relationship with precipitation (R: 0.5858, p: 8.417e-05). On other hand our data suggests that geographic constraints do not play a major role in structuring small mammal assemblages along the Andes. The inverse relationship of richness along elevation supports the long history of the sigmodontine rodents in the Andes.

48 SÃO FRANCISCO RIVER: BARRIER OR SECONDARY CONTACT ZONE FOR NORTHEASTERN ATLANTIC FOREST SMALL MAMMALS?

Asfora, Paulo Henrique; Astúa, Diego & Geise, Lena
Doutorado em Ecologia e Evolução, Laboratório de Mastozoologia, Universidade do Estado do Rio de Janeiro, Brazil; paulo.asfora@gmail.com

The northern portion of the Atlantic Forest (AF), the Pernambuco Endemism Center (PEC), is recognized as an important center of endemism for several taxa, and is separated from the remaining AF by São Francisco River (SFR). Contrary to the main AF, widespread species as Philander frenatus and Marmosops incanus are not present in PEC. Cerradomys species have their limits defined by the river, and phylogeographic studies indicated its basin as a divergence region for populations of Akodon cursor, Calomys expulsus, Didelphis aurita and Rhipidomys mastacalis. From January/2008 to July/2009 small mammals were surveyed in 13 localities in PEC (6°48'21.4"S to 10°54'34.35"S), totalizing 24.800 trap-nights. Vouchers were karyotyped and deposited in the Coleção de Mamíferos da UFPE as skins, partial skeletons and tissues, and distribution maps were built. Twenty measurements of 497 skulls of A. cursor, covering the occurrence area from the species in AF, were also analyzed trough discriminant analyses. Ten marsupials (Caluromys philander, Cryptonanus agricolai., Didelphis albiventris, D. aurita, Gracilinanus agilis, Marmosa murina, Metachirus nudicaudatus, Micoureus demerarae, Monodelphis americana and M. domestica) and 14 rodents (Akodon cursor, Calomys sp., Cerradomys langguthi, Holochilus sciureus, Hylaemys oniscus, Necromys lasiurus, Nectomys rattus, Oecomys bahiensis, Oligoryzomys nigripes, Oxymycterus angularis, Rhipidomys mastacalis, Thrichomys laurentius, Phyllomys blainvilii and Galea spixii were recorded. Nectomys rattus and C. langguthi occur only on the left margin, a new karyotype, related to R. mastacalis, and an undefined Calomys species, based on morphological cranial differences, were also registered. Akodon cursor cranial measurements indicate a differentiation between PEC and southern AF populations ($p<0.01$). In this way, we can suggest that PEC exhibits a particular small mammal fauna and that the SFR might be considered as a barrier. The hypothesis of a secondary contact zone, with taxa that evolved elsewhere needs further analysis. Support: WWF, CAPES, CNPq, FAPERJ, FACEPE, UFPE e UERJ

49 SMALL MAMMALS OF THE ATLANTIC CONTINENTAL SECTOR OF CENTRAL PATAGONIA: TAXONOMY AND GEOGRAPHIC DISTRIBUTION

Daniel Edgardo Udrizar Sauthier, Juliana Patricia Sanchez & Walter Omar Udrizar Sauthier
Unidad de Investigación Diversidad, Sistemática y Evolución, Centro Nacional Patagónico, Boulevard Brown 2825, casilla de correo 128, (U9120ACF) Puerto Madryn, Chubut, Argentina; dsauthier@cenpat.edu.ar

