002). Claiming that AEs cannot overlap implies that AEs are surrounded and limited by impervious barriers. Under this assumption it is not possible to have two or more overlapping areas, and neighbouring areas can be understood only in terms of sister areas containing



Figs 1–2. 1, two overlapping areas which are sister areas and are supported by sister taxa; 2, two overlapping areas which have their sister area in other location. [Colour figure can be viewed at wileyonlinelibrary.com]



Figs 3–7. 3, perfectly nested areas; 4, nested areas with edge effect by the use of a grid; 5, perfectly disjunct areas; 6, disjunct areas with edge effect by the use of a grid; 7, overlapping areas. [Colour figure can be viewed at wileyonlinelibrary.com]

sister taxa produced by allopatric speciation. Such a position is explicitly adopted by Hausdorf (2002: 651):

If biotas evolve according to the vicariance model without dispersal, each biota would consist of a single biotic element and the biotic elements would not overlap. Just as sympatry of sister groups, sympatry of biotic elements is evidence for dispersal. If a biota consists of a single biotic element, there is no evidence for vicariance events within that biota. Only when different biotic elements can be distinguished is it meaningful to investigate how they have been influenced by vicariance and dispersal.

Again, the mere existence of geographical overlap is seen as sufficient to evoke dispersal as a causal agent, while phylogenetic information about the endemic taxa is completely ignored. Here, we test empirically this largely accepted assumption by connecting phylogenetic and geographical patterns, and show that the assumption is widely falsified by available data.

Mammals of North America: a case study

The mammals of North America were selected as a case study because of their well-known distribution

ranges and phylogenies available at different taxonomic levels.

Under the idea that AEs can result only from vicariance, overlapping areas must be interpreted as sister areas originating from vicariance events (a common history), thus containing sister taxa that later overlapped because the barrier disappears as a possible explanation (Fig. 1). If the taxa endemic to respective areas are not related, this would be interpreted as evidence of an independent history of the areas, i.e. areas do not have a common origin and the endemic taxa have their sister taxa elsewhere (Fig. 2).

To test that idea, the present analysis therefore uses phylogenies to check whether the species endemic to two overlapping areas are indeed sister taxa, and if not, the number of nodes separating them in the phylogeny is used as a measure of phylogenetic/historical distance.

Materials and methods

The data set contains 750 species (from 11 orders) of mammals present in North America (including

Canada, USA and Mexico). A previous version of this data set was published by Escalante et al. (2010) and Szumik and Goloboff (2015); here we use a corrected version with updated taxonomy (Wilson and Reeder, 2005; World Mammal catalogue, October 2017). Additionally, 98 monophyletic groups were added to the data set from different sources (following Szumik and Goloboff, 2015). About 70% of the species included in the data set belong to the orders Chiroptera and Rodentia (see Appendix 1). Some orders are also present in the “neotropical” part of the study region, which means that some of the AEs observed might well continue further south from the study region.

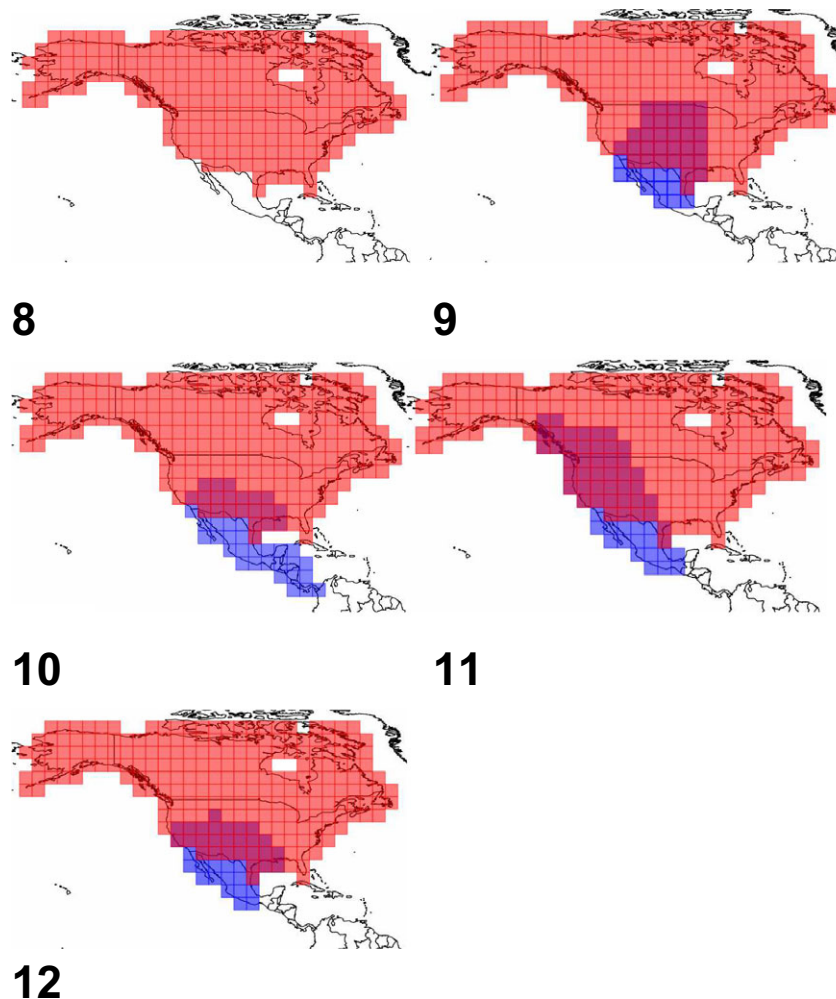
The study region was divided into cells of $4 \times 4^\circ$ and analysed by VNDM; AEs (sets of cells) with taxa showing an endemism score above 0.66 were retained (see Szumik et al., 2012 for examples of endemism score). Because of the heuristics, similar AEs with

small differences for endemic taxa and number of cells could be obtained. A loose consensus of 40% was used to merge similar areas into consensus areas (see Aagesen et al., 2013 for a full explanation of ambiguity and the consensus method for AEs).

The consensus areas were compared in paired combinations and classified as nested, disjunct and overlapping according to the following criteria.

Nested areas

An AE is nested when it is completely included within another AE (Fig. 3). Given that VNDM applies a grid-based method, this could produce some distortion or imprecision regarding the edges of the AEs. When an AE is within another AE but the smaller one has a cell or a line of cells outside and adjacent to the bigger one (see the example of Fig. 4), this is also considered to be nested.



Figs 8–12. 8, Nearctic area A, CA 52; 9, overlap with CA 11; 10, overlap with CA 40; 11, overlap with CA 59; 12, overlap with CA 64. [Colour figure can be viewed at wileyonlinelibrary.com]

Disjunct areas

Two disjunct AEs are two areas that have a spatial gap between them (Fig. 5). Considering the potential distortion of a grid-based method mentioned above, we also include as disjunct those areas that share one cell or a line of cells on the edges of both areas (Fig. 6), which are considered here as a consequence of fuzzy borders.

Overlapping areas

Two overlapping AEs are two areas that share a surface that includes two or more lines of cells (Fig. 7). Each one of the overlapping areas should have two or more lines of cells not shared with its counterpart area (see Fig. 7). Then, as defined above, a minor surface (of a single line of cells or less) was ignored, and considered as a fuzzy edge effect.

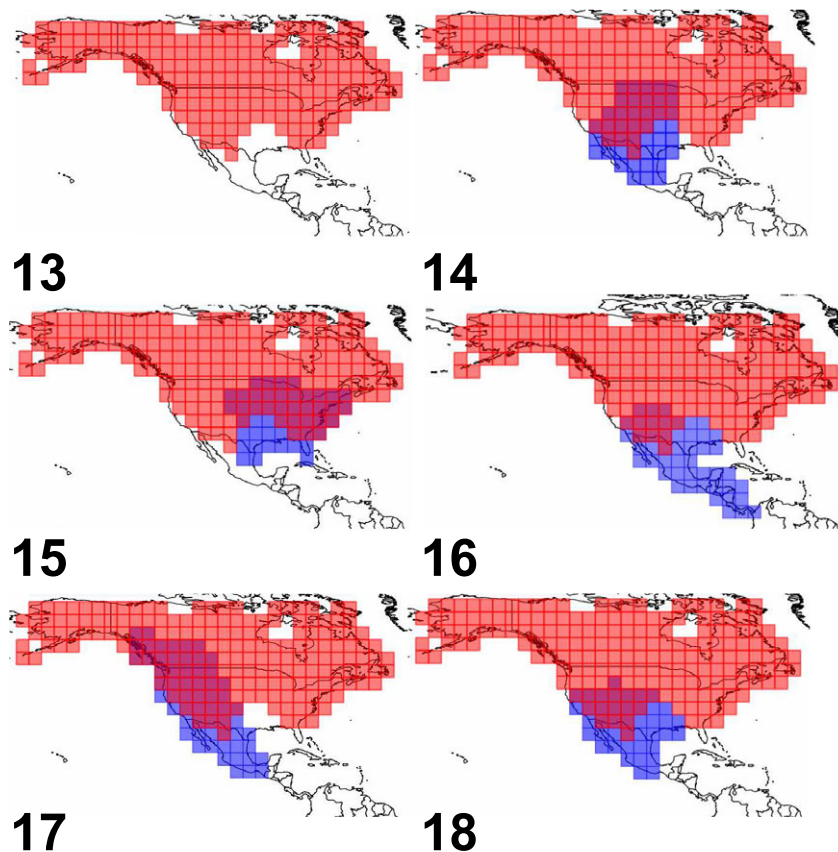
Results

We obtained 65 consensus areas (CAs) with endemism scores from 2.65 (supported by three taxa)

to 55.50 (supported by 65 taxa), and with sizes ranging from three to 233 cells (see Appendix 2).

According to our results, the proportion of overlapping areas does not depend on the size of the areas, as shown by the contrast between CA 53 (with 125 cells overlapping with only two CAs, see Appendix 2) and CA 23 (with only 24 cells but overlapping with 15 CAs). Our results show that the number of overlaps is related more to the biogeographical complexity of the zone than to just size. The sector of the study region with the largest numbers of “overlapped cases” is almost equivalent to the border between two biogeographical divisions, the Nearctic and the Neotropical. On that sector there are 30 cells shared by 20–39 CAs. It must be stressed again that these shared cells could never have been found by a hierarchical method such as PAE (as every cell in a cladogram obtained by PAE can be shared only by groups that completely include, or are included within, each other, never by partially overlapping groups).

From the 65 CAs obtained, there are 2080 unique combinations (of nested, disjunct and overlapping AEs). From these, 31.9% are nested cases, 59.4% disjunct cases and only 8.68% overlapping cases (Appendix 2).



Figs 13–18. 13, Nearctic area B, CA 12; 14, overlap with CA 11; 15, overlap with CA 35; 16, overlap with CA 40; 17, overlap with CA 59; 18, overlap with CA 64. [Colour figure can be viewed at wileyonlinelibrary.com]

The overlapping areas are strongly defined by a particular set of endemic species and most of the supported species are not sister taxa; thus *the overlapping areas are not always sister areas*. Rarely, two sister taxa support each of the overlapping areas, but these areas are also supported by taxa that do not have that connection (see below for examples).

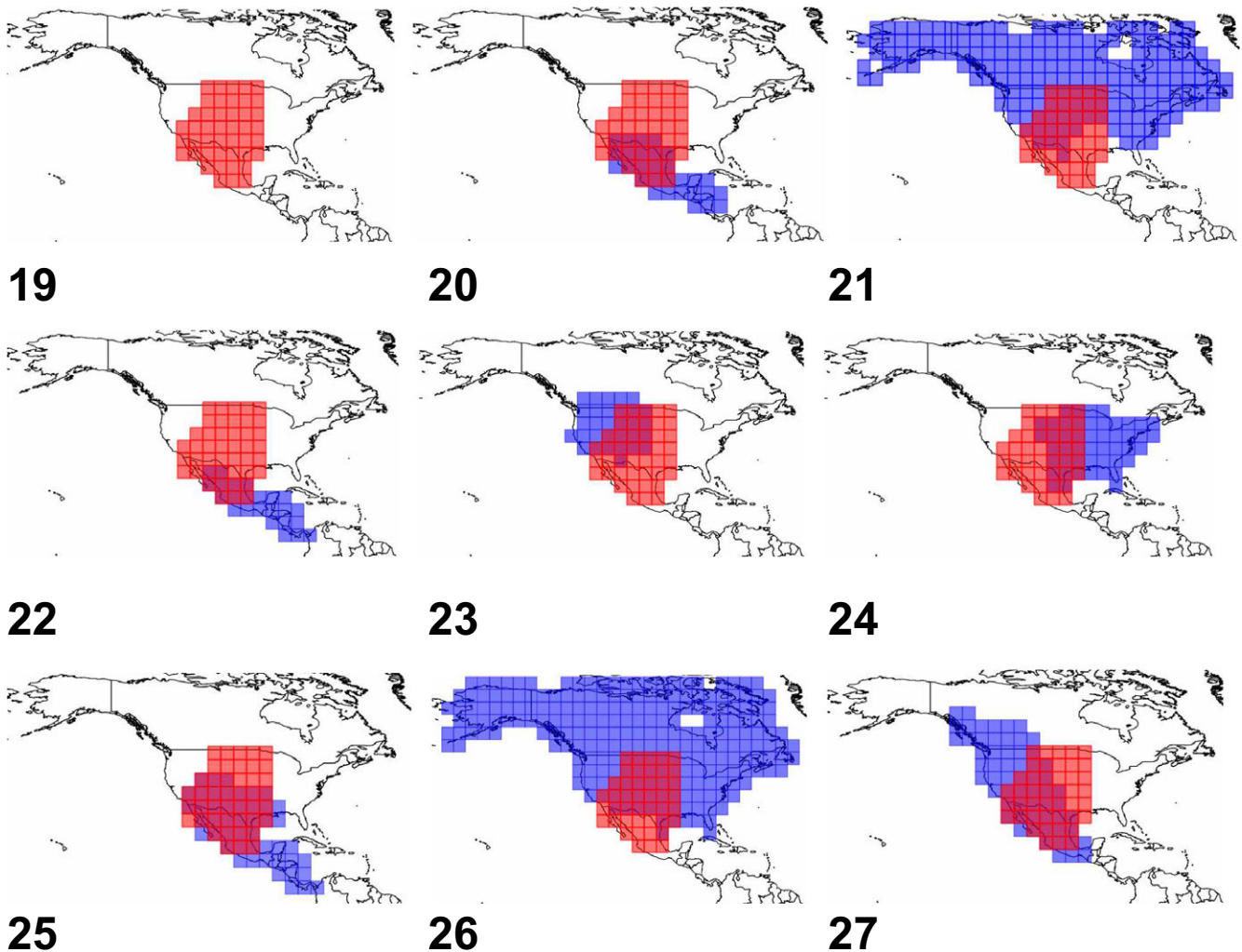
We focused on the analyses of ten major CAs which represent some of the most conspicuous and clearly known biogeographical divisions of North America and show some conflicting cases of overlapping CAs which also represent characteristic biogeographical divisions.

A Nearctic area (CA 52, Fig. 8) is supported by two species of Carnivora (*Vulpes vulpes* and *Lontra canadensis*) and one species of Castorimorpha (the Castoridae, *Castor canadensis*) and share multiple cells with four CAs (Figs 9–12). None of the taxa endemic

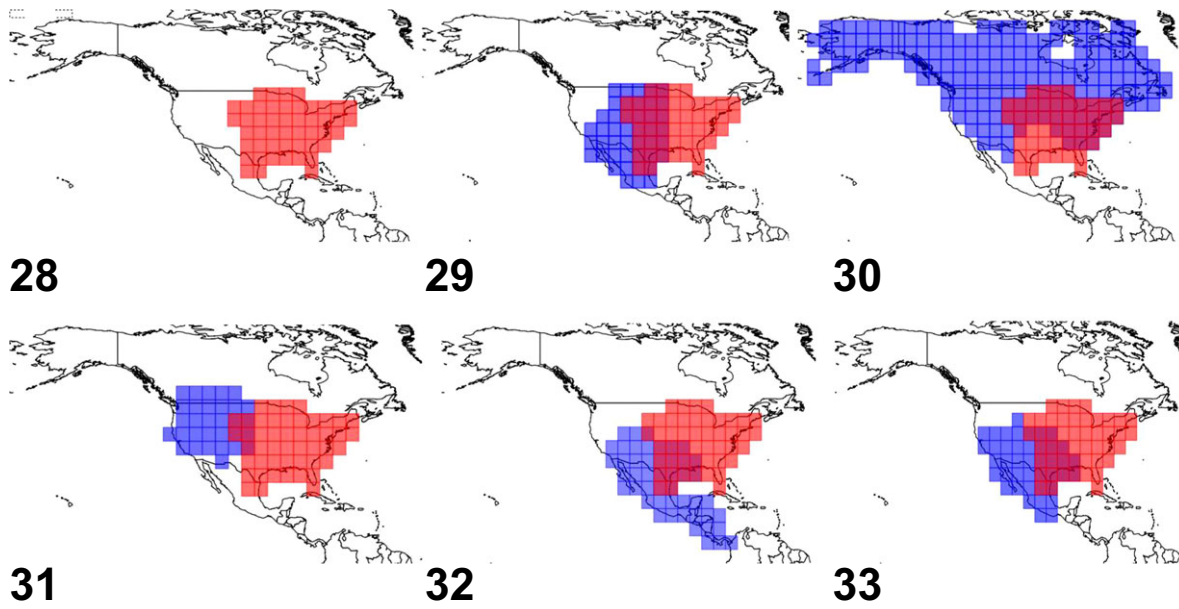
for each area are sisters; they do not even belong to the same genus.

A second Nearctic area (CA 12, Fig. 13) is supported by five endemic species which belong to quite different suborders: Hystricomorpha, Soricomorpha, Lagomorpha, Myomorpha and Sciuromorpha (Appendices 1 and 2). The CA 12 overlaps with five CAs (Figs 14–18). There is only one genus in common with the CA 64: *Lepus americanus* (CA 12) and *Lepus californicus* (CA 64), although according to Cheng et al. (2014) these species are not sister taxa (with four nodes of phylogenetic distance).

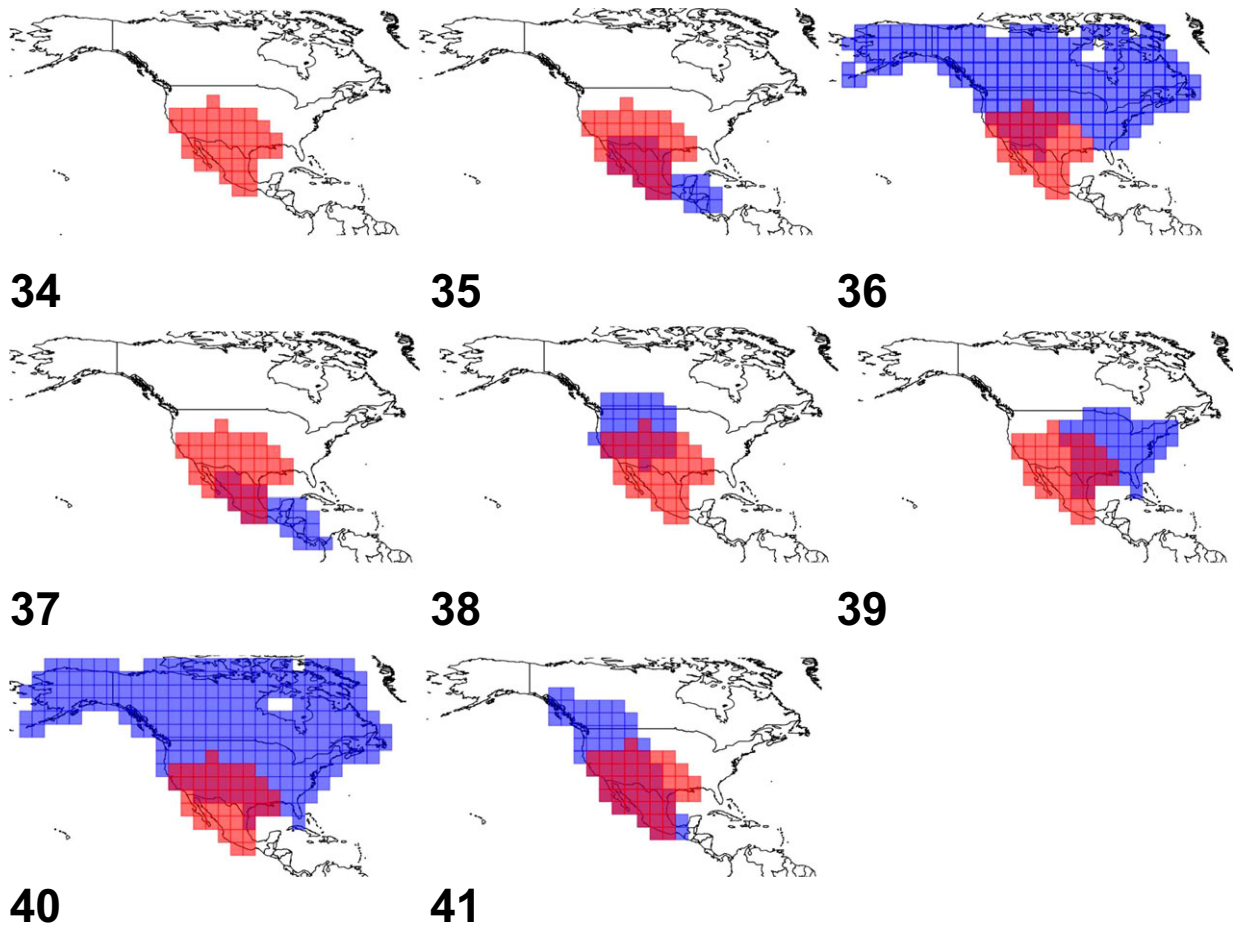
The Great Plains and Deserts of North America (CA 11, Fig. 19) overlaps with other eight CAs (Figs 20–27). The CA 11 has no genus or cladogram in common with four of the eight overlapping CAs. With the other four CAs it shares endemic taxa in the genus *Sylvilagus* (an American genus with 17



