CONSERVATION OF NEOTROPICAL DEER

Physical gaps in the biogeography of Andean dwarf montane deer

Javier Barrio

División de Mastozoología, Centro de Ornitología y Biodiversidad, Santa Rita 103 of. 2, Lima 33

javbar@gmail.com

The distribution of species along the Andean cordillera is affected by the continuity of habitats. Climate changes progressively from the tropics to temperate latitudes; however, other characteristics such as deep gorges and rain shadows affect distributions strongly, as unsuitable habitats of dry forests and lower altitudes are apparent for montane deer adapted to wet environments. Here, I analyze the distribution of the dwarf deer (genera *Mazama* and *Pudu*) that live along the Andes, in consideration to unsuitable habitat and competition among species. From north to south, the montane Andes are inhabited by *Mazama bricenii*, *Mazama rufina*, *Pudu mephistophiles*, *Mazama chunyi* and *Pudu puda*. We have to highlight that at least two *Mazama americana* subspecies, which also inhabit Andean montane forests, are small enough as to belong to this group: *M. americana carrikeri* and *M. americana gualea*.

The main physical gaps that could affect dwarf montane deer living in humid environments are listed. A lowland tract of dry forest between Santa Marta and the main Eastern Colombian Andes; the Tachira depression, a low altitude and drier forest gap between the Merida Cordillera and the Eastern Colombian Andes; the North Peru Low – NPL, or Huancabamba depression, a large tract of dry forest, deep valleys, and low altitudes encompassing the Huancabamba and Maranon dry valleys; four cuts in the east side of the Andean montane forests from central Peru to south Bolivia: the Huallaga dry valley, the Mantaro dry valley, the Apurimac dry valley, and the Tarija dry valley; and lastly, the huge tract of dry eastern Andes south of Tucuman, until the beginning of the Nothofagus forests in southern South America.

Mazama americana carrikeri is effectively isolated from the main Andean cordillera in the Santa Marta massif. *Mazama bricenii* occurs at both sides of the Tachira depression, while apparent suitable habitat exists between this species and the distribution of *Mazama rufina*. The distribution of *M. rufina* stops at the North Peru Low or Huancabamba depression, the same as the western *M. americana gualea*, while sympatric *Pudu mephistophiles* occurs at both sides of the gap. The southern distribution of *P. mephistophiles* seems to stop at the Mantaro dry forests. Despite a deeper and drier gap is the Apurimac dry valley to the south, *Mazama chunyi* occurs at both sides of it. To the south, the Tarija dry valley marks the southern distribution of this species in Bolivia. *Pudu puda* is totally isolated from the other species, explained by the large gap of dry areas that distributes throughout the southern eastern Andean chain until the beginning of the Patagonian/Valdivian humid forests, where this species inhabits. Some of the distribution gaps between species are well known; however, most are still unresolved, and the lack of data is a result of reduced sampling and research. The distribution of the montane dwarf species does not follow strictly the distribution of gaps, and the allopatry in the distributions of some species might be explained instead by competition or interference between them.

Keywords: Merida dwarf brocket, Northern pudu, Ecuadorian dwarf brocket, Peruvian dwarf

brocket, Southern pudu, Mazama, pudu, conservation, South America, distribution