In extraandean Patagonia diverse environments are found, from shrubby formation of the northeastern to the arid steppes of the south. The knowledge about the small mammal assemblages in vast areas of this region is still very poor. The aim of this contribution is to improve the knowledge of small mammal assemblages that occur throughout the Atlantic sector (ca. 30 km from the coast line) of Chubut province (42º-46ºS). The field work was carried out in 7 localities: Puerto Lobos (42º00'02"S, 65º04'10"W), Bahía Cracker (42º57'02"S, 64º28'45"W), Bajo de los Huesos (43º11'42"S, 64º51'52"W), Isla Escondida (43º 41'46"S, 65º20'36"W), Cabo Raso (44º20'22"S, 65º14'59"W), Puerto Piojo (44º53'00"S, 65º40'19"W) and Pico Salamanca (45º24'32"S, 67º24'58"W). In these localities 200 traps (Sherman) were used, remaining in the field between 2-5 nights in each locality. We captured 324 specimens, totalized at least 13 species of small mammals: 2 of marsupials, 9 of sigmodontine rodents and 2 of caviomorph rodents. The taxonomic structure reflects a change between northern and southern assemblages, coherent with the two major floristic units (FU) present in the area: Monte Phytogeographic province (Pp) and Patagonica Pp. Monte Pp (until 44ºS) is represented by an exclusive species: Akodon molinae (5,98% [percentage of capture in each FU]), another species captured in this FU were Eligmodontia sp. (42,66%), Akodon iniscatus (25,78%), Graomys griseoflavus (19,65%), Thylamys pallidior (4,23%), Reithrodon auritus (1,70%), Calomys musculinus (0.85%) and Ctenomys sp. (0.85%). In the Patagonica Pp were exclusively captured Abrothrix olivaceus (17,07%), Phyllotis xanthopygus (11,21) and Lestodelphys halli (1,46%), together with Eligmodontia sp. (29,30), G. griseoflavus (14,63%), R. auritus (9,26%), A. iniscatus (9,26%), C. musculinus (3,41%), Microcavia australis (1,95%), Ctenomys sp. (1,95%) and T. pallidior (0,48%). The changes between the small mammal assemblages of these two Pp seem to be tie with latitudinal and altitudinal gradients that influenced the geographic distribution of taxa.

50 SOUTH AMERICAN MAMMAL DIVERSITIES AND DISTRIBUTIONS DURING THE MIOCENE

Croft, Darin A.
Case Western Reserve University, Cleveland, Ohio, USA; dcroft@case.edu

The Miocene Epoch was a time of major change in the composition of South American terrestrial mammal faunas. Rodents, which dispersed from Africa by the earliest Oligocene, and primates, which reached South America by the latest Oligocene, diversified morphologically and taxonomically during the Miocene. Endemic ungulates, which reached their peak diversity in the middle Cenozoic, gradually declined in diversity during the Miocene, though many species remained abundant. Xenarthrans reached their peak diversity during this interval, and marsupials persisted at moderate diversity. The end of the Miocene witnessed the early stages of the Great American Biotic Interchange, essentially the final step in the modernization of terrestrial mammal faunas. Our current understanding of Miocene faunal patterns is primarily based on data from the southern part of South America. The Neotropics are relatively poorly sampled – despite representing nearly 80% of South America's surface area – although this situation has gradually improved in

recent years. The earliest Miocene is perhaps the most poorly sampled interval. Excellent faunas are known from Argentina and Chile, but none has been identified north of 35° S latitude. Moreover, these faunas may be flanked by significant temporal gaps in the fossil record. In contrast, late early Miocene faunas, some extremely rich, are present in Argentina, Bolivia, and Chile. These have permitted assessments of broad biogeographic patterns during this interval. The middle Miocene includes the best sampled Neotropical Miocene fauna, La Venta (Colombia), which is contemporaneous with a diverse fauna from Bolivia and perhaps others from Argentina, Chile, Ecuador, and/or Peru. Slightly older and younger middle Miocene faunas occur in Argentina, Bolivia, and Chile, many inadequately characterized. The late Miocene is represented throughout South America, although even the best sampled faunas require additional taxonomic investigation.

51 THE BIOGEOGRAPHICAL HISTORY OF CINGULATA (MAMMALIA, XENARTHRA) AND THE GREAT AMERICAN BIOTIC INTERCHANGE (GABI)

Carlini Alfredo A. & Zurita Alfredo E.

División Paleontología de Vertebrados, Museo de La Plata, Paseo del Bosque s/nº, 1900, La Plata, Argentina and Paleontologisches Institut und Museum, Universitât Zürich, Karl Schmid-Straße 4,CH-8006 Zürich, Switzerland; acarlini@fcnym.unlp.edu.ar