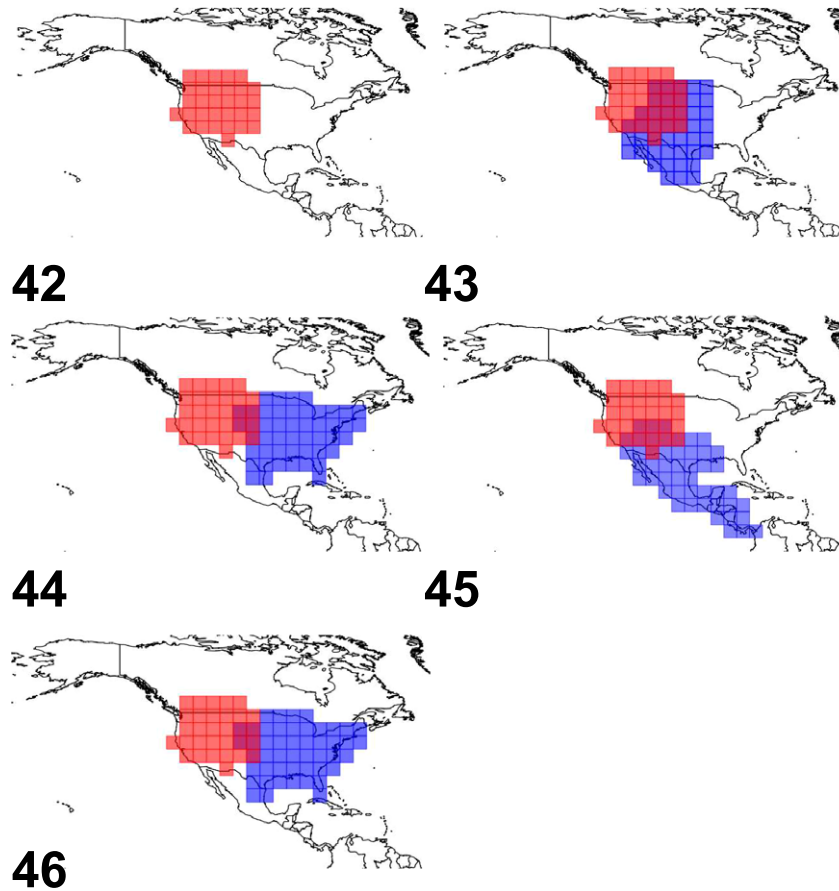
Figs 19–27. 19, Great Plains and Deserts of North America, CA 11; 20, overlap with CA 6; 21, overlap with CA 12; 22, overlap with CA 23; 23, overlap with CA 30; 24, overlap with CA 35; 25, overlap with CA 40; 26, overlap with CA 52; 27, overlap with CA 59. [Colour figure can be viewed at wileyonlinelibrary.com]



Figs 28–33. 28, the Temperate Forest area, CA 35; 29, overlap with CA 11; 30, overlap with CA 12; 31, overlap with CA 30; 32, overlap with CA 40; 33, overlap with CA 64. [Colour figure can be viewed at wileyonlinelibrary.com]



Figs 34–41. 34, the Desert area, CA 64; 35, overlap with CA 6; 36, overlap with CA 12; 37, overlap with CA 23; 38, overlap with CA 30; 39, overlap with CA 35; 40, overlap with CA 52; 41, overlap with CA 59. [Colour figure can be viewed at wileyonlinelibrary.com]



Figs 42–46. 42, CA 30; 43, overlap with CA 11; 44, overlap with CA 35; 45, overlap with CA 40; 46, overlap with CA 64. [Colour figure can be viewed at wileyonlinelibrary.com]

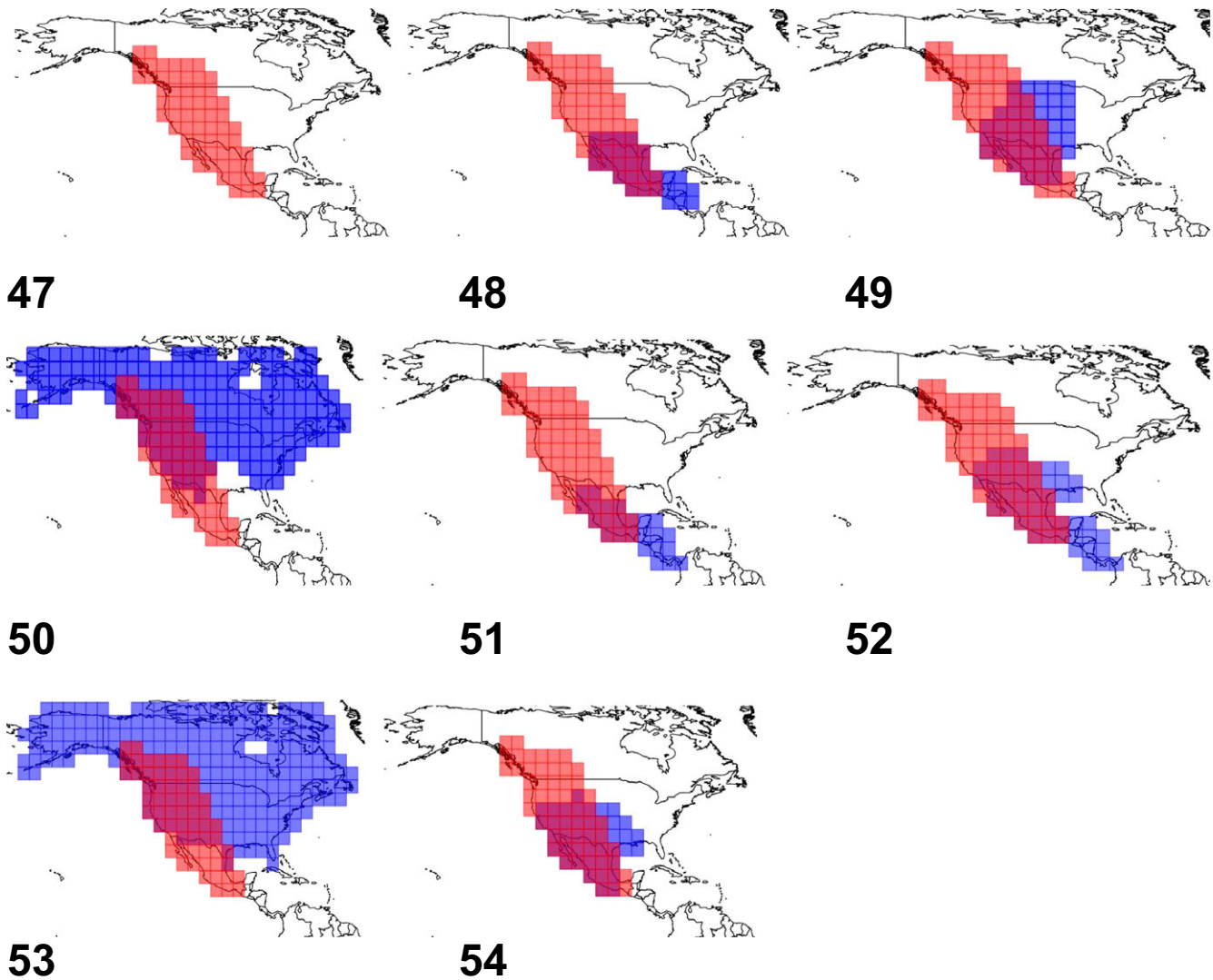
species): *S. audubonii* (CA 11) has its counterparts (*S. cunicularis* (CA 6), although this species is absent in the phylogenies of *Sylvilagus*); *S. brasiliensis* (CA 23) which is four nodes distant according to the analysis where the species was described (Bonvicino et al., 2015); and *S. nuttalli* (CA 35) which is the sister group of *S. audubonii* according to several studies (Halanych and Robinson, 1997; Matthee et al., 2004; Robinson and Matthee, 2005). Another genus in common is *Reithrodontomys*, an American genus with 20 species: *R. montanus* (CA 11) is 11 nodes from *R. mexicanus* (CA 23), four nodes from *R. sumichrasti* (CA 23) and four nodes from *R. fulvescens* (CA 40), following Fabre et al. (2012). The final genus in common is *Spermophilus* (a genus of 47 species of North America and Eurasia): *S. spilosoma* (CA 11) is 12 nodes from *S. elegans* (CA 30) (Helgen et al., 2009).

The Temperate Forest area (CA 35, Fig. 28) is supported by just three endemic taxa (Appendix 2), a Talpidae (*Scalopus aquaticus*), a Vespertilionidae (*Nycticeius humeralis*) and a Sciuridae (*Sciurus niger*). This CA overlapped with five others (Figs 29–33), and shared no members of any genus or clade.

The Desert area (CA 64, Fig. 34) overlapped with seven CAs (Figs 35–41). CA 64 has one genus in common (*Lepus*) which was already described under CA 12 above. *Nyctinomops*, an American genus of only four species, is also found in several CAs: *N. macrotis* (CA 64) is three nodes (the maximum possible for a genus with only four species) from *N. aurispinosus* (CA 6), and three nodes from *N. laticaudatus* (CA 23) (Dolman and Ammerman, 2015). Overlap with the other four CAs did not include any sister groups.

CA 30 (Fig. 42) cannot be linked to any known biogeographical division and presents four overlaps (Figs 43–46). CA 30 has only one genus in common with CA 11 (described above).

The Occidental area (CA 59, Fig. 47) has seven overlaps (Figs 48–54). The Occidental area is supported by three species of *Myotis*, a genus of worldwide distribution with around 100 species. The genus has endemic species in two of the seven overlapping CAs (CA 6 and CA 23). *M. californicus* (CA 59) is eight nodes from *M. elegans*, six nodes from *M. keaysi* and 11 nodes from *M. nigricans* (CA 23); *M. volans* (CA 59) is 10 nodes from *M. elegans*, eight from *M. keaysi* and 13



Figs 47–54. 47, the Occidental area, CA 59; 48, overlap with CA 6; 49, overlap with CA 11; 50, overlap with CA 12; 51, overlap with CA 23; 52, overlap with CA 40; 53, overlap with CA 52; 54, overlap with CA 64. [Colour figure can be viewed at wileyonlinelibrary.com]

from *M. nigricans*; and *M. yumanensis* (CA 59) is seven nodes from *M. elegans*, and five from *M. keaysi* and *M. nigricans*. Finally, *M. californicus*, *M. volans* and *M. yumanensis* are seven, five and three nodes, respectively, from *M. fortidens* (CA 6) (Hooper and Van Den Bussche, 2003; Lack et al., 2010).

The Central American area (CA 6, Fig. 55) overlaps with three CAs (Figs 56–58). All are supported by endemic species in the genus *Myotis*, but none of those are sister taxa, as already described above.

A Neotropical area (CA 23, Fig. 59) overlaps with three CAs (Figs 60–62). The CAs are supported by endemic species of the genus *Myotis* but there are no cases of sister taxa (already described above).

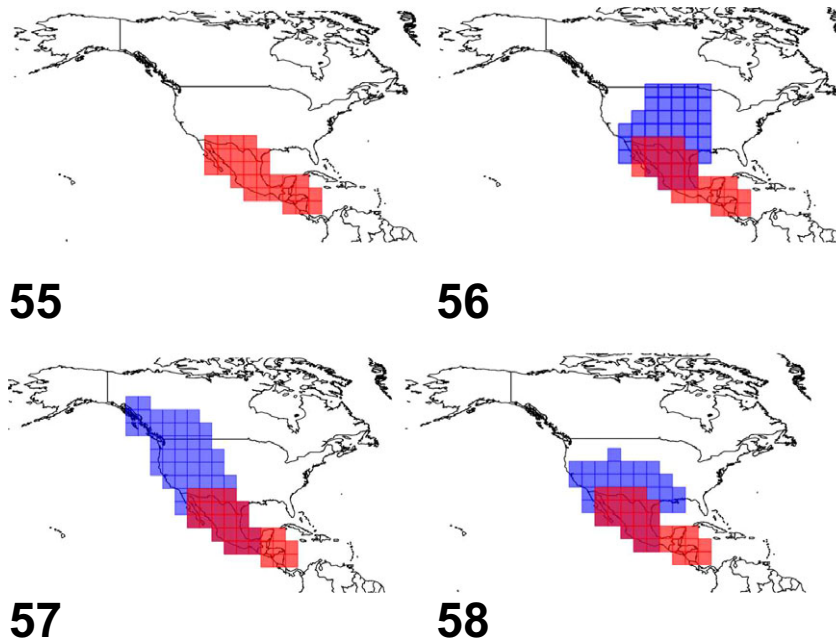
Another Neotropical area (CA 40, Fig. 63) overlaps with six CAs (Figs 64–69). Five of the six CAs do not have any group in common with CA 40. CAs 40 and 11

are supported by endemic species of the genus *Reithrodontomys* but are not sister taxa (already described above).

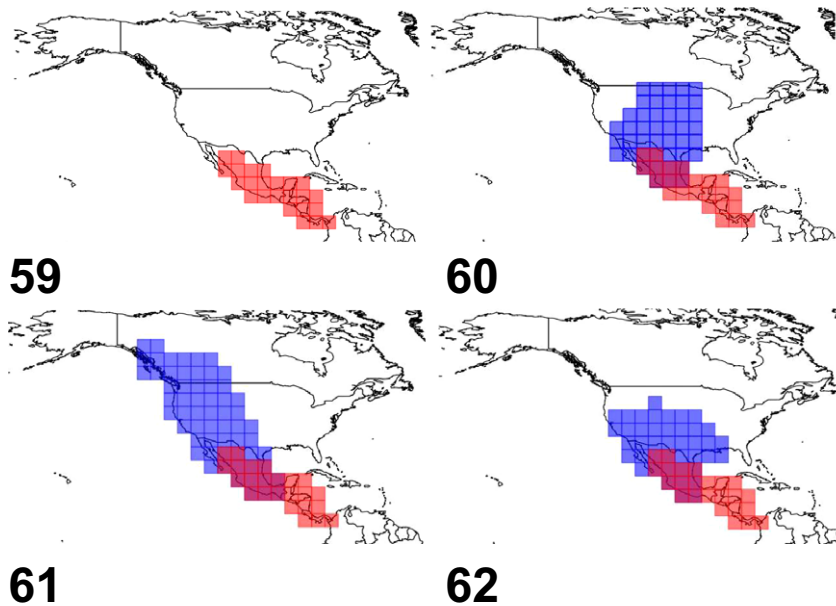
Finally, the sister taxa *Sylvilagus audubonii* and *S. nuttalli* are the unique case of two sister taxa supporting overlapped areas. Each of these CAs is supported by five species and two clades (CA 11, Fig. 19) and seven species and one clade (CA 30, Fig. 23, see Appendix 2); the counterpart of each of these taxa and clades is distributed in quite diverse places inside and outside the study region. Furthermore, there is no match between them.

Final comments

While reviewing the assumption that areas cannot overlap because of vicariance, it was astonishing to



Figs 55–58. 55, the Central American area, CA 6; 56, overlap with CA 11; 57, overlap with CA 59; 58, overlap with CA 64. [Colour figure can be viewed at wileyonlinelibrary.com]

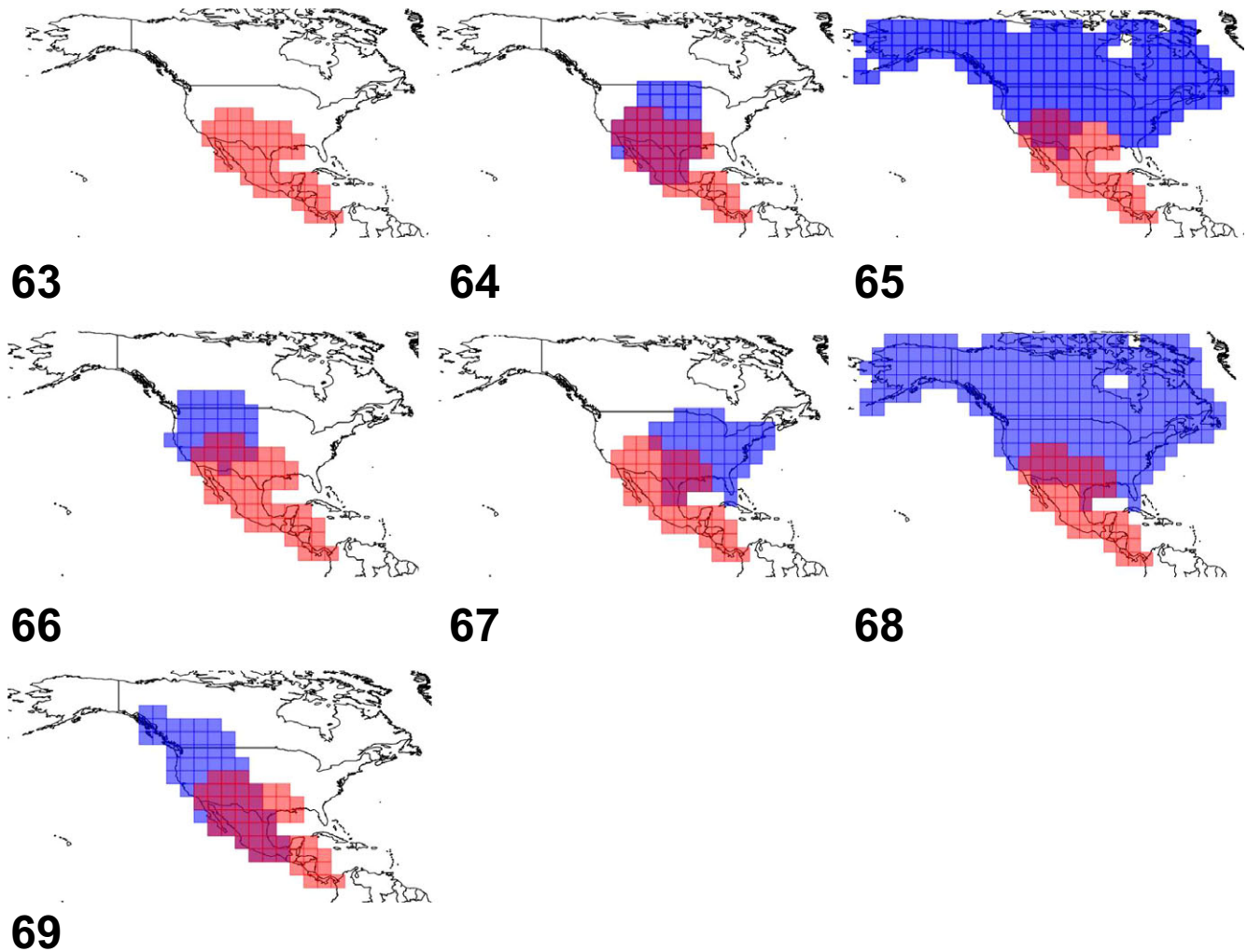


Figs 59–62. 59, Neotropical area one, CA 23; 60, overlap with CA 11; 61, overlap with CA 59; 62, overlap with CA 64. [Colour figure can be viewed at wileyonlinelibrary.com]

find that no phylogenetic evidence has ever been presented to validate that assumption. To the best of our knowledge, there has never been an attempt to test the assumption that sister areas are characterized by sister taxa. Here, we demonstrate that areas consistently overlap and are rarely characterized by sister taxa. In fact, it would be interesting to see the results of testing the question of whether sister taxa characterize neighbouring areas also using methods that forbid overlap

in AEs. We suspect this would produce results comparable to those obtained using methods that allow overlapping areas.

Moreover, our results are a clear example that vicariance is not the unique potential process on AEs, in agreement with Hovenkamp (1997) who suggested that AEs may be inadequate as units in historical biogeography. As Hovenkamp (1997) clearly demonstrated, the pervasive analogy between areas and taxa in the context



Figs 63–69. 63, Neotropical area two, CA 40; 64, overlap with CA 11; 65, overlap with CA 12; 66, overlap with CA 30; 67, overlap with CA 35; 68, overlap with CA 52; 69, overlap with CA 59. [Colour figure can be viewed at wileyonlinelibrary.com]

of historical biogeography is inappropriate, because areas do not evolve like taxa and taxa do not behave as characters. And despite the abundance of conceptual discussions (e.g. Linder, 2001; Hausdorf, 2002; Crother and Murray, 2011, 2013; DaSilva et al., 2015; Murray and Crother, 2016; Fattorini, 2017) and methods to identify AEs (Hausdorf and Hennig, 2003; Giokas and Sfenthourakis, 2008; Oliveira et al., 2015), it is unfortunate that the analogy between taxa and areas continues to be pushed and applied with inadequate methodology. Hovenkamp (1997) provided lucid criticisms of this analogy, but his paper continues being incorrectly quoted as merely a critique of the existence of AEs. The critique of PAE by Santos (2005), who also observed this disconnection in historical biogeography, suffered a similar fate. However, despite the little influence they have had on the field, Hovenkamp (1997) and Santos (2005) are good examples of the fresh air needed in biogeographical theories.

Acknowledgments

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Appendix 1

List of species and nodes analysed

- 0 [Antilocapra americana ARTIODACTYLA]
- 1 [Tayassu pecari ARTIODACTYLA]
- 2 [Pecari tajacu ARTIODACTYLA]
- 3 [Romerolagus diazi LAGOMORPHA]
- 4 [Ochotona collaris LAGOMORPHA]
- 5 [Ochotona princeps LAGOMORPHA]
- 6 [Tapirus bairdii PERYSODACTYLA]
- 7 [Saguinus geoffroyi PRIMATES]
- 8 [Bradypus variegatus PILOSA]
- 9 [Cyclopes didactylus PILOSA]
- 10 [Tamandua mexicana PILOSA]
- 11 [Vulpes lagopus CARNIVORA]
- 12 [Canis latrans CARNIVORA]

- 13 [Canis lupus CARNIVORA]
 14 [Canis lupus rufus CARNIVORA]
 15 [Speothos venaticus CARNIVORA]
 16 [Urocyon cinereoargenteus CARNIVORA]
 17 [Urocyon littoralis CARNIVORA]
 18 [Vulpes velox CARNIVORA]
 19 [Vulpes vulpes CARNIVORA]
 20 [Antrozous pallidus VESPERTILIONIDAE]
 21 [Bauerus dubiaquercus VESPERTILIONIDAE]
 22 [Furipterus horrens FURIPTERIDAE]
 23 [Mormoops megalophylla MORMOOPIDAE]
 24 [Pteronotus davyi MORMOOPIDAE]
 25 [Pteronotus gymnonotus MORMOOPIDAE]
 26 [Pteronotus parnellii MORMOOPIDAE]
 27 [Pteronotus personatus MORMOOPIDAE]
 28 [Natalus stramineus NATALIDAE]
 29 [Noctilio albiventris NOCTILIONIDAE]
 30 [Noctilio leporinus NOCTILIONIDAE]
 31 [Thyroptera discifera THYROPTERIDAE]
 32 [Thyroptera tricolor THYROPTERIDAE]
 33 [Cuniculus paca CUNICULIDAE]
 34 [Dasyprocta coibae DASYPROCTIDAE]
 35 [Dasyprocta mexicana DASYPROCTIDAE]
 36 [Dasyprocta punctata DASYPROCTIDAE]
 37 [Dasyprocta ruatanica DASYPROCTIDAE]
 38 [Coendou rothschildi ERETHIZONTIDAE]
 39 [Erethizon dorsatum ERETHIZONTIDAE]
 40 [Sphiggurus mexicanus ERETHIZONTIDAE]
 41 [Hydrochaeris hydrochaeris CAVIIDAE]
 42 [Aplodontia rufa APLODONTIIDAE]
 43 [Castor canadensis CASTORIDAE]
 44 [Cratogeomys fumosus GEOMYIDAE]
 45 [Cratogeomys gymnurus GEOMYIDAE]
 46 [Cratogeomys merriami GEOMYIDAE]
 47 [Cratogeomys neglectus GEOMYIDAE]
 48 [Cratogeomys tylosinus GEOMYIDAE]
 49 [Cratogeomys zinseri GEOMYIDAE]
 50 [Geomys arenarius GEOMYIDAE]
 51 [Geomys attwateri GEOMYIDAE]
 52 [Geomys breviceps GEOMYIDAE]
 53 [Geomys bursarius GEOMYIDAE]
 54 [Geomys knoxjonesi GEOMYIDAE]
 55 [Geomys personatus GEOMYIDAE]
 56 [Geomys pinetis GEOMYIDAE]
 57 [Geomys texensis GEOMYIDAE]
 58 [Geomys tropicalis GEOMYIDAE]
 59 [Orthogeomys cavator GEOMYIDAE]
 60 [Orthogeomys cuniculus GEOMYIDAE]
 61 [Orthogeomys cherriei GEOMYIDAE]
 62 [Orthogeomys dariensis GEOMYIDAE]
 63 [Orthogeomys grandis GEOMYIDAE]
 64 [Orthogeomys heterodus GEOMYIDAE]
 65 [Orthogeomys hispidus GEOMYIDAE]
 66 [Orthogeomys lanius GEOMYIDAE]
 67 [Orthogeomys matagalpae GEOMYIDAE]
 68 [Orthogeomys underwoodi GEOMYIDAE]
 69 [Pappogeomys alcorni GEOMYIDAE]
 70 [Pappogeomys bulleri GEOMYIDAE]
 71 [Thomomys bottae GEOMYIDAE]
 72 [Thomomys bulbivorus GEOMYIDAE]
 73 [Thomomys clusius GEOMYIDAE]
 74 [Thomomys idahoensis GEOMYIDAE]
 75 [Thomomys mazama GEOMYIDAE]
 76 [Thomomys monticola GEOMYIDAE]
 77 [Thomomys talpoides GEOMYIDAE]
 78 [Thomomys townsendii GEOMYIDAE]
 79 [Thomomys umbrinus GEOMYIDAE]
 80 [Zygozomys trichopus GEOMYIDAE]
 81 [Bison bison ARTIODACTYLA]
 82 [Oreamnos americanus ARTIODACTYLA]
 83 [Ovibos moschatus ARTIODACTYLA]
 84 [Ovis canadensis ARTIODACTYLA]
 85 [Ovis dalli ARTIODACTYLA]
 86 [Cervus elaphus ARTIODACTYLA]
 87 [Alces alces ARTIODACTYLA]
 88 [Mazama americana ARTIODACTYLA]
 89 [Mazama gouazoubira ARTIODACTYLA]
 90 [Mazama pandora ARTIODACTYLA]
 91 [Odocoileus hemionus ARTIODACTYLA]
 92 [Odocoileus virginianus ARTIODACTYLA]
 93 [Rangifer tarandus ARTIODACTYLA]
 94 [Caluromys derbianus DIDELPHIDAE]
 95 [Chironectes minimus DIDELPHIDAE]
 96 [Didelphis marsupialis DIDELPHIDAE]
 97 [Didelphis virginiana DIDELPHIDAE]
 98 [Tacluatzin canescens DIDELPHIDAE]
 99 [Marmosa mexicana DIDELPHIDAE]
 100 [Marmosa robinsoni DIDELPHIDAE]
 101 [Marmosops impavidus DIDELPHIDAE]
 102 [Marmosops invictus DIDELPHIDAE]
 103 [Metachirus nudicaudatus DIDELPHIDAE]
 104 [Micoureus alstoni DIDELPHIDAE]
 105 [Monodelphis adusta DIDELPHIDAE]
 106 [Philander opossum DIDELPHIDAE]
 107 [Blarina brevicauda SORICIDAE]
 108 [Blarina carolinensis SORICIDAE]
 109 [Blarina hylophaga SORICIDAE]
 110 [Cryptotis endersi SORICIDAE]
 111 [Cryptotis goldmani SORICIDAE]
 112 [Cryptotis goodwini SORICIDAE]
 113 [Cryptotis gracilis SORICIDAE]
 114 [Cryptotis hondurensis SORICIDAE]
 115 [Cryptotis magna SORICIDAE]
 116 [Cryptotis mayensis SORICIDAE]
 117 [Cryptotis mera SORICIDAE]
 118 [Cryptotis merriami SORICIDAE]
 119 [Cryptotis mexicana SORICIDAE]
 120 [Cryptotis nigrescens SORICIDAE]
 121 [Cryptotis parva SORICIDAE]
 122 [Megasorex gigas SORICIDAE]
 123 [Notiosorex crawfordi SORICIDAE]
 124 [Sorex arcticus SORICIDAE]

- 125 [Sorex arizonae SORICIDAE]
 126 [Sorex bairdii SORICIDAE]
 127 [Sorex bendirii SORICIDAE]
 128 [Sorex cinereus SORICIDAE]
 129 [Sorex dispar SORICIDAE]
 130 [Sorex emarginatus SORICIDAE]
 131 [Sorex fumeus SORICIDAE]
 132 [Sorex gaspensis SORICIDAE]
 133 [Sorex haydeni SORICIDAE]
 134 [Sorex hoyi SORICIDAE]
 135 [Sorex hydrodromus SORICIDAE]
 136 [Sorex jacksoni SORICIDAE]
 137 [Sorex longirostris SORICIDAE]
 138 [Sorex lyelli SORICIDAE]
 139 [Sorex macrodon SORICIDAE]
 140 [Sorex merriami SORICIDAE]
 141 [Sorex milleri SORICIDAE]
 142 [Sorex nanus SORICIDAE]
 143 [Sorex oreopolus SORICIDAE]
 144 [Sorex ornatus SORICIDAE]
 145 [Sorex pacificus SORICIDAE]
 146 [Sorex palustris SORICIDAE]
 147 [Sorex preblei SORICIDAE]
 148 [Sorex saussurei SORICIDAE]
 149 [Sorex sclateri SORICIDAE]
 150 [Sorex sonomae SORICIDAE]
 151 [Sorex stizodon SORICIDAE]
 152 [Sorex tenellus SORICIDAE]
 153 [Sorex trowbridgii SORICIDAE]
 154 [Sorex tundrensis SORICIDAE]
 155 [Sorex ugyunak SORICIDAE]
 156 [Sorex ventralis SORICIDAE]
 157 [Sorex veraepacis SORICIDAE]
 158 [Condylura cristata TALPIDAE]
 159 [Neurotrichus gibbsii TALPIDAE]
 160 [Parascalops breweri TALPIDAE]
 161 [Scalopus aquaticus TALPIDAE]
 162 [Scapanus latimanus TALPIDAE]
 163 [Scapanus orarius TALPIDAE]
 164 [Scapanus townsendii TALPIDAE]
 165 [Brachylagus idahoensis LAGOMORPHA]
 166 [Lepus alleni LAGOMORPHA]
 167 [Lepus americanus LAGOMORPHA]
 168 [Lepus arcticus LAGOMORPHA]
 169 [Lepus californicus LAGOMORPHA]
 170 [Lepus callotis LAGOMORPHA]
 171 [Lepus flavigularis LAGOMORPHA]
 172 [Lepus insularis LAGOMORPHA]
 173 [Lepus othus LAGOMORPHA]
 174 [Lepus townsendii LAGOMORPHA]
 175 [Sylvilagus aquaticus LAGOMORPHA]
 176 [Sylvilagus audubonii LAGOMORPHA]
 177 [Sylvilagus bachmani LAGOMORPHA]
 178 [Sylvilagus brasiliensis LAGOMORPHA]
 179 [Sylvilagus cunicularius LAGOMORPHA]
 180 [Sylvilagus dicei LAGOMORPHA]
 181 [Sylvilagus floridanus LAGOMORPHA]
 182 [Sylvilagus graysoni LAGOMORPHA]
 183 [Sylvilagus insonus LAGOMORPHA]
 184 [Sylvilagus mansuetus LAGOMORPHA]
 185 [Sylvilagus nuttallii LAGOMORPHA]
 186 [Sylvilagus obscurus LAGOMORPHA]
 187 [Sylvilagus palustris LAGOMORPHA]
 188 [Sylvilagus transitionalis LAGOMORPHA]
 189 [Alouatta palliata PRIMATES]
 190 [Alouatta pigra PRIMATES]
 191 [Aotus lemurinus PRIMATES]
 192 [Ateles fusciceps PRIMATES]
 193 [Ateles geoffroyi PRIMATES]
 194 [Cebus capucinus PRIMATES]
 195 [Saimiri oerstedii PRIMATES]
 196 [Cabassous centralis CINGULATA]
 197 [Dasypus novemcinctus CINGULATA]
 198 [Choloepus hoffmanni PILOSA]
 199 [Lontra canadensis CARNIVORA]
 200 [Lontra longicaudis CARNIVORA]
 201 [Conepatus leuconotus CARNIVORA]
 202 [Conepatus mesoleucus CARNIVORA]
 203 [Conepatus semistriatus CARNIVORA]
 204 [Mephitis macroura CARNIVORA]
 205 [Mephitis mephitis CARNIVORA]
 206 [Spilogale pygmaea CARNIVORA]
 207 [Eira barbara CARNIVORA]
 208 [Galictis vittata CARNIVORA]
 209 [Gulo gulo CARNIVORA]
 210 [Martes americana CARNIVORA]
 211 [Martes pennanti CARNIVORA]
 212 [Mustela erminea CARNIVORA]
 213 [Mustela frenata CARNIVORA]
 214 [Mustela nigripes CARNIVORA]
 215 [Mustela nivalis CARNIVORA]
 216 [Neovison vison CARNIVORA]
 217 [Taxidea taxus CARNIVORA]
 218 [Bassaricyon gabbii CARNIVORA]
 219 [Potos flavus CARNIVORA]
 220 [Bassariscus astutus CARNIVORA]
 221 [Bassariscus sumichrasti CARNIVORA]
 222 [Nasua narica CARNIVORA]
 223 [Procyon cancrivorus CARNIVORA]
 224 [Procyon insularis CARNIVORA]
 225 [Procyon lotor CARNIVORA]
 226 [Procyon pygmaeus CARNIVORA]
 227 [Ursus americanus CARNIVORA]
 228 [Ursus arctos CARNIVORA]
 229 [Puma yagouaroundi CARNIVORA]
 230 [Leopardus pardalis CARNIVORA]
 231 [Leopardus tigrinus CARNIVORA]
 232 [Leopardus wiedii CARNIVORA]
 233 [Lynx canadensis CARNIVORA]
 234 [Lynx rufus CARNIVORA]
 235 [Puma concolor CARNIVORA]
 236 [Panthera onca CARNIVORA]

- 237 [Eumops auripendulus MOLOSSIDAE]
 238 [Eumops bonariensis MOLOSSIDAE]
 239 [Eumops glaucinus MOLOSSIDAE]
 240 [Eumops hansae MOLOSSIDAE]
 241 [Eumops perotis MOLOSSIDAE]
 242 [Eumops underwoodi MOLOSSIDAE]
 243 [Cynomops greenhalli MOLOSSIDAE]
 244 [Cynomops planirostris MOLOSSIDAE]
 245 [Molossus aztecus MOLOSSIDAE]
 246 [Molossus currentium bondae MOLOSSIDAE]
 247 [Molossus coibensis MOLOSSIDAE]
 248 [Molossus molossus MOLOSSIDAE]
 249 [Molossus pretiosus MOLOSSIDAE]
 250 [Molossus sinaloae MOLOSSIDAE]
 251 [Nyctinomops aurispinosus MOLOSSIDAE]
 252 [Nyctinomops femorosaccus MOLOSSIDAE]
 253 [Nyctinomops laticaudatus MOLOSSIDAE]
 254 [Nyctinomops macrotis MOLOSSIDAE]
 255 [Promops centralis MOLOSSIDAE]
 256 [Tadarida brasiliensis MOLOSSIDAE]
 257 [Desmodus rotundus PHYLLOSTOMIDAE]
 258 [Diaemus youngi PHYLLOSTOMIDAE]
 259 [Diphylla ecaudata PHYLLOSTOMIDAE]
 260 [Macrotus californicus PHYLLOSTOMIDAE]
 261 [Macrotus waterhousii PHYLLOSTOMIDAE]
 262 [Lamproncycteris brachyotis PHYLLOSTOMIDAE]
 263 [Glyphonycteris daviesi PHYLLOSTOMIDAE]
 264 [Micronycteris hirsuta PHYLLOSTOMIDAE]
 265 [Micronycteris microtis PHYLLOSTOMIDAE]
 266 [Micronycteris minuta PHYLLOSTOMIDAE]
 267 [Trinycteris nicefori PHYLLOSTOMIDAE]
 268 [Micronycteris schmidtorum PHYLLOSTOMIDAE]
 269 [Glyphonycteris sylvestris PHYLLOSTOMIDAE]
 270 [Chrotopterus auritus PHYLLOSTOMIDAE]
 271 [Trachops cirrhosus PHYLLOSTOMIDAE]
 272 [Vampyrus spectrum PHYLLOSTOMIDAE]
 273 [Lasionycteris noctivagans VESPERTILIONIDAE]
 274 [Myotis albescens VESPERTILIONIDAE]
 275 [Myotis auriculus VESPERTILIONIDAE]
 276 [Myotis austroriparius VESPERTILIONIDAE]
 277 [Myotis californicus VESPERTILIONIDAE]
 278 [Myotis carteri VESPERTILIONIDAE]
 279 [Myotis ciliolabrum VESPERTILIONIDAE]
 280 [Myotis cobanensis VESPERTILIONIDAE]
 281 [Myotis elegans VESPERTILIONIDAE]
 282 [Myotis evotis VESPERTILIONIDAE]
 283 [Myotis findleyi VESPERTILIONIDAE]
 284 [Myotis fortidens VESPERTILIONIDAE]
 285 [Myotis grisescens VESPERTILIONIDAE]
 286 [Myotis keaysi VESPERTILIONIDAE]
 287 [Myotis keenii VESPERTILIONIDAE]
 288 [Myotis leibii VESPERTILIONIDAE]
 289 [Myotis lucifugus VESPERTILIONIDAE]
 290 [Myotis nigricans VESPERTILIONIDAE]
 291 [Myotis oxyotus VESPERTILIONIDAE]
 292 [Myotis peninsularis VESPERTILIONIDAE]
 293 [Myotis planiceps VESPERTILIONIDAE]
 294 [Myotis riparius VESPERTILIONIDAE]
 295 [Myotis septentrionalis VESPERTILIONIDAE]
 296 [Myotis sodalis VESPERTILIONIDAE]
 297 [Myotis thysanodes VESPERTILIONIDAE]
 298 [Myotis velifer VESPERTILIONIDAE]
 299 [Myotis vivesi VESPERTILIONIDAE]
 300 [Myotis volans VESPERTILIONIDAE]
 301 [Myotis yumanensis VESPERTILIONIDAE]
 302 [Corynorhinus mexicanus VESPERTILIONIDAE]
 303 [Corynorhinus rafinesquii VESPERTILIONIDAE]
 304 [Corynorhinus townsendii VESPERTILIONIDAE]
 305 [Eptesicus brasiliensis VESPERTILIONIDAE]
 306 [Eptesicus furinalis VESPERTILIONIDAE]
 307 [Eptesicus fuscus VESPERTILIONIDAE]
 308 [Euderma maculatum VESPERTILIONIDAE]
 309 [Idionycteris phyllotis VESPERTILIONIDAE]
 310 [Lasiurus blossevillii VESPERTILIONIDAE]
 311 [Lasiurus borealis VESPERTILIONIDAE]
 312 [Lasiurus castaneus VESPERTILIONIDAE]
 313 [Lasiurus cinereus VESPERTILIONIDAE]
 314 [Lasiurus ega VESPERTILIONIDAE]
 315 [Lasiurus egregius VESPERTILIONIDAE]
 316 [Lasiurus intermedius VESPERTILIONIDAE]
 317 [Lasiurus seminolus VESPERTILIONIDAE]
 318 [Lasiurus xanthinus VESPERTILIONIDAE]
 319 [Nycticeius humeralis VESPERTILIONIDAE]
 320 [Pipistrellus hesperus VESPERTILIONIDAE]
 321 [Pipistrellus subflavus VESPERTILIONIDAE]
 322 [Rhogeessa aeneus VESPERTILIONIDAE]
 323 [Rhogeessa alleni VESPERTILIONIDAE]
 324 [Rhogeessa genowaysi VESPERTILIONIDAE]
 325 [Rhogeessa gracilis VESPERTILIONIDAE]
 326 [Rhogeessa mira VESPERTILIONIDAE]
 327 [Rhogeessa parvula VESPERTILIONIDAE]
 328 [Rhogeessa tumida VESPERTILIONIDAE]
 329 [Diplomys labilis ECHIMYIDAE]
 330 [Hoplomys gymnurus ECHIMYIDAE]
 331 [Proechimys semispinosus ECHIMYIDAE]
 332 [Napaeozapus insignis DIPODIDAE]
 333 [Zapus hudsonius DIPODIDAE]
 334 [Zapus princeps DIPODIDAE]
 335 [Zapus trinotatus DIPODIDAE]
 336 [Dipodomys agilis HETEROMYIDAE]
 337 [Dipodomys californicus HETEROMYIDAE]
 338 [Dipodomys compactus HETEROMYIDAE]
 339 [Dipodomys deserti HETEROMYIDAE]
 340 [Dipodomys elator HETEROMYIDAE]
 341 [Dipodomys elephantinus HETEROMYIDAE]
 342 [Dipodomys gravipes HETEROMYIDAE]
 343 [Dipodomys heermanni HETEROMYIDAE]
 344 [Dipodomys ingens HETEROMYIDAE]
 345 [Dipodomys merriami HETEROMYIDAE]
 346 [Dipodomys microps HETEROMYIDAE]
 347 [Dipodomys nelsoni HETEROMYIDAE]
 348 [Dipodomys nitratoides HETEROMYIDAE]