The latest finds from northern South America, have brought about a new interpretation of the evolutionary and biogeographical history of the major groups of Cingulates on and around the GABI. This can be summarized in the following points: 1) unfortunately, there are still only poor records of dasypodids in the Pliocene of Northern South America, but the first remains of Propraopus have been exhumed from San Gregorio Formation (late? Pliocene), Venezuela; 2) morphological evidence suggests that the glyptodonts from the middle Miocene-Pliocene of northernmost South America (Colombia and Venezuela) do not belong to Propalaehoplophorinae, but actually represent the first stages in the cladogenesis and later dispersion of the Glyptodontinae, and they represent the oldest records for this subfamily. So, the Propalaehoplophorinae were restricted to southernmost South America; 3) the oldest records of Glyptodontinae in southernmost South America (latest Miocene and Pliocene), and partially coincide with the peak of the "age of southern plains", that could have acted as a "biogeographical corridor"; 4) during the Pliocene, the glyptodontines (probably together with the “glyptatelines”) passed onto Central and North America. At present, Glyptotherium and Pachyarmatherium are the only genera recognized in those areas; 5) the presence of Glyptotherium and Pachyarmatherium in the latest Pleistocene of Venezuela suggests a re-entry into South America at some point during the late Pleistocene, probably associated with “biogeographical corridors” formed during glacial periods; 6) a similar bidirectional migratory pattern has been observed for the pampatheriids, they migrated into Central and North America. Later, this clade re-entered into South America, following two alternative routes, one “para-Andean”, and another parallel to the eastern coast. The cyclical climatic-environmental fluctuations occurred during the Pleistocene would have triggered speciation processes that gave rise to endemic South American species.

52 THE ELEVATION GRADIENT OF RODENT ENDEMISM ALONG THE EASTERN SLOPES OF THE ACONQUIJA MOUNTAIN RANGE, NORTHWESTERN ARGENTINA

Luis Ignacio Ferro

PIDBA (Programa de Investigación de Biodiversidad Argentina), Facultad de Ciencias Naturales e Instituto Miguel Lillo, Universidad Nacional de Tucumán, Argentina; ignacioferro@gmail.com

During the last four years I studied small mammal fauna along elevation gradients of mountain ranges in NW Argentina. The results of the direct trapping protocol used for terrestrial small mammals, reveled a hump shaped pattern of species richness along elevation. Among the several hypotheses proposed to explain this patter, that one dealing with rates of speciation lie at the core of evolutionary process. Rodents, as the more diverse group of mammals are frequently the most important part of small mammal assemblages concerning to the number of species. Additionally, rodents have shown to form quite conspicuous assemblages and therefore, seem to be particularly useful to analyze endemism patterns on mountain slopes. The concept of endemism implies geographic restriction of a taxon to a particular area; thus it is relative to geographic area under study. In this study, I considered as endemic species those which are restricted to the Aconquija and adjacent Cumbres Calchaquies mountain ranges. For this study I compiled distributional record of rodents inhabiting the eastern slopes of these mountain ranges form specimens deposited in museums and direct trapping. Then I listed species within 500m elevation belt for asses the variation of richness and endemism along the elevation gradient (500-4500m). Endemism was expressed either as the number of endemic species in each elevation belt or as the percentage of endemic species relative to the total species number in that belt. I recorded 37 species of rodents, of which 11 are endemic. Species richness showed a peak at the 1000-1500 elevation belt. The elevation pattern of endemic species was hump-shaped. For the raw number of endemic species per elevation belt the peak was located between 1500-2500m. For the percentage of endemic species per elevation belt the peak was located at the 2000-2500 elevation belt.

53 THE INSECTIVOROUS MAMMALS OF VIETNAM

Abramov A.V. & Rozhnov V.V.

Zoological Institute, Russian Academy of Sciences, Universitetskaya nab., 1, Saint-Petersburg, 199034, Russia; a.abramov@mail.ru

The representatives of two recent orders (Soricomorpha and Erinaceomorpha) of insectivorous mammals distributed in Vietnam. In total, 23 species of this group currently known in the country. Shrew gymnure Neotetracus sinensis occurs at the highlands of northern Vietnam, whereas short-tailed gymnure Hylomys suillus distributed through all country. Distribution of Vietnamese talpids are scattered in the montane regions. Most of species (Euroscaptor longirostris, Scaptonyx fusicaudus, Mogera latouchei) distributed in the northern provinces only. Small-toothed mole Euroscaptor parvidens found in the highlands of central and southern Vietnam. Seven genera (Crocidura, Suncus, Blarinella, Chodsigoa, Episoriculus, Anourosorex, and Chimarrogale) of soricids occur in Vietnam.