- 349 [Dipodomys ordii HETEROMYIDAE]
 350 [Dipodomys panamintinus HETEROMYIDAE]
 351 [Dipodomys phillipsii HETEROMYIDAE]
 352 [Dipodomys spectabilis HETEROMYIDAE]
 353 [Dipodomys stephensi HETEROMYIDAE]
 354 [Dipodomys venustus HETEROMYIDAE]
 355 [Microdipodops megacephalus HETEROMYIDAE]
 356 [Microdipodops pallidus HETEROMYIDAE]
 357 [Heteromys australis HETEROMYIDAE]
 358 [Heteromys desmarestianus HETEROMYIDAE]
 359 [Heteromys gaumeri HETEROMYIDAE]
 360 [Heteromys goldmani HETEROMYIDAE]
 361 [Heteromys nelsoni HETEROMYIDAE]
 362 [Heteromys oresterus HETEROMYIDAE]
 363 [Liomys adspersus HETEROMYIDAE]
 364 [Liomys irroratus HETEROMYIDAE]
 365 [Liomys pictus HETEROMYIDAE]
 366 [Liomys salvini HETEROMYIDAE]
 367 [Liomys spectabilis HETEROMYIDAE]
 368 [Chaetodipus arenarius HETEROMYIDAE]
 369 [Chaetodipus artus HETEROMYIDAE]
 370 [Chaetodipus baileyi HETEROMYIDAE]
 371 [Chaetodipus californicus HETEROMYIDAE]
 372 [Chaetodipus fallax HETEROMYIDAE]
 373 [Chaetodipus formosus HETEROMYIDAE]
 374 [Chaetodipus goldmani HETEROMYIDAE]
 375 [Chaetodipus hispidus HETEROMYIDAE]
 376 [Chaetodipus intermedius HETEROMYIDAE]
 377 [Chaetodipus lineatus HETEROMYIDAE]
 378 [Chaetodipus nelsoni HETEROMYIDAE]
 379 [Chaetodipus penicillatus HETEROMYIDAE]
 380 [Chaetodipus pernix HETEROMYIDAE]
 381 [Chaetodipus spinatus HETEROMYIDAE]
 382 [Perognathus alticolus HETEROMYIDAE]
 383 [Perognathus amplus HETEROMYIDAE]
 384 [Perognathus fasciatus HETEROMYIDAE]
 385 [Perognathus flavescens HETEROMYIDAE]
 386 [Perognathus flavus HETEROMYIDAE]
 387 [Perognathus inornatus HETEROMYIDAE]
 388 [Perognathus longimembris HETEROMYIDAE]
 389 [Perognathus merriami HETEROMYIDAE]
 390 [Perognathus parvus HETEROMYIDAE]
 391 [Arborimus albipes CRICETIDAE]
 392 [Arborimus longicaudus CRICETIDAE]
 393 [Arborimus pomo CRICETIDAE]
 394 [Myodes californicus CRICETIDAE]
 395 [Myodes gapperi CRICETIDAE]
 396 [Myodes rutilus CRICETIDAE]
 397 [Dicrostonyx groenlandicus CRICETIDAE]
 398 [Dicrostonyx hudsonius CRICETIDAE]
 399 [Dicrostonyx richardsoni CRICETIDAE]
 400 [Lemmys curtatus CRICETIDAE]
 401 [Lemmys sibiricus CRICETIDAE]
 402 [Microtus abbreviatus CRICETIDAE]
 403 [Microtus breweri CRICETIDAE]
 404 [Microtus californicus CRICETIDAE]
 405 [Microtus canicaudus CRICETIDAE]
 406 [Microtus chrotorrhinus CRICETIDAE]
 407 [Microtus guatemalensis CRICETIDAE]
 408 [Microtus longicaudus CRICETIDAE]
 409 [Microtus mexicanus CRICETIDAE]
 410 [Microtus miurus CRICETIDAE]
 411 [Microtus mogollonensis CRICETIDAE]
 412 [Microtus montanus CRICETIDAE]
 413 [Microtus oaxacensis CRICETIDAE]
 414 [Microtus ochrogaster CRICETIDAE]
 415 [Microtus oeconomus CRICETIDAE]
 416 [Microtus oregoni CRICETIDAE]
 417 [Microtus pennsylvanicus CRICETIDAE]
 418 [Microtus pinetorum CRICETIDAE]
 419 [Microtus quasiater CRICETIDAE]
 420 [Microtus richardsoni CRICETIDAE]
 421 [Microtus townsendii CRICETIDAE]
 422 [Microtus umbrosus CRICETIDAE]
 423 [Microtus xanthognathus CRICETIDAE]
 424 [Neofiber alleni CRICETIDAE]
 425 [Ondatra zibethicus CRICETIDAE]
 426 [Phenacomys intermedius CRICETIDAE]
 427 [Phenacomys ungava CRICETIDAE]
 428 [Synaptomys borealis CRICETIDAE]
 429 [Synaptomys cooperi CRICETIDAE]
 430 [Baiomys musculus CRICETIDAE]
 431 [Baiomys taylori CRICETIDAE]
 432 [Habromys chinanteco CRICETIDAE]
 433 [Habromys lepturus CRICETIDAE]
 434 [Habromys lophurus CRICETIDAE]
 435 [Habromys simulatus CRICETIDAE]
 436 [Hodomys alleni CRICETIDAE]
 437 [Ichthyomys tweedii CRICETIDAE]
 438 [Isthmomyms flavidus CRICETIDAE]
 439 [Isthmomyms pirrensis CRICETIDAE]
 440 [Megadontomys cryophilus CRICETIDAE]
 441 [Megadontomys nelsoni CRICETIDAE]
 442 [Megadontomys thomasi CRICETIDAE]
 443 [Melanomys caliginosus CRICETIDAE]
 444 [Neacomys pictus CRICETIDAE]
 445 [Nelsonia goldmani CRICETIDAE]
 446 [Nelsonia neotomodon CRICETIDAE]
 447 [Neotoma albigula CRICETIDAE]
 448 [Neotoma angustapalata CRICETIDAE]
 449 [Neotoma anthonyi CRICETIDAE]
 450 [Neotoma bryanti CRICETIDAE]
 451 [Neotoma bunkerii CRICETIDAE]
 452 [Neotoma cinerea CRICETIDAE]
 453 [Neotoma chrysomelas CRICETIDAE]
 454 [Neotoma devia CRICETIDAE]
 455 [Neotoma floridana CRICETIDAE]
 456 [Neotoma fuscipes CRICETIDAE]
 457 [Neotoma goldmani CRICETIDAE]
 458 [Neotoma lepida CRICETIDAE]
 459 [Neotoma magister CRICETIDAE]
 460 [Neotoma martinensis CRICETIDAE]

- 461 [*Neotoma mexicana* CRICETIDAE]
 462 [*Neotoma micropus* CRICETIDAE]
 463 [*Neotoma nelsoni* CRICETIDAE]
 464 [*Neotoma palatina* CRICETIDAE]
 465 [*Neotoma phenax* CRICETIDAE]
 466 [*Neotoma stephensi* CRICETIDAE]
 467 [*Neotoma varia* CRICETIDAE]
 468 [*Neotomodon alstoni* CRICETIDAE]
 469 [*Nyctomys sumichrasti* CRICETIDAE]
 470 [*Ochrotomys nuttalli* CRICETIDAE]
 471 [*Oecomys bicolor* CRICETIDAE]
 472 [*Oecomys trinitatis* CRICETIDAE]
 473 [*Oligoryzomys fulvescens* CRICETIDAE]
 474 [*Oligoryzomys vegetus* CRICETIDAE]
 475 [*Onychomys arenicola* CRICETIDAE]
 476 [*Onychomys leucogaster* CRICETIDAE]
 477 [*Onychomys torridus* CRICETIDAE]
 478 [*Oryzomys albigularis* CRICETIDAE]
 479 [*Sigmodontomys alfari* CRICETIDAE]
 480 [*Oryzomys alfaroi* CRICETIDAE]
 481 [*Sigmodontomys aphrastus* CRICETIDAE]
 482 [*Oryzomys bolivaris* CRICETIDAE]
 483 [*Oryzomys couesi* CRICETIDAE]
 484 [*Oryzomys chapmani* CRICETIDAE]
 485 [*Oryzomys dimidiatus* CRICETIDAE]
 486 [*Oryzomys melanotis* CRICETIDAE]
 487 [*Oryzomys palustris* CRICETIDAE]
 488 [*Oryzomys rhabdops* CRICETIDAE]
 489 [*Oryzomys talamancae* CRICETIDAE]
 490 [*Osgoodomys banderanus* CRICETIDAE]
 491 [*Otonyctomys hatti* CRICETIDAE]
 492 [*Ototylomys phyllotis* CRICETIDAE]
 493 [*Peromyscus attwateri* CRICETIDAE]
 494 [*Peromyscus beatae* CRICETIDAE]
 495 [*Peromyscus boylii* CRICETIDAE]
 496 [*Peromyscus bullatus* CRICETIDAE]
 497 [*Peromyscus californicus* CRICETIDAE]
 498 [*Peromyscus crinitus* CRICETIDAE]
 499 [*Peromyscus dickeyi* CRICETIDAE]
 500 [*Peromyscus difficilis* CRICETIDAE]
 501 [*Peromyscus eremicus* CRICETIDAE]
 502 [*Peromyscus eva* CRICETIDAE]
 503 [*Peromyscus furvus* CRICETIDAE]
 504 [*Peromyscus gossypinus* CRICETIDAE]
 505 [*Peromyscus grandis* CRICETIDAE]
 506 [*Peromyscus gratus* CRICETIDAE]
 507 [*Peromyscus guardia* CRICETIDAE]
 508 [*Peromyscus guatemalensis* CRICETIDAE]
 509 [*Peromyscus gymnotis* CRICETIDAE]
 510 [*Peromyscus hooperi* CRICETIDAE]
 511 [*Peromyscus interparietalis* CRICETIDAE]
 512 [*Peromyscus keeni* CRICETIDAE]
 513 [*Peromyscus leucopus* CRICETIDAE]
 514 [*Peromyscus madrensis* CRICETIDAE]
 515 [*Peromyscus maniculatus* CRICETIDAE]
 516 [*Peromyscus mayensis* CRICETIDAE]
 517 [*Peromyscus megalops* CRICETIDAE]
 518 [*Peromyscus mekisturus* CRICETIDAE]
 519 [*Peromyscus melanocarpus* CRICETIDAE]
 520 [*Peromyscus melanophrys* CRICETIDAE]
 521 [*Peromyscus melanotis* CRICETIDAE]
 522 [*Peromyscus melanurus* CRICETIDAE]
 523 [*Peromyscus merriami* CRICETIDAE]
 524 [*Peromyscus mexicanus* CRICETIDAE]
 525 [*Peromyscus nasutus* CRICETIDAE]
 526 [*Peromyscus ochraventer* CRICETIDAE]
 527 [*Peromyscus pectoralis* CRICETIDAE]
 528 [*Peromyscus pembertoni* CRICETIDAE]
 529 [*Peromyscus perfulvus* CRICETIDAE]
 530 [*Peromyscus polionotus* CRICETIDAE]
 531 [*Peromyscus polius* CRICETIDAE]
 532 [*Peromyscus sejugis* CRICETIDAE]
 533 [*Peromyscus simulus* CRICETIDAE]
 534 [*Peromyscus slevini* CRICETIDAE]
 535 [*Peromyscus spicilegus* CRICETIDAE]
 536 [*Peromyscus stephani* CRICETIDAE]
 537 [*Peromyscus stirtoni* CRICETIDAE]
 538 [*Peromyscus truei* CRICETIDAE]
 539 [*Peromyscus winkelmanni* CRICETIDAE]
 540 [*Peromyscus yucatanicus* CRICETIDAE]
 541 [*Peromyscus zarhynchus* CRICETIDAE]
 542 [*Podomys floridanus* CRICETIDAE]
 543 [*Reithrodontomys brevirostris* CRICETIDAE]
 544 [*Reithrodontomys burti* CRICETIDAE]
 545 [*Reithrodontomys creper* CRICETIDAE]
 546 [*Reithrodontomys chrysopsis* CRICETIDAE]
 547 [*Reithrodontomys darienensis* CRICETIDAE]
 548 [*Reithrodontomys fulvescens* CRICETIDAE]
 549 [*Reithrodontomys gracilis* CRICETIDAE]
 550 [*Reithrodontomys hirsutus* CRICETIDAE]
 551 [*Reithrodontomys humulis* CRICETIDAE]
 552 [*Reithrodontomys megalotis* CRICETIDAE]
 553 [*Reithrodontomys mexicanus* CRICETIDAE]
 554 [*Reithrodontomys microdon* CRICETIDAE]
 555 [*Reithrodontomys montanus* CRICETIDAE]
 556 [*Reithrodontomys paradoxus* CRICETIDAE]
 557 [*Reithrodontomys raviventris* CRICETIDAE]
 558 [*Reithrodontomys rodriguezii* CRICETIDAE]
 559 [*Reithrodontomys spectabilis* CRICETIDAE]
 560 [*Reithrodontomys sumichrasti* CRICETIDAE]
 561 [*Reithrodontomys tenuirostris* CRICETIDAE]
 562 [*Reithrodontomys zacatecae* CRICETIDAE]
 563 [*Rheomys mexicanus* CRICETIDAE]
 564 [*Rheomys raptor* CRICETIDAE]
 565 [*Rheomys thomasi* CRICETIDAE]
 566 [*Rheomys underwoodi* CRICETIDAE]
 567 [*Rhipidomys scandens* CRICETIDAE]
 568 [*Scotinomys teguina* CRICETIDAE]
 569 [*Scotinomys xerampelinus* CRICETIDAE]
 570 [*Sigmodon alleni* CRICETIDAE]
 571 [*Sigmodon arizonae* CRICETIDAE]
 572 [*Sigmodon fulviventer* CRICETIDAE]

- 573 [Sigmodon hispidus CRICETIDAE]
 574 [Sigmodon leucotis CRICETIDAE]
 575 [Sigmodon mascotensis CRICETIDAE]
 576 [Sigmodon ochrognathus CRICETIDAE]
 577 [Tylomys bullaris CRICETIDAE]
 578 [Tylomys nudicaudus CRICETIDAE]
 579 [Tylomys tumbalensis CRICETIDAE]
 580 [Tylomys watsoni CRICETIDAE]
 581 [Xenomys nelsoni CRICETIDAE]
 582 [Zygodontomys brevicauda CRICETIDAE]
 583 [Glaucocorys volans CRICETIDAE]
 584 [Ammospermophilus harrisi SCIURIDAE]
 585 [Ammospermophilus insularis SCIURIDAE]
 586 [Ammospermophilus interpres SCIURIDAE]
 587 [Ammospermophilus leucurus SCIURIDAE]
 588 [Ammospermophilus nelsoni SCIURIDAE]
 589 [Cynomys gunnisoni SCIURIDAE]
 590 [Cynomys leucurus SCIURIDAE]
 591 [Cynomys ludovicianus SCIURIDAE]
 592 [Cynomys mexicanus SCIURIDAE]
 593 [Cynomys parvidens SCIURIDAE]
 594 [Marmota broweri SCIURIDAE]
 595 [Marmota caligata SCIURIDAE]
 596 [Marmota flaviventris SCIURIDAE]
 597 [Marmota monax SCIURIDAE]
 598 [Marmota olympus SCIURIDAE]
 599 [Marmota vancouverensis SCIURIDAE]
 600 [Microsciurus alfari SCIURIDAE]
 601 [Microsciurus mimulus SCIURIDAE]
 602 [Sciurus aberti SCIURIDAE]
 603 [Sciurus alleni SCIURIDAE]
 604 [Sciurus arizonensis SCIURIDAE]
 605 [Sciurus aureogaster SCIURIDAE]
 606 [Sciurus carolinensis SCIURIDAE]
 607 [Sciurus colliaei SCIURIDAE]
 608 [Sciurus deppei SCIURIDAE]
 609 [Sciurus granatensis SCIURIDAE]
 610 [Sciurus griseus SCIURIDAE]
 611 [Sciurus nayaritensis SCIURIDAE]
 612 [Sciurus niger SCIURIDAE]
 613 [Sciurus oculatus SCIURIDAE]
 614 [Sciurus richmondi SCIURIDAE]
 615 [Sciurus variegatoides SCIURIDAE]
 616 [Sciurus yucatanensis SCIURIDAE]
 617 [Spermophilus adocetus SCIURIDAE]
 618 [Spermophilus annulatus SCIURIDAE]
 619 [Spermophilus armatus SCIURIDAE]
 620 [Spermophilus atricapillus SCIURIDAE]
 621 [Spermophilus beecheyi SCIURIDAE]
 622 [Spermophilus beldingi SCIURIDAE]
 623 [Spermophilus brunneus SCIURIDAE]
 624 [Spermophilus canus SCIURIDAE]
 625 [Spermophilus columbianus SCIURIDAE]
 626 [Spermophilus elegans SCIURIDAE]
 627 [Spermophilus franklinii SCIURIDAE]
 628 [Spermophilus lateralis SCIURIDAE]
 629 [Spermophilus madrensis SCIURIDAE]
 630 [Spermophilus mexicanus SCIURIDAE]
 631 [Spermophilus mohavensis SCIURIDAE]
 632 [Spermophilus mollis SCIURIDAE]
 633 [Spermophilus parryi SCIURIDAE]
 634 [Spermophilus perotensis SCIURIDAE]
 635 [Spermophilus richardsonii SCIURIDAE]
 636 [Spermophilus saturatus SCIURIDAE]
 637 [Spermophilus spilosoma SCIURIDAE]
 638 [Spermophilus tereticaudus SCIURIDAE]
 639 [Spermophilus townsendii SCIURIDAE]
 640 [Spermophilus tridecemlineatus SCIURIDAE]
 641 [Spermophilus variegatus SCIURIDAE]
 642 [Spermophilus washingtoni SCIURIDAE]
 643 [Syntheosciurus brochus SCIURIDAE]
 644 [Tamias alpinus SCIURIDAE]
 645 [Tamias amoenus SCIURIDAE]
 646 [Tamias bulleri SCIURIDAE]
 647 [Tamias canipes SCIURIDAE]
 648 [Tamias cinereicollis SCIURIDAE]
 649 [Tamias dorsalis SCIURIDAE]
 650 [Tamias durangae SCIURIDAE]
 651 [Tamias merriami SCIURIDAE]
 652 [Tamias minimus SCIURIDAE]
 653 [Tamias obscurus SCIURIDAE]
 654 [Tamias ochrogenys SCIURIDAE]
 655 [Tamias palmeri SCIURIDAE]
 656 [Tamias panamintinus SCIURIDAE]
 657 [Tamias quadrimaculatus SCIURIDAE]
 658 [Tamias quadrivittatus SCIURIDAE]
 659 [Tamias ruficaudus SCIURIDAE]
 660 [Tamias rufus SCIURIDAE]
 661 [Tamias senex SCIURIDAE]
 662 [Tamias siskiyou SCIURIDAE]
 663 [Tamias sonomae SCIURIDAE]
 664 [Tamias speciosus SCIURIDAE]
 665 [Tamias striatus SCIURIDAE]
 666 [Tamias townsendii SCIURIDAE]
 667 [Tamias umbrinus SCIURIDAE]
 668 [Tamiasciurus douglasii SCIURIDAE]
 669 [Tamiasciurus hudsonicus SCIURIDAE]
 670 [Tamiasciurus mearnsi SCIURIDAE]
 671 [Balantiopteryx io EMBALLONURIDAE]
 672 [Balantiopteryx plicata EMBALLONURIDAE]
 673 [Centronycteris maximiliani EMBALLONURIDAE]
 674 [Cormura brevirostris EMBALLONURIDAE]
 675 [Cytarops alecto EMBALLONURIDAE]
 676 [Diclidurus albus EMBALLONURIDAE]
 677 [Peropteryx kappleri EMBALLONURIDAE]
 678 [Peropteryx macrotis EMBALLONURIDAE]
 679 [Rhynchonycteris naso EMBALLONURIDAE]
 680 [Saccopteryx bilineata EMBALLONURIDAE]
 681 [Saccopteryx leptura EMBALLONURIDAE]
 682 [Anoura cultrata PHYLLOSTOMIDAE]
 683 [Anoura geoffroyi PHYLLOSTOMIDAE]
 684 [Choeroneiscus godmani PHYLLOSTOMIDAE]

- 685 [Choeronycteris mexicana PHYLLOSTOMIDAE]
686 [Glossophaga commissarisi PHYLLOSTOMIDAE]
687 [Glossophaga leachii PHYLLOSTOMIDAE]
688 [Glossophaga morenoi PHYLLOSTOMIDAE]
689 [Glossophaga soricina PHYLLOSTOMIDAE]
690 [Hylonycteris underwoodi PHYLLOSTOMIDAE]
691 [Leptonycteris curasoae PHYLLOSTOMIDAE]
692 [Leptonycteris nivalis PHYLLOSTOMIDAE]
693 [Lichonycteris obscura PHYLLOSTOMIDAE]
694 [Lionycteris spurrelli PHYLLOSTOMIDAE]
695 [Lonchophylla mordax PHYLLOSTOMIDAE]
696 [Lonchophylla robusta PHYLLOSTOMIDAE]
697 [Lonchophylla thomasi PHYLLOSTOMIDAE]
698 [Musonycteris harrisoni PHYLLOSTOMIDAE]
699 [Lonchorhina aurita PHYLLOSTOMIDAE]
700 [Macrophyllum macrophyllum PHYLLOSTOMIDAE]
701 [Mimon bennettii PHYLLOSTOMIDAE]
702 [Mimon crenulatum PHYLLOSTOMIDAE]
703 [Phyllostomus discolor PHYLLOSTOMIDAE]
704 [Phyllostomus hastatus PHYLLOSTOMIDAE]
705 [Phyllostomus stenops PHYLLOSTOMIDAE]
706 [Tonatia bidens PHYLLOSTOMIDAE]
707 [Tonatia brasiliense PHYLLOSTOMIDAE]
708 [Tonatia evotis PHYLLOSTOMIDAE]
709 [Tonatia silvicola PHYLLOSTOMIDAE]
710 [Ametrida centurio PHYLLOSTOMIDAE]
711 [Artibeus hirsutus PHYLLOSTOMIDAE]
712 [Artibeus inopinatus PHYLLOSTOMIDAE]
713 [Artibeus intermedius PHYLLOSTOMIDAE]
714 [Artibeus jamaicensis PHYLLOSTOMIDAE]
715 [Artibeus lituratus PHYLLOSTOMIDAE]
716 [Carollia brevicauda PHYLLOSTOMIDAE]
717 [Carollia castanea PHYLLOSTOMIDAE]
718 [Carollia perspicillata PHYLLOSTOMIDAE]
719 [Carollia subrufa PHYLLOSTOMIDAE]
720 [Centurio senex PHYLLOSTOMIDAE]
721 [Chiroderma salvini PHYLLOSTOMIDAE]
722 [Chiroderma trinitatum PHYLLOSTOMIDAE]
723 [Chiroderma villosum PHYLLOSTOMIDAE]
724 [Dermanura aztecus PHYLLOSTOMIDAE]
725 [Dermanura phaeotis PHYLLOSTOMIDAE]
726 [Dermanura tolteca PHYLLOSTOMIDAE]
727 [Dermanura watsoni PHYLLOSTOMIDAE]
728 [Ectophylla alba PHYLLOSTOMIDAE]
729 [Enchisthenes hartii PHYLLOSTOMIDAE]
730 [Mesophylla macconnelli PHYLLOSTOMIDAE]
731 [Platyrrhinus dorsalis PHYLLOSTOMIDAE]
732 [Platyrrhinus helleri PHYLLOSTOMIDAE]
733 [Platyrrhinus vittatus PHYLLOSTOMIDAE]
734 [Sturnira lilium PHYLLOSTOMIDAE]
735 [Sturnira ludovici PHYLLOSTOMIDAE]
736 [Sturnira luisi PHYLLOSTOMIDAE]
737 [Sturnira mordax PHYLLOSTOMIDAE]
738 [Uroderma bilobatum PHYLLOSTOMIDAE]
739 [Uroderma magnirostrum PHYLLOSTOMIDAE]
740 [Vampyressa nymphaea PHYLLOSTOMIDAE]
741 [Vampyressa pusilla PHYLLOSTOMIDAE]
742 [Vampyrodes caraccioli PHYLLOSTOMIDAE]
743 [Molossus rufus PHYLLOSTOMIDAE]
744 {16 17} [Urocyon CARNIVORA]
745 {24 25} [Pteronotus dav + gymn MORMOOPIDAE]
746 {29 30} [Noctilio NOCTILIONIDAE]
747 {47 48} [Cratogeomys 47+48 GEOMYDAE]
748 {47 48 49} [Cratogeomys 47+48+49 GEOMYDAE]
749 {45 47 48 49} [Cratogeomys 45+47+48+49 GEOMYDAE]
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751 {55 58} [Geomys 55+58 GEOMYDAE]
752 {51 55 58} [Geomys 51+55+58 GEOMYDAE]
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754 {50 54 57} [Geomys 50+54+57 GEOMYDAE]
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756 {50 51 53 54 55 57 58} [Geomys 50+51+53+54+55+57+58 GEOMYDAE]
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759 {61 68} [Orthogeomys 61+68 GEOMYDAE]
760 {61 64 68} [Orthogeomys 61+64+68 GEOMYDAE]
761 {59 61 64 68} [Orthogeomys 59+61+64+68 GEOMYDAE]
762 {59 61 64 65 68} [Orthogeomys 59+61+64+65+68 GEOMYDAE]
763 {69 70} [Pappogeomys GEOMYDAE]
764 {71 78} [Thomomys 71+78 GEOMYDAE]
765 {71 78 79} [Thomomys 71+78+79 GEOMYDAE]
766 {71 72 78 79} [Thomomys 71+72+78+79 GEOMYDAE]
767 {76 77} [Thomomys 76+77 GEOMYDAE]
768 {74 76 77} [Thomomys 74+76+77 GEOMYDAE]
769 {74 75 76 77} [Thomomys 74+75+76+77 GEOMYDAE]
770 {71 72 74 75 76 77 78 79} [Thomomys GEOMYDAE]
771 {84 85} [Ovis 84+85 ARTIODACTYLA]
772 {91 92} [Odocoileus ARTIODACTYLA]
773 {107 108} [Blarina 107+108 SORICIDAE]
774 {107 108 109} [Blarina 107+108+109 SORICIDAE]
775 {204 205} [Mephitis CARNIVORA]
776 {220 221} [Bassariscus CARNIVORA]
777 {223 225 226} [Procyon CARNIVORA]
778 {229 235} [Puma CARNIVORA]
779 {230 232} [Leopardus 230+232 CARNIVORA]
780 {252 253} [Nyctinomops 252+253 MOLOSSIDAE]
781 {251 252 253} [Nyctinomops 251+252+253 MOLOSSIDAE]
782 {251 252 253 254} [Nyctinomops 251+252+253+254 MOLOSSIDAE]
783 {260 261} [Macrotus PHYLLOSTOMIDAE]
784 {302 304} [Corynorhinus 302+304 VERPERTILIONIDAE]
785 {302 303 304} [Corynorhinus VERPERTILIONIDAE]
786 {334 335} [Zapus 334+335 DIPODIDAE]
787 {333 334 335} [Zapus DIPODIDAE]
788 {347 352} [Dipodomys 347+352 HETEROMYIDAE]
789 {340 351} [Dipodomys 340+351 HETEROMYIDAE]
790 {345 348} [Dipodomys 345+348 HETEROMYIDAE]
791 {340 345 348 351} [Dipodomys 340+345+348+351 HETEROMYIDAE]
792 {338 349} [Dipodomys 338+349 HETEROMYIDAE]
793 {342 344} [Dipodomys 342+344 HETEROMYIDAE]
794 {343 350} [Dipodomys 343+350 HETEROMYIDAE]

795 {343 350 353} [Dipodomys 343+350+353 HETEROMYIDAE]
 796 {343 346 350 353} [Dipodomys 343+346+350+353 HETEROMYIDAE]
 797 {342 343 344 346 350 353} [Dipodomys 342+343+344+346+350+353 HETEROMYIDAE]
 798 {336 337 338 340 342 343 344 345 346 347 348 349 350 351 352 353 354} [Dipodomys HETEROMYIDAE]
 799 {355 356} [Microdipodops HETEROMYIDAE]
 800 {363 366} [Liomys 363+366 HETEROMYIDAE]
 801 {365 367} [Liomys 365+367 HETEROMYIDAE]
 802 {364 365 367} [Liomys 364+365+367 HETEROMYIDAE]
 803 {387 388} [Perognathus 387+388 HETEROMYIDAE]
 804 {383 387 388} [Perognathus 383+387+388 HETEROMYIDAE]
 805 {385 389} [Perognathus 385+389 HETEROMYIDAE]
 806 {385 386 389} [Perognathus 385+386+389 HETEROMYIDAE]
 807 {383 385 386 387 388 389} [Perognathus 383+385+386+387+388+389 HETEROMYIDAE]
 808 {383 384 385 386 387 388 389} [Perognathus 383+384+385+386+387+388+389 HETEROMYIDAE]
 809 {383 384 385 386 387 388 389 390} [Perognathus 383+384+385+386+387+388+389+390 HETEROMYIDAE]
 810 {382 383 384 385 386 387 388 389 390} [Perognathus HETEROMYIDAE]
 811 {391 392} [Arborimus 391+392 CRICETIDAE]
 812 {391 392 393} [Arborimus CRICETIDAE]
 813 {475 477} [Onychomys 475+477 CRICETIDAE]
 814 {475 476 477} [Onychomys CRICETIDAE]
 815 {584 585 586 587 588} [Ammospermophilus SCIURIDAE]
 816 {589 590} [Cynomys 589+590 SCIURIDAE]
 817 {589 590 593} [Cynomys 589+590+593 SCIURIDAE]
 818 {591 592} [Cynomys 591+592 SCIURIDAE]
 819 {589 590 591 592 593} [Cynomys SCIURIDAE]
 820 {598 599} [Marmota 598+599 SCIURIDAE]

Appendix 2

Sixty-five consensus areas (CAs) calculated with a loose consensus of 40%. ID of the CA, number of AEs included, number of taxa that give score, list of the endemic taxa and nodes with the minimum and maximum score, list of AEs included, number of cells of the current CA, number and list of nested, disjunct and overlapping CAs with the current CA

Consensus area 0 (from 7 areas), 19 species give score:
 170 *Lepus callotis* (170): (0.000–0.867)
 302 *Corynorhinus mexicanus* (302): (0.000–0.867)
 364 *Liomys irroratus* (364): (0.000–0.735)
 378 *Chaetodipus nelsoni* (378): (0.781–0.821)
 457 *Neotoma goldmani* (457): (0.000–0.679)
 475 *Onychomys arenicola* (475): (0.722–0.750)
 500 *Peromyscus difficilis* (500): (0.719–0.833)
 506 *Peromyscus gratus* (506): (0.667–0.765)
 520 *Peromyscus melanophrys* (520): (0.000–0.735)
 521 *Peromyscus melanotis* (521): (0.750–0.786)
 527 *Peromyscus pectoralis* (527): (0.000–0.781)
 535 *Peromyscus spicilegus* (535): (0.000–0.750)
 562 *Reithrodontomys zacatecae* (562): (0.000–0.750)
 574 *Sigmodon leucotis* (574): (0.000–0.767)

576 *Sigmodon ochrognathus* (576): (0.000–0.688)
 611 *Sciurus nayaritensis* (611): (0.719–0.750)
 630 *Spermophilus mexicanus* (630): (0.000–0.781)
 692 *Leptoncyteris nivalis* (692): (0.750–1.000)
 711 *Artibeus hirsutus* (711): (0.000–0.706)
 Areas included:
 0 1 17 69 71 117 122
 Number of cells: 16
 Nested CAs (28): 4–9 11 13–16 18 20–23 28–29 32 37 39–41 45 56 59
 Disjunct CAs (28): 1 10 17 19 24–27 30 34 38 42–44 46–47 49–55 57–58 60–63
 Overlapping CAs (8): 2 3 12 31 35 36 48 64
 Consensus area 1 (from 5 areas), 15 species give score:
 78 *Thomomys townsendii* (78): (0.000–0.900)
 138 *Sorex lyelli* (138): (0.000–0.667)
 165 *Brachylagus idahoensis* (165): (0.000–0.950)
 337 *Dipodomys californicus* (337): (0.000–0.722)
 343 *Dipodomys heermanni* (343): (0.000–0.722)
 346 *Dipodomys microps* (346): (0.000–0.750)
 350 *Dipodomys panamintinus* (350): (0.000–0.778)
 355 *Microdipodops megacephalus* (355): (0.000–0.950)
 356 *Microdipodops pallidus* (356): (0.000–0.786)
 622 *Spermophilus beldingi* (622): (0.000–0.944)
 624 *Spermophilus canus* (624): (0.667–0.875)
 632 *Spermophilus mollis* (632): (0.850–1.000)
 644 *Tamias alpinus* (644): (0.000–0.722)
 656 *Tamias panamintinus* (656): (0.000–0.786)
 657 *Tamias quadrimaculatus* (657): (0.000–0.722)
 Areas included:
 2 3 42 51 119
 Number of cells: 11
 Nested CAs (21): 4 7 10 12 14 17 24 26–28 30 33 36 38 41–44 52 57 59 64
 Disjunct CAs (40): 0 3 5–6 8–9 11 13 15–16 18–23 25 29 31–32 34–35 39 41 45–51 53–56 58 60–63
 Overlapping CAs (3): 2 37 40
 Consensus area 2 (from 10 areas), 18 species give score:
 50 *Geomys arenarius* (50): (0.000–0.750)
 125 *Sorex arizonae* (125): (0.000–0.667)
 142 *Sorex nanus* (142): (0.000–0.684)
 376 *Chaetodipus intermedius* (376): (0.000–0.818)
 383 *Perognathus amplius* (383): (0.000–0.917)
 454 *Neotoma devia* (454): (0.000–0.667)
 466 *Neotoma stephensi* (466): (0.000–1.000)
 531 *Peromyscus polius* (531): (0.000–0.722)
 584 *Ammospermophilus harrisii* (584): (0.000–1.000)
 589 *Cynomys gunnisoni* (589): (0.000–0.944)
 590 *Cynomys leucurus* (590): (0.000–0.864)
 593 *Cynomys parvidens* (593): (0.000–0.833)
 602 *Sciurus aberti* (602): (0.000–0.750)
 604 *Sciurus arizonensis* (604): (0.000–0.917)
 648 *Tamias cinereicollis* (648): (0.000–1.000)
 658 *Tamias quadrivittatus* (658): (0.000–1.000)
 660 *Tamias rufus* (660): (0.000–0.889)
 667 *Tamias umbrinus* (667): (0.000–0.706)
 Areas included:
 4 11 13 48 55 62 82 85 99 118

Number of cells: 18
 Nested CAs (21): 4-5 7 11-12 14 24 27-30 33 36-38 40 52 56 59-60 64
 Disjunct CAs (35): 10 13 15-16 18-19 21-23 25-26 31-32 34-35 39 41-51 53-55 57-58 61-63
 Overlapping CAs (8): 0-1 3 6 8-9 17 20
 Consensus area 3 (from 5 areas), 15 species give score:
 125 *Sorex arizonae* (125): (0.000-0.667)
 166 *Lepus alleni* (166): (0.700-0.938)
 299 *Myotis vivesi* (299): (0.722-0.833)
 368 *Chaetodipus arenarius* (368): (0.000-0.750)
 369 *Chaetodipus artus* (369): (0.722-0.833)
 370 *Chaetodipus baileyi* (370): (0.000-0.667)
 374 *Chaetodipus goldmani* (374): (0.722-0.833)
 380 *Chaetodipus pernix* (380): (0.722-0.833)
 465 *Neotoma phenax* (465): (0.722-0.833)
 502 *Peromyscus eva* (502): (0.000-0.750)
 523 *Peromyscus merriami* (523): (0.833-1.000)
 531 *Peromyscus polius* (531): (0.000-0.722)
 544 *Reithrodontomys burti* (544): (0.722-0.833)
 607 *Sciurus colliaei* (607): (0.000-0.778)
 629 *Spermophilus madrensis* (629): (0.000-0.688)
 Areas included:
 5 16 18 134 145
 Number of cells: 11
 Nested CAs (21): 4-8 11 14 20 23 28-29 32-33 36-38 40 56 59-60 64
 Disjunct CAs (40): 10 12-13 15-19 21-22 24-27 30-31 34-35 39 41-55 57-58 61-63
 Overlapping CAs (3): 0 2 9
 Consensus area 4 (from 4 areas), 9 species give score:
 176 *Sylvilagus audubonii* (176): (0.000-0.750)
 308 *Euderma maculatum* (308): (0.000-0.810)
 320 *Pipistrellus hesperus* (320): (0.768-0.925)
 495 *Peromyscus boylii* (495): (0.000-0.772)
 641 *Spermophilus variegatus* (641): (0.000-0.821)
 765 GRP-21-GRP-21 (765): (0.857-0.912)
 790 GRP-46-GRP-46 (790): (0.000-0.833)
 813 GRP-69-GRP-69 (813): (0.000-0.818)
 815 GRP-71-GRP-71 (815): (0.838-0.909)
 Areas included:
 6 54 79 107
 Number of cells: 42
 Nested CAs (39): 0-3 5 7-11 14-16 18-19 21-22 24 26-30 32-34 36-39 42 44-45 56-57 59-61 64
 Disjunct CAs (15): 12 25 41 46-51 53-55 58 62-63
 Overlapping CAs (10): 6 12 17 20 23 31 35 40 43 52
 Consensus area 5 (from 2 areas), 5 species give score:
 475 *Onychomys arenicola* (475): (0.786-0.808)
 572 *Sigmodon fulviventer* (572): (0.667-0.786)
 576 *Sigmodon ochrognathus* (576): (0.731-0.875)
 586 *Ammospermophilus interpres* (586): (0.000-0.818)
 788 GRP-44-GRP-44 (788): (0.846-1.000)
 Areas included:
 7 43
 Number of cells: 12
 Nested CAs (24): 0 2-4 6-9 11 14-15 20-21 28-29 32-33 36-37 40 56 59-60 64
 Disjunct CAs (35): 1 10 13 16-17 19 22 24-27 30-31 34-35 39 41-51 53-55 57-58 61-63
 Overlapping CAs (5): 12 18 23 38 52
 Consensus area 6 (from 10 areas), 22 species give score:
 21 *Bauerus dubiaquercus* (21): (0.000-0.794)
 23 *Mormoops megalophylla* (23): (0.000-1.000)
 24 *Pteronotus davyi* (24): (0.000-0.767)
 65 *Orthogeomys hispidus* (65): (0.000-0.765)
 98 *Taaluatzin canescens* (98): (0.000-0.921)
 179 *Sylvilagus cunicularius* (179): (0.000-0.900)
 204 *Mephitis macroura* (204): (0.000-0.676)
 242 *Eumops underwoodi* (242): (0.000-0.839)
 245 *Molossus aztecus* (245): (0.000-0.767)
 251 *Nyctinomops aurispinosus* (251): (0.692-0.921)
 261 *Macrotus waterhousii* (261): (0.000-0.947)
 284 *Myotis fortidens* (284): (0.000-0.881)
 327 *Rhogeessa parvula* (327): (0.000-0.971)
 365 *Liomys pictus* (365): (0.000-0.827)
 430 *Baiomys musculus* (430): (0.000-0.684)
 486 *Oryzomys melanotis* (486): (0.000-0.967)
 605 *Sciurus aureogaster* (605): (0.000-0.868)
 672 *Balantiopteryx plicata* (672): (0.000-0.717)
 685 *Choeronycteris mexicana* (685): (0.000-0.867)
 691 *Leptonycteris curasoae* (691): (0.000-1.000)
 783 GRP-39-GRP-39 (783): (0.000-0.727)
 802 GRP-58-GRP-58 (802): (0.000-0.889)
 Areas included:
 8 22 25 27 39 53 81 88 127 144
 Number of cells: 29
 Nested CAs (24): 0 3 5 8 13 15-16 18 20-23 29 31-32 39-41 45 47-48 54 56 60
 Disjunct CAs (25): 1 10 12 17 19 24-27 30 34-35 42-44 49 51-53 55 57-58 61-63
 Overlapping CAs (15): 2 4 7 9 11 14 28 33 36-38 46 50 59 64
 Consensus area 7 (from 5 areas), 13 species give score:
 0 *Antilocapra americana* (0): (0.000-0.846)
 18 *Vulpes velox* (18): (0.000-0.875)
 176 *Sylvilagus audubonii* (176): (0.000-0.908)
 279 *Myotis ciliolabrum* (279): (0.689-0.842)
 304 *Corynorhinus townsendii* (304): (0.000-0.718)
 349 *Dipodomys ordii* (349): (0.000-0.846)
 495 *Peromyscus boylii* (495): (0.000-0.847)
 770 GRP-26-GRP-26 (770): (0.000-0.831)
 798 GRP-54-GRP-54 (798): (0.000-0.890)
 807 GRP-63-GRP-63 (807): (0.000-0.863)
 808 GRP-64-GRP-64 (808): (0.000-0.847)
 809 GRP-65-GRP-65 (809): (0.000-0.927)
 814 GRP-70-GRP-70 (814): (0.780-0.889)
 Areas included:
 9 23 29 60 106
 Number of cells: 63
 Nested CAs (40): 0-5 8-11 14-19 21-22 24 26-30 32-34 36-39 42-45 56-57 60-61 64
 Disjunct CAs (12): 13 41 46-48 50-51 53-55 58 62
 Overlapping CAs (12): 6 12 20 23 25 31 35 40 49 52 59 63
 Consensus area 8 (from 1 areas), 10 species give score:

- 79 *Thomomys umbrinus* (79): (0.667)
 166 *Lepus alleni* (166): (0.733)
 275 *Myotis auriculus* (275): (0.737)
 309 *Idionycteris phyllotis* (309): (0.667)
 523 *Peromyscus merriami* (523): (0.700)
 571 *Sigmodon arizonae* (571): (0.800)
 572 *Sigmodon fulviventer* (572): (0.867)
 576 *Sigmodon ochrognathus* (576): (0.676)
 611 *Sciurus nayaritensis* (611): (0.733)
 788 GRP-44-GRP-44 (788): (0.765)
 Areas included:
 10
 Number of cells: 15
 Nested CAs (24): 0 3-7 9 11 14-16 20-21 28-29 32-33 36-37 40 56 59-60
 64
 Disjunct CAs (35): 1 8 10 13 17-19 22 24-27 30-31 34-35 39 41-51 53-55
 57-58 61-63
 Overlapping CAs (5): 2 12 23 38 52
 Consensus area 9 (from 2 areas), 8 species give score:
 275 *Myotis auriculus* (275): (0.000-0.773)
 352 *Dipodomys spectabilis* (352): (0.000-0.667)
 389 *Perognathus merriami* (389): (0.705-0.816)
 462 *Neotoma micropus* (462): (0.771-0.881)
 475 *Onychomys arenicola* (475): (0.690-0.775)
 525 *Peromyscus nasutus* (525): (0.750-0.763)
 586 *Ammospermophilus interpres* (586): (0.000-0.675)
 788 GRP-44-GRP-44 (788): (0.000-0.705)
 Areas included:
 12 104
 Number of cells: 21
 Nested CAs (27): 0 3-4 7-8 11 14-16 18 20-22 28-29 32-34 36-37 39-40
 45 56 59-60 64
 Disjunct CAs (27): 1 5 9-10 13 17 19 24-27 41-44 46-51 53-55 57-58 61-
 63
 Overlapping CAs (10): 2-3 6 12 23 30-31 35 38 52
 Consensus area 10 (from 2 areas), 20 species give score:
 76 *Thomomys monticola* (76): (0.000-0.667)
 162 *Scapanus latimanus* (162): (0.750-0.955)
 339 *Dipodomys deserti* (339): (0.000-0.692)
 343 *Dipodomys heermanni* (343): (0.000-0.667)
 346 *Dipodomys microps* (346): (0.000-0.679)
 350 *Dipodomys panamintinus* (350): (0.000-0.708)
 371 *Chaetodipus californicus* (371): (0.708-0.727)
 373 *Chaetodipus formosus* (373): (0.679-0.692)
 404 *Microtus californicus* (404): (0.679-0.864)
 456 *Neotoma fuscipes* (456): (0.833-0.864)
 610 *Sciurus griseus* (610): (0.750-0.769)
 621 *Spermophilus beecheyi* (621): (0.000-0.808)
 622 *Spermophilus beldingi* (622): (0.000-0.679)
 644 *Tamias alpinus* (644): (0.000-0.667)
 651 *Tamias merriami* (651): (0.708-0.727)
 656 *Tamias panamintinus* (656): (0.000-0.667)
 657 *Tamias quadrimaculatus* (657): (0.000-0.667)
 661 *Tamias senex* (661): (0.000-0.750)
 664 *Tamias speciosus* (664): (0.708-0.727)
 795 GRP-51-GRP-51 (795): (0.000-0.773)
 Areas included:
 14 26
 Number of cells: 13
 Nested CAs (20): 1 4 7 12 14 17 19 26-28 30 33 38 42 44 52 57 59 61 64
 Disjunct CAs (40): 0 2-3 5-6 8-10 13 15-16 18 20-25 29 31-32 34-35 39
 41 43 45-51 53-56 58 60 62-63
 Overlapping CAs (4): 11 36-37 40
 Consensus area 11 (from 4 areas), 8 species give score:
 176 *Sylvilagus audubonii* (176): (0.000-0.736)
 375 *Chaetodipus hispidus* (375): (0.825-0.890)
 386 *Perognathus flavus* (386): (0.000-0.803)
 555 *Reithrodontomys montanus* (555): (0.000-0.833)
 637 *Spermophilus spilosoma* (637): (0.767-0.819)
 805 GRP-61-GRP-61 (805): (0.000-0.776)
 806 GRP-62-GRP-62 (806): (0.000-0.902)
 819 GRP-75-GRP-75 (819): (0.682-0.744)
 Areas included:
 15 20 56 147
 Number of cells: 44
 Nested CAs (31): 0 2-5 7-9 14-16 18-19 21-22 24 27-29 32-34 36-39 45
 56-57 60 64
 Disjunct CAs (17): 1 13 26 41-44 46-48 50-51 53-54 58 61-62
 Overlapping CAs (16): 6 10 12 17 20 23 25 30-31 35 40 49 52 55 59 63
 Consensus area 12 (from 2 areas), 5 species give score:
 39 *Erethizon dorsatum* (39): (0.000-0.782)
 128 *Sorex cinereus* (128): (0.913-0.918)
 167 *Lepus americanus* (167): (0.926-0.930)
 417 *Microtus pennsylvanicus* (417): (0.911-0.932)
 669 *Tamiasciurus hudsonicus* (669): (0.931-0.935)
 Areas included:
 19 133
 Number of cells: 188
 Nested CAs (19): 1-2 10 17 24-27 30 33 36 42-44 49 52 56-57 61
 Disjunct CAs (24): 3 6 13 15-16 18-19 21-23 29 31-32 34 39 41 45-48 50-
 51 54 58
 Overlapping CAs (21): 0 4-5 7-9 11 14 20 28 35 37-38 40 53 55 59-60 62-
 64
 Consensus area 13 (from 1 areas), 4 species give score:
 171 *Lepus flavigularis* (171): (0.833)
 183 *Sylvilagus insonus* (183): (0.833)
 517 *Peromyscus megalops* (517): (1.000)
 563 *Rheomys mexicanus* (563): (0.833)
 Areas included:
 21
 Number of cells: 3
 Nested CAs (13): 0 6 16 20 22-23 28 31 40-41 48 59 64
 Disjunct CAs (51): 1-5 7-15 17-19 21 24-27 29-30 32-39 42-47 49-58
 60-63
 Overlapping CAs (0): —
 Consensus area 14 (from 1 areas), 4 species give score:
 279 *Myotis ciliolabrum* (279): (0.820)
 349 *Dipodomys ordii* (349): (0.943)
 476 *Onychomys leucogaster* (476): (0.779)
 495 *Peromyscus boylii* (495): (0.750)
 Areas included:
 24

Number of cells: 44
 Nested CAs (40): 0-5 7-11 15-18 21-22 24-30 32-34 36-39 42-45 52 56-57 61 64
 Disjunct CAs (14): 13 19 41 46-51 53-55 58 60 62
 Overlapping CAs (10): 6 12 20 23 25 31 35 40 59 63
 Consensus area 15 (from 4 areas), 15 species give score:
 130 *Sorex emarginatus* (130): (0.000-0.833)
 141 *Sorex milleri* (141): (0.667-0.750)
 293 *Myotis planiceps* (293): (0.667-0.750)
 347 *Dipodomys nelsoni* (347): (0.000-1.000)
 377 *Chaetodipus lineatus* (377): (0.000-0.667)
 446 *Nelsonia neotomodon* (446): (0.000-0.833)
 448 *Neotoma angustapalata* (448): (0.000-0.667)
 457 *Neotoma goldmani* (457): (0.000-0.917)
 464 *Neotoma palatina* (464): (0.000-0.833)
 510 *Peromyscus hooperi* (510): (0.667-0.750)
 526 *Peromyscus ochraventer* (526): (0.000-0.667)
 592 *Cynomys mexicanus* (592): (0.667-0.750)
 603 *Sciurus alleni* (603): (0.000-0.750)
 646 *Tamias bulleri* (646): (0.667-0.750)
 650 *Tamias durangae* (650): (0.000-0.750)
 Areas included:
 28 37 63 94
 Number of cells: 7
 Nested CAs (23): 0 4-9 11 14 16 18 20-21 23 28 32-33 36-37 39-40 59 64
 Disjunct CAs (41): 1-3 10 12-13 17 19 22 24-27 29-31 34-35 38 41-58 60-63
 Overlapping CAs (0): —
 Consensus area 16 (from 5 areas), 32 species give score:
 45 *Cratogeomys gymnurus* (45): (0.000-0.750)
 46 *Cratogeomys merriami* (46): (0.000-0.700)
 48 *Cratogeomys tylorhinus* (48): (0.000-0.700)
 70 *Pappogeomys bulleri* (70): (0.000-0.750)
 111 *Cryptotis goldmani* (111): (0.000-0.714)
 122 *Megasorex gigas* (122): (0.000-1.000)
 130 *Sorex emarginatus* (130): (0.000-0.786)
 143 *Sorex oreopolus* (143): (0.000-0.800)
 148 *Sorex saussurei* (148): (0.000-0.778)
 183 *Sylvilagus insonus* (183): (0.000-0.750)
 206 *Spilogale pygmaea* (206): (0.000-0.688)
 323 *Rhogeessa alleni* (323): (0.000-1.000)
 351 *Dipodomys phillipsii* (351): (0.000-0.857)
 377 *Chaetodipus lineatus* (377): (0.000-0.667)
 419 *Microtus quasiater* (419): (0.000-0.900)
 436 *Hodomys alleni* (436): (0.000-0.750)
 442 *Megadontomys thomasi* (442): (0.000-0.900)
 445 *Nelsonia goldmani* (445): (0.000-0.750)
 446 *Nelsonia neotomodon* (446): (0.000-0.786)
 464 *Neotoma palatina* (464): (0.000-0.786)
 468 *Neotomodon alstoni* (468): (0.000-0.700)
 490 *Osgoodomys banderanus* (490): (0.786-1.000)
 529 *Peromyscus perfulvus* (529): (0.714-0.875)
 546 *Reithrodontomys chrysopsis* (546): (0.000-0.800)
 570 *Sigmodon alleni* (570): (0.000-0.688)
 575 *Sigmodon mascotensis* (575): (0.000-0.714)
 613 *Sciurus oculatus* (613): (0.000-0.750)
 617 *Spermophilus adocetus* (617): (0.000-0.750)
 618 *Spermophilus annulatus* (618): (0.714-0.875)
 688 *Glossophaga morenoi* (688): (0.000-0.714)
 698 *Musonycyteris harrisoni* (698): (0.667-1.000)
 749 GRP-5-GRP-5 (749): (0.000-0.714)
 Areas included:
 30 78 96 139 142
 Number of cells: 7
 Nested CAs (24): 0 4 6-9 11 13-15 20-23 28 31-32 37 39-41 48 59 64
 Disjunct CAs (40): 1-3 5 10 12 17-19 24-27 29-30 33-36 42-47 49-58 60-63
 Overlapping CAs (0): —
 Consensus area 17 (from 2 areas), 4 species give score:
 5 *Ochotona princeps* (5): (0.839)
 390 *Perognathus parvus* (390): (0.750)
 420 *Microtus richardsoni* (420): (0.771)
 645 *Tamias amoenus* (645): (0.808)
 Areas included:
 31 61
 Number of cells: 25
 Nested CAs (15): 1 7 10 12 14 24 26-28 30 43-44 52 59 61
 Disjunct CAs (39): 0 3 5-6 8-9 13 15-16 18-23 25 29 31-32 34-35 39 41-42 45-51 53-56 58 60 62-63
 Overlapping CAs (10): 2 4 11 33 36-38 40 57 64
 Consensus area 18 (from 1 areas), 4 species give score:
 55 *Geomys personatus* (55): (0.708)
 389 *Perognathus merriami* (389): (0.821)
 586 *Ammospermophilus interpres* (586): (0.792)
 754 GRP-10-GRP-10 (754): (0.679)
 Areas included:
 32
 Number of cells: 12
 Nested CAs (24): 0 4 6-7 9 11 14-15 20-21 28 32-37 39-40 45 52 56 59 64
 Disjunct CAs (39): 1-3 8 10 12-13 16-17 19 22-27 29-31 38 41-44 46-51 53-55 57-58 60-63
 Overlapping CAs (1): 5
 Consensus area 19 (from 4 areas), 9 species give score:
 336 *Dipodomys agilis* (336): (0.000-0.750)
 342 *Dipodomys gravipes* (342): (0.000-0.875)
 353 *Dipodomys stephensi* (353): (0.667-0.750)
 372 *Chaetodipus fallax* (372): (0.000-0.833)
 454 *Neotoma devia* (454): (0.000-0.667)
 497 *Peromyscus californicus* (497): (0.000-1.000)
 653 *Tamias obscurus* (653): (0.833-1.000)
 670 *Tamiasciurus mearnsi* (670): (0.667-0.750)
 793 GRP-49-GRP-49 (793): (0.000-1.000)
 Areas included:
 33 47 77 108
 Number of cells: 7
 Nested CAs (20): 4 7 10-11 20 26-28 33 36-38 40 42 44 52 57 59-60 64
 Disjunct CAs (44): 0-3 5-6 8-9 12-18 21-25 29-32 39 41 43 45-51 53-56 58 61-63
 Overlapping CAs (0): —
 Consensus area 20 (from 2 areas), 15 species give score:
 2 *Pecari tajacu* (2): (0.802-0.817)
 23 *Mormoops megalophylla* (23): (0.865-0.886)

200 *Lontra longicaudis* (200): (0.000–0.797)
 204 *Mephitis macroura* (204): (0.878–0.900)
 222 *Nasua narica* (222): (0.793–0.865)
 229 *Puma yagouaroundi* (229): (0.000–0.824)
 230 *Leopardus pardalis* (230): (0.000–0.723)
 236 *Panthera onca* (236): (0.684–0.714)
 242 *Eumops underwoodi* (242): (0.000–0.814)
 298 *Myotis velifer* (298): (0.000–0.805)
 461 *Neotoma mexicana* (461): (0.000–0.744)
 548 *Reithrodontomys fulvescens* (548): (0.702–0.778)
 685 *Choeronycteris mexicana* (685): (0.838–0.878)
 691 *Leptonycteris curasoae* (691): (0.797–0.814)
 780 GRP-36-GRP-36 (780): (0.779–0.793)

Areas included:
 34 38

Number of cells: 38

Nested CAs (33): 0 5-6 8-9 13 15-16 18-19 21-22 24-27 29 31-32 34-37
 39 40-41 45 47-48 51 55 54 56 59-60 64

Disjunct CAs (17): 1 3 10 17 30 42-44 49 53 55 57 61-63

Overlapping CAs (14): 2 4 7 11-12 14 23 28 33 38 46 50 52 58

Consensus area 21 (from 3 areas), 9 species give score:
 347 *Dipodomys nelsoni* (347): (0.667–0.722)
 378 *Chaetodipus nelsoni* (378): (0.875–1.000)
 457 *Neotoma goldmani* (457): (0.708–0.778)
 521 *Peromyscus melanotis* (521): (0.000–0.708)
 527 *Peromyscus pectoralis* (527): (0.000–0.821)
 574 *Sigmodon leucotis* (574): (0.000–0.708)
 586 *Ammospermophilus interpres* (586): (0.000–0.682)
 603 *Sciurus alleni* (603): (0.000–0.667)
 630 *Spermophilus mexicanus* (630): (0.000–0.821)

Areas included:
 35 68 86

Number of cells: 12

Nested CAs (25): 0 4-9 11 14-16 18 20 22-23 28 32-33 36-37 39-40 45 59
 64

Disjunct CAs (38): 1-3 10 12-13 17 19 24-27 29-30 34-35 38 41-44 46-58
 60-63

Overlapping CAs (1): 31

Consensus area 22 (from 1 areas), 8 species give score:
 46 *Cratogeomys merriami* (46): (0.750)
 48 *Cratogeomys tylosrhinus* (48): (0.750)
 156 *Sorex ventralis* (156): (0.750)
 183 *Sylvilagus insonus* (183): (0.750)
 442 *Megadontomys thomasi* (442): (1.000)
 468 *Neotomodon alstoni* (468): (0.750)
 617 *Spermophilus adocetus* (617): (0.750)
 698 *Musononycteris harrisoni* (698): (0.667)

Areas included:
 36

Number of cells: 4

Nested CAs (20): 0 4 6-7 9 11 13-14 16 20-21 23 28 31 37 40-41 48 59 64
 Disjunct CAs (44): 1-3 5 8 10 12 15 17-19 22 24-27 29-30 32-36 38-39
 42-47 49-58 60-63

Overlapping CAs (0): —

Consensus area 23 (from 6 areas), 100 species give score:
 1 *Tayassu pecari* (1): (0.000–0.818)

6 *Tapirus bairdii* (6): (0.000–0.917)
 10 *Tamandua mexicana* (10): (0.000–0.932)
 21 *Bauerus dubiaquercus* (21): (0.000–0.810)
 24 *Pteronotus davyi* (24): (0.000–0.741)
 26 *Pteronotus parnellii* (26): (0.000–0.923)
 27 *Pteronotus personatus* (27): (0.000–0.979)
 28 *Natalus stramineus* (28): (0.000–0.923)
 30 *Noctilio leporinus* (30): (0.000–0.955)
 33 *Cuniculus paca* (33): (0.000–0.917)
 36 *Dasyprocta punctata* (36): (0.000–0.889)
 40 *Sphiggurus mexicanus* (40): (0.000–0.917)
 63 *Orthogeomys grandis* (63): (0.000–0.675)
 88 *Mazama americana* (88): (0.000–0.909)
 94 *Caluromys derbianus* (94): (0.000–0.889)
 95 *Chironectes minimus* (95): (0.000–0.861)
 96 *Didelphis marsupialis* (96): (0.000–0.932)
 99 *Marmosa mexicana* (99): (0.000–0.944)
 106 *Philander opossum* (106): (0.000–0.850)
 178 *Sylvilagus brasiliensis* (178): (0.000–0.944)
 193 *Ateles geoffroyi* (193): (0.000–0.944)
 200 *Lontra longicaudis* (200): (0.000–0.839)
 203 *Conepatus semistriatus* (203): (0.000–0.889)
 207 *Eira barbara* (207): (0.000–0.977)
 208 *Galictis vittata* (208): (0.000–0.944)
 219 *Potos flavus* (219): (0.000–0.932)
 221 *Bassariscus sumichrasti* (221): (0.000–0.861)
 222 *Nasua narica* (222): (0.000–0.667)
 229 *Puma yagouaroundi* (229): (0.000–0.800)
 232 *Leopardus wiedii* (232): (0.000–0.783)
 237 *Eumops auripendulus* (237): (0.000–0.833)
 238 *Eumops bonariensis* (238): (0.000–0.778)
 239 *Eumops glaucinus* (239): (0.000–0.826)
 242 *Eumops underwoodi* (242): (0.000–0.717)
 243 *Cynomops greenhalli* (243): (0.000–0.762)
 248 *Molossus molossus* (248): (0.000–0.875)
 250 *Molossus sinaloae* (250): (0.708–0.932)
 253 *Nyctinomops laticaudatus* (253): (0.000–0.886)
 255 *Promops centralis* (255): (0.000–0.909)
 257 *Desmodus rotundus* (257): (0.000–0.923)
 258 *Diaemus youngi* (258): (0.000–0.864)
 259 *Diphylla ecaudata* (259): (0.000–0.850)
 265 *Micronycteris microtis* (265): (0.000–0.955)
 269 *Glyphonnycteris sylvestris* (269): (0.688–0.909)
 270 *Chrotopterus auritus* (270): (0.000–0.917)
 271 *Trachops cirrhosus* (271): (0.000–0.917)
 281 *Myotis elegans* (281): (0.000–0.917)
 286 *Myotis keaysi* (286): (0.000–0.850)
 290 *Myotis nigricans* (290): (0.000–0.909)
 305 *Eptesicus brasiliensis* (305): (0.000–0.818)
 306 *Eptesicus furinalis* (306): (0.000–0.932)
 314 *Lasiurus ega* (314): (0.000–0.896)
 328 *Rhogeessa tumida* (328): (0.000–0.825)
 358 *Heteromys desmarestianus* (358): (0.000–0.917)
 430 *Baiomys musculus* (430): (0.000–0.810)
 469 *Nyctomys sumichrasti* (469): (0.000–0.909)

- 473 *Oligoryzomys fulvescens* (473): (0.000–0.955)
 480 *Oryzomys alfaroi* (480): (0.000–0.917)
 483 *Oryzomys couesi* (483): (0.000–0.783)
 492 *Ototylomys phyllotis* (492): (0.000–0.909)
 524 *Peromyscus mexicanus* (524): (0.000–1.000)
 553 *Reithrodontomys mexicanus* (553): (0.000–0.786)
 560 *Reithrodontomys sumichrasti* (560): (0.000–0.818)
 578 *Tylomys nudicaudus* (578): (0.000–0.810)
 672 *Balantiopteryx plicata* (672): (0.000–0.808)
 676 *Diclidurus albus* (676): (0.000–0.909)
 678 *Peropteryx macrotis* (678): (0.000–0.917)
 679 *Rhynchonycteris naso* (679): (0.000–0.917)
 680 *Saccopteryx bilineata* (680): (0.000–0.909)
 683 *Anoura geoffroyi* (683): (0.000–1.000)
 684 *Choeroniscus godmani* (684): (0.000–0.929)
 686 *Glossophaga commissarisi* (686): (0.000–0.955)
 687 *Glossophaga leachii* (687): (0.000–0.881)
 689 *Glossophaga soricina* (689): (0.000–0.923)
 690 *Hylonycteris underwoodi* (690): (0.000–0.886)
 701 *Mimon bennettii* (701): (0.000–0.806)
 703 *Phyllostomus discolor* (703): (0.000–0.917)
 713 *Artibeus intermedius* (713): (0.000–1.000)
 714 *Artibeus jamaicensis* (714): (0.000–1.000)
 715 *Artibeus lituratus* (715): (0.000–0.917)
 716 *Carollia brevicauda* (716): (0.000–0.944)
 718 *Carollia perspicillata* (718): (0.000–0.917)
 719 *Carollia subrufa* (719): (0.000–0.810)
 720 *Centurio senex* (720): (0.000–0.977)
 721 *Chiroderma salvini* (721): (0.000–0.955)
 723 *Chiroderma villosum* (723): (0.000–0.917)
 724 *Dermanura aztecus* (724): (0.000–0.761)
 725 *Dermanura phaeotis* (725): (0.000–0.955)
 726 *Dermanura tolteca* (726): (0.000–1.000)
 729 *Enchisthenes hartii* (729): (0.000–0.886)
 732 *Platyrrhinus helleri* (732): (0.000–0.861)
 734 *Sturnira lilium* (734): (0.000–0.923)
 735 *Sturnira ludovici* (735): (0.000–0.904)
 738 *Uroderma bilobatum* (738): (0.000–0.889)
 739 *Uroderma magnirostrum* (739): (0.000–0.861)
 741 *Vampyressa pusilla* (741): (0.000–0.889)
 742 *Vampyrodes caraccioli* (742): (0.000–0.889)
 743 *Molossus rufus* (743): (0.000–0.846)
 745 GRP-1-GRP-1 (745): (0.000–0.923)
 762 GRP-18-GRP-18 (762): (0.000–0.886)
- Areas included:
 40 50 59 64 143 149
 Number of cells: 24
 Nested CAs (20): 0 3 6 13 15–16 21–22 31–32 39–41 46–48 50 54 58
 Disjunct CAs (29): 1–2 10 12 17–19 23–27 29–30 34–35 38 42–45 49 51–53
 55–57 61–63
 Overlapping CAs (15): 4–5 7–9 11 14 20 28 33 36–37 59–60 64
 Consensus area 24 (from 2 areas), 4 species give score:
 73 *Thomomys clusius* (73): (0.667)
 74 *Thomomys idahoensis* (74): (0.688–1.000)
 619 *Spermophilus armatus* (619): (0.688)
 623 *Spermophilus brunneus* (623): (0.750)
- Areas included:
 41 123
 Number of cells: 7
 Nested CAs (15): 1–2 4 7 11–12 14 17 28 30 33 38 43 52 59
 Disjunct CAs (49): 0 3 5–6 8–10 13 15–16 18–23 25–27 29 31–32 34–37
 39–42 44–51 53–57 60–64
 Overlapping CAs (0): —
 Consensus area 25 (from 1 areas), 3 species give score:
 107 *Blarina brevicauda* (107): (0.831)
 429 *Synaptomys cooperi* (429): (0.910)
 665 *Tamias striatus* (665): (0.934)
- Areas included:
 44
 Number of cells: 61
 Nested CAs (5): 12 49 52 62–63
 Disjunct CAs (52): 0–10 13 15–24 26–27 29–34 36–48 50–51 53–54 56–61
 Overlapping CAs (7): 11 14 28 35 55 64
 Consensus area 26 (from 3 areas), 22 species give score:
 76 *Thomomys monticola* (76): (0.000–0.833)
 138 *Sorex lyelli* (138): (0.750–0.875)
 152 *Sorex tenellus* (152): (0.000–0.750)
 343 *Dipodomys heermanni* (343): (0.833–1.000)
 344 *Dipodomys ingens* (344): (0.667–0.750)
 348 *Dipodomys nitratoides* (348): (0.667–0.750)
 350 *Dipodomys panamintinus* (350): (0.000–0.917)
 353 *Dipodomys stephensi* (353): (0.000–0.667)
 382 *Perognathus alticolus* (382): (0.667–0.750)
 387 *Perognathus inornatus* (387): (0.750–0.875)
 557 *Reithrodontomys raviventris* (557): (0.000–0.750)
 588 *Ammospermophilus nelsoni* (588): (0.667–0.750)
 631 *Spermophilus mohavensis* (631): (0.000–0.667)
 644 *Tamias alpinus* (644): (0.833–1.000)
 651 *Tamias merriami* (651): (0.667–0.917)
 654 *Tamias ochrogenys* (654): (0.000–0.750)
 655 *Tamias palmeri* (655): (0.000–0.667)
 656 *Tamias panamintinus* (656): (0.000–0.833)
 657 *Tamias quadrimaculatus* (657): (0.833–1.000)
 661 *Tamias senex* (661): (0.000–0.688)
 663 *Tamias sonomae* (663): (0.000–0.750)
 664 *Tamias speciosus* (664): (0.667–0.917)
- Areas included:
 45 102 109
 Number of cells: 7
 Nested CAs (20): 1 4 7 10 12 14 17 19 27–28 30 33 36 38 42 44 52 57 59 64
 Disjunct CAs (44): 0 2–3 5–6 8–9 11 13 15–16 18 20–25 29 31–32 34–35 37
 39–41 43 45–51 53–56 58 60–63
 Overlapping CAs (0): —
 Consensus area 27 (from 1 areas), 4 species give score:
 152 *Sorex tenellus* (152): (0.750)
 356 *Microdipodops pallidus* (356): (1.000)
 631 *Spermophilus mohavensis* (631): (0.750)
 655 *Tamias palmeri* (655): (0.750)
- Areas included:
 46
 Number of cells: 4

- Nested CAs (23): 1-2 4 7 10-12 14 17 19 26 28 30 33 36-38 40 44 52 57 59
64
- Disjunct CAs (41): 0 3 5-6 8-9 13 15-16 18 20-25 27 29 31-32 34-35 39
41-43 45-51 53-56 58 60-63
- Overlapping CAs (0): —
- Consensus area 28 (from 2 areas), 5 species give score:
297 *Myotis thysanodes* (297): (0.845-0.864)
304 *Corynorhinus townsendii* (304): (0.871-0.890)
349 *Dipodomys ordii* (349): (0.000-0.780)
798 GRP-54-GRP-54 (798): (0.000-0.847)
809 GRP-65-GRP-65 (809): (0.725-0.743)
- Areas included:
49 57
- Number of cells: 58
- Nested CAs (43): 0-5 7-11 13-19 21 24 26-27 28-30 32-34 36-39 41-44
56-57 59-61 64
- Disjunct CAs (10): 46-47 49-51 53-55 58 62
- Overlapping CAs (11): 6 12 20 23 25 31 35 40 48 52 63
- Consensus area 29 (from 1 areas), 6 species give score:
125 *Sorex arizonae* (125): (0.667)
299 *Myotis vivesi* (299): (0.833)
374 *Chaetodipus goldmani* (374): (0.833)
502 *Peromyscus eva* (502): (0.833)
523 *Peromyscus merriami* (523): (0.688)
620 *Spermophilus atricapillus* (620): (0.667)
- Areas included:
52
- Number of cells: 6
- Nested CAs (22): 0 2-9 11 14 20 28 32-33 36-38 40 59-60 64
- Disjunct CAs (42): 1 10 12-13 15-19 21-27 29-31 34-35 39 41-58 61-63
- Overlapping CAs (0): —
- Consensus area 30 (from 2 areas), 8 species give score:
5 *Ochotona princeps* (5): (0.000-0.667)
140 *Sorex merriami* (140): (0.750-0.788)
185 *Sylvilagus nuttallii* (185): (0.883-0.919)
400 *Lemmiscus curtatus* (400): (0.855-0.893)
412 *Microtus montanus* (412): (0.766-0.871)
596 *Marmota flaviventris* (596): (0.813-0.848)
626 *Spermophilus elegans* (626): (0.000-0.679)
767 GRP-23-GRP-23 (767): (0.000-0.667)
- Areas included:
58 148
- Number of cells: 31
- Nested CAs (18): 1-2 4 7 10 12 14 17 24 26-28 42-44 52 59 61
- Disjunct CAs (35): 0 3 5-8 13 15-16 18-23 25 29 31-32 34 39 41 45-51
53-56 58 60
- Overlapping CAs (11): 9 11 33 35-38 40 57 63-64
- Consensus area 31 (from 5 areas), 21 species give score:
21 *Bauerus dubiaquercus* (21): (0.000-0.833)
35 *Dasyprocta mexicana* (35): (0.000-0.875)
63 *Orthogeomys grandis* (63): (0.000-0.833)
65 *Orthogeomys hispidus* (65): (0.000-0.765)
90 *Mazama pandora* (90): (0.667-0.813)
116 *Cryptotis mayensis* (116): (0.000-1.000)
118 *Cryptotis merriami* (118): (0.000-0.727)
157 *Sorex veraepacis* (157): (0.000-0.688)
- 190 *Alouatta pigra* (190): (0.700-0.875)
245 *Molossus aztecus* (245): (0.000-0.667)
281 *Myotis elegans* (281): (0.000-0.737)
322 *Rhogeessa aeneus* (322): (0.000-0.750)
359 *Heteromys gaumeri* (359): (0.700-0.875)
430 *Baiomys musculus* (430): (0.000-0.794)
549 *Reithrodontomys gracilis* (549): (0.000-0.818)
553 *Reithrodontomys mexicanus* (553): (0.000-0.765)
578 *Tylomys nudicaudus* (578): (0.000-0.684)
608 *Sciurus deppei* (608): (0.000-0.867)
671 *Balantiopteryx io* (671): (0.000-0.818)
699 *Lonchorhina aurita* (699): (0.000-0.955)
708 *Tonatia evotis* (708): (0.000-1.000)
- Areas included:
65 66 73 92 113
- Number of cells: 15
- Nested CAs (12): 6 13 16 20 22-23 39-41 47-48 54
- Disjunct CAs (39): 1-3 5 8-10 12 15 17-19 24-27 29-30 32-36 38 42-45
49 51-53 55-58 60-63
- Overlapping CAs (13): 0 4 7 9 11 14 21 28 37 46 50 59 64
- Consensus area 32 (from 3 areas), 17 species give score:
130 *Sorex emarginatus* (130): (0.000-0.750)
347 *Dipodomys nelsoni* (347): (0.000-0.750)
369 *Chaetodipus artus* (369): (0.000-0.750)
380 *Chaetodipus pernix* (380): (0.000-0.750)
446 *Nelsonia neotomodon* (446): (0.000-0.750)
457 *Neotoma goldmani* (457): (0.000-0.813)
464 *Neotoma palatina* (464): (0.000-0.750)
465 *Neotoma phenax* (465): (0.000-0.750)
533 *Peromyscus simulus* (533): (0.688-0.750)
535 *Peromyscus spicilegus* (535): (0.750-0.938)
544 *Reithrodontomys burti* (544): (0.000-0.750)
562 *Reithrodontomys zacatecae* (562): (0.750-0.938)
581 *Xenomys nelsoni* (581): (0.688-0.750)
607 *Sciurus colliaei* (607): (0.813-0.917)
611 *Sciurus nayaritensis* (611): (0.000-0.700)
629 *Spermophilus madrensis* (629): (0.688-0.750)
650 *Tamias durangae* (650): (0.000-0.667)
- Areas included:
67 97 126
- Number of cells: 9
- Nested CAs (25): 0 3-9 11 14-16 18 20-21 23 28-29 33 36-37 40 59-60 64
- Disjunct CAs (39): 1-2 10 12-13 17 19 22 24-27 30-32 34-35 39 41-58
61-63
- Overlapping CAs (0): —
- Consensus area 33 (from 4 areas), 7 species give score:
71 *Thomomys bottae* (71): (0.000-0.719)
458 *Neotoma lepida* (458): (0.000-0.840)
477 *Onychomys torridus* (477): (0.786-0.865)
649 *Tamias dorsalis* (649): (0.759-0.778)
764 GRP-20-GRP-20 (764): (0.000-0.714)
790 GRP-46-GRP-46 (790): (0.703-0.767)
815 GRP-71-GRP-71 (815): (0.862-1.000)
- Areas included:
70 74 90 110
- Number of cells: 27

- Nested CAs (33): 1-5 7-12 14-15 18-19 21 24 26-29 32 36-38 40 42 44 52
56-57 59-60 64
- Disjunct CAs (24): 13 16 22 25 31 34-35 39 41 43 45-51 53-55 58 61-63
- Overlapping CAs (7): 0 6 17 20 23 30 52
- Consensus area 34 (from 1 areas), 5 species give score:
- 51 *Geomys attwateri* (51): (0.667)
- 52 *Geomys breviceps* (52): (0.778)
- 57 *Geomys texensis* (57): (0.722)
- 340 *Dipodomys elator* (340): (0.722)
- 493 *Peromyscus attwateri* (493): (0.773)
- Areas included:
72
- Number of cells: 9
- Nested CAs (15): 4 7 9 11 14 18 20 28 35 40 45 52 55 63-64
- Disjunct CAs (49): 0-3 5-6 8 10 12-13 15-17 21-27 29-33 36-39 41-44
46-51 53-54 56-62
- Overlapping CAs (0): —
- Consensus area 35 (from 1 areas), 3 species give score:
- 161 *Scalopus aquaticus* (161): (0.938)
- 319 *Nycticeius humeralis* (319): (0.830)
- 612 *Sciurus niger* (612): (0.885)
- Areas included:
75
- Number of cells: 48
- Nested CAs (9): 18 20 34 39 45 52 55 62 63
- Disjunct CAs (42): 1-3 5-6 8 10 13 15-17 19 21-24 26-27 29 31-33 36-39
41-44 46-48 50-51 53-54 56-61
- Overlapping CAs (13): 0 4 7 9 11-12 14 25 28 30 40 49 64
- Consensus area 36 (from 1 areas), 4 species give score:
- 260 *Microtus californicus* (260): (0.667)
- 379 *Chaetodipus penicillatus* (379): (0.810)
- 477 *Onychomys torridus* (477): (1.000)
- 790 GRP-46-GRP-46 (790): (0.685)
- Areas included:
76
- Number of cells: 19
- Nested CAs (30): 1-5 7-12 14-15 26-29 31-33 37-38 40 47-50 56-57 59-
60 64
- Disjunct CAs (25): 13 16-22 24-25 34-35 39 41 43 46 51 53-55 58 61-63
- Overlapping CAs (9): 0 6 17 23 30 42 44-45 52
- Consensus area 37 (from 3 areas), 20 species give score:
- 79 *Thomomys umbrinus* (79): (0.000-0.864)
- 252 *Nyctinomys femorosaccus* (252): (0.000-0.875)
- 275 *Myotis auriculus* (275): (0.761-0.841)
- 309 *Idionycteris phyllotis* (309): (0.700-0.771)
- 318 *Lasiurus xanthinus* (318): (0.000-0.732)
- 345 *Dipodomys merriami* (345): (0.000-0.788)
- 379 *Chaetodipus penicillatus* (379): (0.700-0.864)
- 386 *Perognathus flavus* (386): (0.000-0.662)
- 409 *Microtus mexicanus* (409): (0.660-0.729)
- 447 *Neotoma albigula* (447): (0.000-0.817)
- 462 *Neotoma micropus* (462): (0.000-0.685)
- 475 *Onychomys arenicola* (475): (0.000-0.762)
- 501 *Peromyscus eremicus* (501): (0.000-0.808)
- 525 *Peromyscus nasutus* (525): (0.000-0.738)
- 572 *Sigmodon fulviventer* (572): (0.674-0.750)
- 576 *Sigmodon ochrognathus* (576): (0.000-0.705)
- 637 *Spermophilus pilosoma* (637): (0.000-0.690)
- 641 *Spermophilus variegatus* (641): (0.000-0.708)
- 788 GRP-44-GRP-44 (788): (0.731-0.786)
- 813 GRP-69-GRP-69 (813): (0.000-0.750)
- Areas included:
80 84 150
- Number of cells: 27
- Nested CAs (32): 0 2-5 7-9 11 14-16 18-22 27-29 32-33 36 38-40 45 56-
57 59-60 64
- Disjunct CAs (23): 13 24-26 34-35 41-44 46-51 53-55 58 61-63
- Overlapping CAs (9): 1 6 10 12 17 23 30-31 52
- Consensus area 38 (from 2 areas), 8 species give score:
- 339 *Dipodomys deserti* (339): (0.682-0.722)
- 458 *Neotoma lepida* (458): (0.000-0.792)
- 498 *Peromyscus crinitus* (498): (0.909-1.000)
- 587 *Ammospermophilus leucurus* (587): (0.000-0.875)
- 638 *Spermophilus tereticaudus* (638): (0.675-0.727)
- 649 *Tamias dorsalis* (649): (0.000-0.661)
- 797 GRP-53-GRP-53 (797): (0.773-0.833)
- 804 GRP-60-GRP-60 (804): (0.773-0.833)
- Areas included:
83 137
- Number of cells: 22
- Nested CAs (25): 1-4 7 10-11 14 19 24 26-29 33 36-37 40 42 44 56-57 59-
60 64
- Disjunct CAs (30): 0 13 15-16 18 21-23 25 31-32 34-35 39 41 43 45-51
53-55 58 61-63
- Overlapping CAs (9): 5-6 8-9 12 17 20 30 52
- Consensus area 39 (from 1 areas), 3 species give score:
- 201 *Conepatus leuconotus* (201): (1.000)
- 448 *Neotoma angustapalata* (448): (0.750)
- 526 *Peromyscus ochraventer* (526): (0.750)
- Areas included:
87
- Number of cells: 4
- Nested CAs (23): 0 4 6-7 9 11 14-16 18 20-21 23 28 31 35 37 40 45 52 55
59 64
- Disjunct CAs (41): 1-3 5 8 10 12-13 17 19 22 24-27 30 32-34 36 38 41-44
46-51 53-54 56-58 60-63
- Overlapping CAs (0): —
- Consensus area 40 (from 2 areas), 5 species give score:
- 2 *Pecari tajacu* (2): (0.872-0.907)
- 230 *Leopardus pardalis* (230): (0.000-0.919)
- 236 *Panthera onca* (236): (0.900-0.915)
- 548 *Reithrodontomys fulvescens* (548): (0.894-0.930)
- 782 GRP-38-GRP-38 (782): (0.736-0.918)
- Areas included:
89 112
- Number of cells: 48
- Nested CAs (39): 0 2-3 5-6 8-9 13 15-16 18-24 27 29 31-34 36-39 41 45-
48 50-51 54 56-58 60 64
- Disjunct CAs (10): 25-26 42-44 49 53 61-62
- Overlapping CAs (15): 1 4 7 10-12 14 17 28 30 35 52 55 59 63
- Consensus area 41 (from 2 areas), 6 species give score:
- 156 *Sorex ventralis* (156): (0.000-0.833)
- 157 *Sorex veraepacis* (157): (0.000-0.800)

- 171 *Lepus flavigularis* (171): (0.700–0.833)
 484 *Oryzomys chapmani* (484): (0.800–1.000)
 554 *Reithrodontomys microdon* (554): (0.000–1.000)
 563 *Rheomys mexicanus* (563): (0.700–0.833)
 Areas included:
 91 103
 Number of cells: 5
 Nested CAs (13): 0 6 13 16 20 22–23 28 31 40 48 59 64
 Disjunct CAs (51): 1–5 7–12 14–15 17–19 21 24–27 29–30 32–39 42–47
 49–58 60–63
 Overlapping CAs (0): —
 Consensus area 42 (from 1 areas), 7 species give score:
 76 *Thomomys monticola* (76): (0.750)
 162 *Scapanus latimanus* (162): (0.667)
 371 *Chaetodipus californicus* (371): (0.813)
 387 *Perognathus inornatus* (387): (0.688)
 404 *Microtus californicus* (404): (0.750)
 456 *Neotoma fuscipes* (456): (1.000)
 610 *Sciurus griseus* (610): (0.667)
 Areas included:
 93
 Number of cells: 8
 Nested CAs (18): 1 4 7 10 12 14 19 26 28 30 33 38 44 52 57 59 61 64
 Disjunct CAs (45): 0 2–3 5–6 8–9 11 13 15–18 20–25 27 29 31–32 34–35 37
 39–41 43 45–51 53–56 58 60 62–63
 Overlapping CAs (1): 36
 Consensus area 43 (from 1 areas), 3 species give score:
 420 *Microtus richardsoni* (420): (0.964)
 625 *Spermophilus columbianus* (625): (0.813)
 659 *Tamias ruficaudus* (659): (0.679)
 Areas included:
 95
 Number of cells: 14
 Nested CAs (10): 1 7 12 17 24 28 30 52 59
 Disjunct CAs (53): 0 2–3 5–6 8–11 13–16 18–23 25–27 29 31–42 44–51 53–
 58 60–64
 Overlapping CAs (1): 4
 Consensus area 44 (from 1 areas), 8 species give score:
 42 *Aplodontia rufa* (42): (0.731)
 153 *Sorex trowbridgii* (153): (0.864)
 162 *Scapanus latimanus* (162): (0.769)
 404 *Microtus californicus* (404): (0.692)
 456 *Neotoma fuscipes* (456): (0.864)
 610 *Sciurus griseus* (610): (0.955)
 621 *Spermophilus beecheyi* (621): (0.808)
 661 *Tamias senex* (661): (0.773)
 Areas included:
 98
 Number of cells: 11
 Nested CAs (19): 1 4 7 10 12 14 17 19 26–28 30 33 38 42 52 57 59 61
 Disjunct CAs (43): 0 2–3 5–6 8–9 11 13 15–16 18 21–25 29 31–32 34–35 37
 39–41 43 45–51 53–56 58 60 62–63
 Overlapping CAs (2): 36 64
 Consensus area 45 (from 1 areas), 4 species give score:
 51 *Geomys attwateri* (51): (0.714)
 55 *Geomys personatus* (55): (0.857)
 57 *Geomys texensis* (57): (0.786)
 603 *Sciurus alleni* (603): (0.714)
 Areas included:
 100
 Number of cells: 7
 Nested CAs (20): 0 4 6–7 9 11 14 18 20–21 28 34–35 37 39–40 52 55 59 64
 Disjunct CAs (43): 1–3 5 8 10 12–13 15–17 19 22–27 29–33 38 41–44 46–
 51 53–54 56–58 60–63
 Overlapping CAs (1): 36
 Consensus area 46 (from 1 areas), 33 species give score:
 8 *Bradypus variegatus* (8): (0.900)
 29 *Noctilio albiventris* (29): (0.792)
 100 *Marmosa robinsoni* (100): (0.800)
 103 *Metachirus nudicaudatus* (103): (0.800)
 104 *Micoureus alstoni* (104): (0.850)
 194 *Cebus capucinus* (194): (0.900)
 196 *Cabassous centralis* (196): (0.950)
 198 *Choloepus hoffmanni* (198): (0.850)
 240 *Eumops hansae* (240): (0.667)
 263 *Glyphonycteris daviesi* (263): (0.900)
 264 *Micronycteris hirsuta* (264): (0.800)
 266 *Micronycteris minuta* (266): (0.850)
 268 *Micronycteris schmidtorum* (268): (1.000)
 294 *Myotis riparius* (294): (0.900)
 330 *Hoplomys gymnurus* (330): (0.900)
 331 *Proechimys semispinosus* (331): (0.850)
 443 *Melanomys caliginosus* (443): (0.900)
 479 *Sigmodontomys alfari* (479): (0.800)
 482 *Oryzomys bolivaris* (482): (0.900)
 615 *Sciurus variegatoides* (615): (0.792)
 673 *Centronycteris maximiliani* (673): (0.667)
 674 *Cormura brevirostris* (674): (0.800)
 681 *Saccopteryx leptura* (681): (0.792)
 693 *Lichonycteris obscura* (693): (0.750)
 700 *Macrophyllum macrophyllum* (700): (0.792)
 702 *Mimon crenulatum* (702): (0.679)
 704 *Phyllostomus hastatus* (704): (0.900)
 705 *Phyllostomus stenops* (705): (0.708)
 706 *Tonatia bidens* (706): (0.850)
 709 *Tonatia silvicola* (709): (0.800)
 717 *Carollia castanea* (717): (0.900)
 728 *Ectophylla alba* (728): (0.850)
 800 GRP-56–GRP-56 (800): (0.792)
 Areas included:
 101
 Number of cells: 10
 Nested CAs (8): 23 40 47 50–51 54 58
 Disjunct CAs (53): 0–5 7–19 21–22 24–30 32–39 41–45 48–49 52–53 55–57
 59–64
 Overlapping CAs (3): 6 20 31
 Consensus area 47 (from 1 areas), 13 species give score:
 67 *Orthogeomys matagalpae* (67): (0.800)
 112 *Cryptotis goodwini* (112): (0.700)
 114 *Cryptotis hondurensis* (114): (0.800)
 118 *Cryptotis merriami* (118): (1.000)
 407 *Microtus guatemalensis* (407): (0.700)

- 434 *Habromys lophurus* (434): (0.700)
 453 *Neotoma chrysomelas* (453): (0.800)
 488 *Oryzomys rhabdops* (488): (0.700)
 508 *Peromyscus guatemalensis* (508): (0.700)
 516 *Peromyscus mayensis* (516): (0.700)
 537 *Peromyscus stirtoni* (537): (0.800)
 561 *Reithrodontomys tenuirostris* (561): (0.700)
 565 *Rheomys thomasi* (565): (0.800)
 Areas included:
 105
 Number of cells: 5
 Nested CAs (8): 4 6 20 23 31 40 46 48 50
 Disjunct CAs (56): 0-3 5 7-19 21-22 24-30 41-45 49 51-64
 Overlapping CAs (0): —
 Consensus area 48 (from 1 areas), 3 species give score:
 179 *Sylvilagus cunicularius* (179): (1.000)
 245 *Molossus aztecus* (245): (0.679)
 486 *Oryzomys melanotis* (486): (0.750)
 Areas included:
 111
 Number of cells: 12
 Nested CAs (11): 6 13 16 20 22-23 31 40-41 47 54
 Disjunct CAs (48): 1-5 7-12 14-15 17-19 21 24-30 32-39 42-46 49 51-53
 55-58 60-63
 Overlapping CAs (5): 0 28 50 59 64
 Consensus area 49 (from 1 areas), 3 species give score:
 158 *Condylura cristata* (158): (0.953)
 332 *Napaeozapus insignis* (332): (0.922)
 406 *Microtus chrotorrhinus* (406): (0.784)
 Areas included:
 114
 Number of cells: 51
 Nested CAs (5): 12 25 52 62-63
 Disjunct CAs (55): 0-6 8-10 13-24 26-34 36-48 50-51 53-54 56-61 64
 Overlapping CAs (4): 7 11 35 55
 Consensus area 50 (from 1 areas), 67 species give score:
 6 *Tapirus bairdii* (6): (0.765)
 8 *Bradypus variegatus* (8): (0.808)
 9 *Cyclopes didactylus* (9): (0.962)
 25 *Pteronotus gymnonotus* (25): (1.000)
 29 *Noctilio albiventris* (29): (0.885)
 32 *Thyroptera tricolor* (32): (0.962)
 33 *Cuniculus paca* (33): (0.765)
 36 *Dasyprocta punctata* (36): (0.867)
 40 *Sphiggurus mexicanus* (40): (0.765)
 94 *Caluromys derbianus* (94): (0.735)
 95 *Chironectes minimus* (95): (0.833)
 99 *Marmosa mexicana* (99): (0.684)
 100 *Marmosa robinsoni* (100): (0.731)
 103 *Metachirus nudicaudatus* (103): (0.731)
 104 *Micoureus alstoni* (104): (0.769)
 178 *Sylvilagus brasiliensis* (178): (0.684)
 189 *Alouatta palliata* (189): (1.000)
 193 *Ateles geoffroyi* (193): (0.684)
 194 *Cebus capucinus* (194): (0.808)
 196 *Cabassous centralis* (196): (0.846)
 203 *Conepatus semistriatus* (203): (0.735)
 208 *Galictis vittata* (208): (0.684)
 221 *Bassariscus sumichrasti* (221): (0.706)
 237 *Eumops auripendulus* (237): (0.800)
 238 *Eumops bonariensis* (238): (0.733)
 240 *Eumops hansae* (240): (0.769)
 262 *Lamproncycteris brachyotis* (262): (0.923)
 263 *Glyphonycteris daviesi* (263): (0.808)
 266 *Micronycteris minuta* (266): (0.769)
 268 *Micronycteris schmidtorum* (268): (0.885)
 270 *Chrotopterus auritus* (270): (0.765)
 271 *Trachops cirrhosus* (271): (0.765)
 272 *Vampyrum spectrum* (272): (0.962)
 274 *Myotis albescens* (274): (0.962)
 294 *Myotis riparius* (294): (0.808)
 330 *Hoplomys gymnurus* (330): (0.808)
 358 *Heteromys desmarestianus* (358): (0.765)
 443 *Melanomys caliginosus* (443): (0.808)
 482 *Oryzomys bolivaris* (482): (0.808)
 568 *Scotinomys teguina* (568): (0.700)
 615 *Sciurus variegatoides* (615): (0.885)
 673 *Centronycteris maximiliani* (673): (0.769)
 677 *Peropteryx kappleri* (677): (0.885)
 678 *Peropteryx macrotis* (678): (0.765)
 679 *Rhynchonycteris naso* (679): (0.765)
 681 *Saccopteryx leptura* (681): (0.885)
 693 *Lichonycteris obscura* (693): (0.846)
 700 *Macrophyllum macrophyllum* (700): (0.885)
 701 *Mimon bennettii* (701): (0.767)
 702 *Mimon crenulatum* (702): (0.923)
 703 *Phyllostomus discolor* (703): (0.765)
 704 *Phyllostomus hastatus* (704): (0.808)
 705 *Phyllostomus stenops* (705): (0.808)
 706 *Tonatia bidens* (706): (0.769)
 707 *Tonatia brasiliense* (707): (0.962)
 715 *Artibeus lituratus* (715): (0.765)
 716 *Carollia brevicauda* (716): (0.684)
 717 *Carollia castanea* (717): (0.808)
 718 *Carollia perspicillata* (718): (0.765)
 723 *Chiroderma villosum* (723): (0.765)
 727 *Dermanura watsoni* (727): (0.962)
 728 *Ectophylla alba* (728): (0.769)
 732 *Platyrrhinus helleri* (732): (0.706)
 738 *Uroderma bilobatum* (738): (0.867)
 741 *Vampyressa pusilla* (741): (0.735)
 742 *Vampyrodes caraccioli* (742): (0.735)
 800 GRP-56-GRP-56 (800): (0.885)
 Areas included:
 115
 Number of cells: 13
 Nested CAs (7): 23 40 46-47 51 54 58
 Disjunct CAs (53): 0-5 7-19 21-22 24-30 32-39 41-45 49 52-53 55-57 59
 60-64
 Overlapping CAs (4): 6 20 31 48
 Consensus area 51 (from 1 areas), 6 species give score:
 31 *Thyroptera discifera* (31): (0.833)

- 64 *Orthogeomys heterodus* (64): (0.833)
 113 *Cryptotis gracilis* (113): (1.000)
 474 *Oligoryzomys vegetus* (474): (1.000)
 543 *Reithrodontomys brevirostris* (543): (0.833)
 566 *Rheomys underwoodi* (566): (1.000)
 Areas included:
 116
 Number of cells: 3
 Nested CAs (6): 20 23 40 46 50 58
 Disjunct CAs (58): 0-19 21-22 24-39 41-45 47-49 51-57 59-64
 Overlapping CAs (0): —
 Consensus area 52 (from 1 areas), 3 species give score:
 19 *Vulpes vulpes* (19): (0.981)
 43 *Castor canadensis* (43): (0.884)
 199 *Lontra canadensis* (199): (0.918)
 Areas included:
 120
 Number of cells: 233
 Nested CAs (28): 1-2 10 12 14 17-19 24-27 30 34-35 39 42-45 49 53 55-57
 61-63
 Disjunct CAs (20): 0 3 6 13 15-16 21-23 29 31-32 41 46-48 50-51 54 58
 Overlapping CAs (16): 4-5 7-9 11 20 28 33 36-38 40 59 60 64
 Consensus area 53 (from 1 areas), 3 species give score:
 396 *Myodes rutilus* (396): (0.904)
 401 *Lemmus sibiricus* (401): (0.949)
 633 *Spermophilus parryii* (633): (0.913)
 Areas included:
 121
 Number of cells: 125
 Nested CAs (1): 52
 Disjunct CAs (61): 0-11 13-51 54-58 60-64
 Overlapping CAs (2): 12 59
 Consensus area 54 (from 1 areas), 3 species give score:
 90 *Mazama pandora* (90): (0.667)
 491 *Otonyctomys hattii* (491): (0.875)
 616 *Sciurus yucatanensis* (616): (0.750)
 Areas included:
 124
 Number of cells: 4
 Nested CAs (8): 6 20 23 31 40 46 48 50
 Disjunct CAs (56): 0-5 7-19 21-22 24-30 32-39 41-45 47 49 51-53 55-64
 Overlapping CAs (0): —
 Consensus area 55 (from 2 areas), 11 species give score:
 14 *Canis lupus rufus* (14): (0.793-1.000)
 108 *Blarina carolinensis* (108): (0.741-0.783)
 137 *Sorex longirostris* (137): (0.741-0.942)
 175 *Sylvilagus aquaticus* (175): (0.000-0.804)
 276 *Myotis austroriparius* (276): (0.827-0.870)
 303 *Corynorhinus rafinesquii* (303): (0.759-0.885)
 317 *Lasiurus seminolus* (317): (0.690-0.804)
 470 *Ochrotomys nuttalli* (470): (0.860-0.904)
 487 *Oryzomys palustris* (487): (0.710-0.893)
 504 *Peromyscus gossypinus* (504): (0.759-0.885)
 551 *Reithrodontomys humulis* (551): (0.880-0.923)
 Areas included:
 125 130
 Number of cells: 26
 Nested CAs (7): 34-35 39 45 52 62-63
 Disjunct CAs (51): 0-10 13-24 26-33 36-38 41-44 46-48 50-51 53-61
 Overlapping CAs (6): 11-12 25 40 49 64
 Consensus area 56 (from 1 areas), 4 species give score:
 50 *Geomys arenarius* (50): (0.800)
 125 *Sorex arizonae* (125): (0.700)
 531 *Peromyscus polius* (531): (0.900)
 647 *Tamias canipes* (647): (0.700)
 Areas included:
 128
 Number of cells: 5
 Nested CAs (24): 0 2-9 11-12 14 18 20 28 33 36-38 40 52 59-60 64
 Disjunct CAs (40): 1 10 13 15-17 19 21-27 29-32 34-35 39 41-51 53-58
 61-63
 Overlapping CAs (0): —
 Consensus area 57 (from 1 areas), 11 species give score:
 336 *Dipodomys agilis* (336): (0.667)
 339 *Dipodomys deserti* (339): (0.708)
 371 *Chaetodipus californicus* (371): (0.750)
 373 *Chaetodipus formosus* (373): (0.900)
 388 *Perognathus longimembris* (388): (0.679)
 497 *Peromyscus californicus* (497): (0.750)
 651 *Tamias merriami* (651): (0.750)
 653 *Tamias obscurus* (653): (0.700)
 664 *Tamias speciosus* (664): (0.750)
 793 GRP-49-GRP-49 (793): (0.750)
 795 GRP-51-GRP-51 (795): (0.800)
 Areas included:
 129
 Number of cells: 10
 Nested CAs (21): 1 4 7 10-12 14 19 26-28 33 36-38 40 42 44 52 55 64
 Disjunct CAs (41): 0 2-3 5-6 8-9 13-16 18 20-25 29 31-32 34-35 39 41 43
 45-51 53-54 56 58-63
 Overlapping CAs (2): 17 30
 Consensus area 58 (from 1 areas), 68 species give score:
 7 *Saguinus geoffroyi* (7): (0.800)
 15 *Speothos venaticus* (15): (0.700)
 22 *Furipterus horrens* (22): (0.900)
 31 *Thyroptera discifera* (31): (0.700)
 34 *Dasyprocta coibae* (34): (0.800)
 38 *Coendou rothschildi* (38): (0.800)
 41 *Hydrochaeris hydrochaeris* (41): (0.800)
 59 *Orthogeomys cavator* (59): (0.800)
 61 *Orthogeomys cherriei* (61): (0.800)
 68 *Orthogeomys underwoodi* (68): (0.800)
 101 *Marmosops impavidus* (101): (0.700)
 102 *Marmosops invictus* (102): (0.700)
 103 *Metachirus nudicaudatus* (103): (0.714)
 105 *Monodelphis adusta* (105): (0.700)
 113 *Cryptotis gracilis* (113): (0.800)
 120 *Cryptotis nigrescens* (120): (0.900)
 180 *Sylvilagus dicei* (180): (0.900)
 191 *Aotus lemurinus* (191): (0.800)
 192 *Ateles fusciceps* (192): (0.800)
 195 *Saimiri oerstedii* (195): (0.800)

- 218 *Bassaricyon gabbii* (218): (1.000)
 223 *Procyon cancrivorus* (223): (0.800)
 244 *Cynomops planirostris* (244): (0.800)
 249 *Molossus pretiosus* (249): (0.900)
 264 *Micronycteris hirsuta* (264): (0.714)
 267 *Trinycteris nicefori* (267): (1.000)
 291 *Myotis oxyotus* (291): (0.900)
 312 *Lasiurus castaneus* (312): (0.800)
 315 *Lasiurus egregius* (315): (0.700)
 329 *Diplomys labilis* (329): (0.800)
 363 *Liomys adpersus* (363): (0.700)
 471 *Oecomys bicolor* (471): (0.800)
 472 *Oecomys trinitatis* (472): (0.800)
 474 *Oligoryzomys vegetus* (474): (0.800)
 478 *Oryzomys albigularis* (478): (0.900)
 479 *Sigmodontomys alfari* (479): (0.714)
 481 *Sigmodontomys aphrastus* (481): (0.800)
 485 *Oryzomys dimidiatus* (485): (0.700)
 489 *Oryzomys talamancae* (489): (0.800)
 545 *Reithrodontomys creper* (545): (0.900)
 547 *Reithrodontomys darienensis* (547): (0.800)
 556 *Reithrodontomys paradoxus* (556): (0.800)
 558 *Reithrodontomys rodriguezi* (558): (0.900)
 564 *Rheomys raptor* (564): (0.900)
 566 *Rheomys underwoodi* (566): (0.800)
 569 *Scotinomys xerampelinus* (569): (0.900)
 580 *Tylomys watsoni* (580): (1.000)
 582 *Zygodontomys brevicauda* (582): (0.800)
 600 *Microsciurus alfari* (600): (1.000)
 601 *Microsciurus mimulus* (601): (0.800)
 609 *Sciurus granatensis* (609): (1.000)
 614 *Sciurus richmondi* (614): (0.700)
 643 *Syntheosciurus brochus* (643): (1.000)
 674 *Cormura brevirostris* (674): (0.714)
 675 *Cyttarops alecto* (675): (0.700)
 682 *Anoura cultrata* (682): (0.900)
 694 *Lionycteris spurrelli* (694): (0.700)
 695 *Lonchophylla mordax* (695): (0.800)
 696 *Lonchophylla robusta* (696): (1.000)
 697 *Lonchophylla thomasi* (697): (0.700)
 709 *Tonatia silvicola* (709): (0.714)
 710 *Ametrida centurio* (710): (0.700)
 722 *Chiroderma trinitatum* (722): (0.800)
 730 *Mesophylla macconnelli* (730): (1.000)
 733 *Platyrrhinus vittatus* (733): (0.900)
 736 *Sturnira luisi* (736): (1.000)
 737 *Sturnira mordax* (737): (0.900)
 740 *Vampyressa nymphaea* (740): (1.000)
 Areas included:
 131
 Number of cells: 5
 Nested CAs (5): 23 40 46 50–51
 Disjunct CAs (58): 0–19 21–22 24–39 41–45 47–49 52–58 60–64
 Overlapping CAs (1): 20
 Consensus area 59 (from 1 areas), 3 species give score:
 277 *Myotis californicus* (277): (0.873)
 300 *Myotis volans* (300): (0.929)
 301 *Myotis yumanensis* (301): (0.877)
 Areas included:
 132
 Number of cells: 61
 Nested CAs (39): 0–5 8–10 13 15–22 24 26–30 32–33 36–39 41–45 56–57
 60–61
 Disjunct CAs (13): 25 34–35 46–47 49–51 54–55 58 62–63
 Overlapping CAs (12): 6–7 11–12 14 23 31 40 48 52–53 64
 Consensus area 60 (from 1 areas), 11 species give score:
 166 *Lepus alleni* (166): (0.818)
 260 *Macrotus californicus* (260): (0.769)
 299 *Myotis vivesi* (299): (0.682)
 368 *Chaetodipus arenarius* (368): (0.692)
 370 *Chaetodipus baileyi* (370): (0.955)
 374 *Chaetodipus goldmani* (374): (0.682)
 381 *Chaetodipus spinatus* (381): (0.731)
 523 *Peromyscus merriami* (523): (0.773)
 571 *Sigmodon arizonae* (571): (0.731)
 584 *Ammospermophilus harrisii* (584): (0.773)
 604 *Sciurus arizonensis* (604): (0.727)
 Areas included:
 135
 Number of cells: 11
 Nested CAs (22): 0 2–9 11 14 19–20 28–29 32–33 36–38 40 46 56 59 64
 Disjunct CAs (39): 1 10 13 15–18 21–22 24–27 30–31 34–35 39 41–45 47–
 51 53–55 57–58 61–63
 Overlapping CAs (3): 12 23 52
 Consensus area 61 (from 2 areas), 15 species give score:
 75 *Thomomys mazama* (75): (0.000–1.000)
 126 *Sorex bairdii* (126): (0.000–0.750)
 127 *Sorex bendirii* (127): (0.000–0.833)
 145 *Sorex pacificus* (145): (0.833–1.000)
 150 *Sorex sonomae* (150): (0.000–0.667)
 391 *Arborimus albipes* (391): (0.667–0.917)
 392 *Arborimus longicaudus* (392): (0.833–1.000)
 393 *Arborimus pomo* (393): (0.750–0.875)
 394 *Myodes californicus* (394): (0.667–0.917)
 405 *Microtus canicaudus* (405): (0.667–0.750)
 416 *Microtus oregoni* (416): (0.000–0.750)
 421 *Microtus townsendii* (421): (0.000–0.750)
 639 *Spermophilus townsendii* (639): (0.000–0.667)
 662 *Tamias siskiyou* (662): (0.833–1.000)
 666 *Tamias townsendii* (666): (0.000–0.833)
 Areas included:
 136 140
 Number of cells: 6
 Nested CAs (12): 4 7 10 12 14 17 28 30 42 44 52 59
 Disjunct CAs (52): 0–3 5–6 8–9 11 13 15–16 18–27 29 31–41 43 45–51 53–
 58 60 62–64
 Overlapping CAs (0): —
 Consensus area 62 (from 1 areas), 4 species give score:
 56 *Geomys pinetis* (56): (0.750)
 187 *Sylvilagus palustris* (187): (0.786)
 424 *Neofiber alleni* (424): (0.750)
 530 *Peromyscus polionotus* (530): (0.875)

Areas included:
138

Number of cells: 12

Nested CAs (6): 20 25 35 49 52 55 63

Disjunct CAs (57): 0-11 13-19 21-24 26-34 36-48 50-51 53-54 56-61 64

Overlapping CAs (1): 12

Consensus area 63 (from 1 areas), 3 species give score:
295 *Myotis septentrionalis* (295): (0.842)
665 *Tamias striatus* (665): (0.868)
773 GRP-29-GRP-29 (773): (0.931)

Areas included:
141

Number of cells: 72

Nested CAs (7): 25 34-35 49 52 55 62

Disjunct CAs (49): 0-10 13 15-24 26-27 29 31-33 36-39 41-48 50-51 53-54 56-61 64

Overlapping CAs (8): 11-12 14 28 30 40

Consensus area 64 (from 1 areas), 3 species give score:
123 *Notiosorex crawfordi* (123): (0.881)
169 *Lepus californicus* (169): (0.779)
254 *Nyctinomops macrotis* (254): (0.881)

Areas included:
146

Number of cells: 42

Nested CAs (38): 0-5 7-11 13-16 18-22 26-29 32-34 36-42 45 56-57 60

Disjunct CAs (12): 24 43 46-47 49-51 53-54 58 61-62

Overlapping CAs (14): 6 12 17 23 25 30-31 35 44 48 52 55 59 63