



Distribution and conservation status of nominate *Euptychia cesarensis* in the East Andes of Colombia

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In this issue of *Zootaxa*, Pulido *et al.* (2011) describe a new species of butterfly based on disjunct populations in the northern East Andes of Colombia, Ecuador and Peru. The East Andes population (nominate subspecies) of this new species was previously found in Serranía de los Yariguíes, Santander, Colombia in January 2003. A photograph of a specimen was illustrated as "*Euptychia sp. nov.*" in Huertas (2004, Appendix 1, Plate 5; also listed in Appendix 3, p. 5) and this photograph was discussed with Pulido in 2008. The species was also reported as "*Euptychia sp. nov.*" in Huertas & Arias (2005, p. 75) and, following discussions with other specialists, it was reported as "*Pharneuptychia sp.*" in Huertas & Ríos (2006, p. 145). Various other new taxa have been described or have descriptions underway following expeditions in Serranía de los Yariguíes (e.g. Donegan & Huertas 2006; Huertas & Arias 2007; Huertas *et al.* 2009; Huertas & Fagua MS). Four other specimens of *E. cesarensis* were found at MPUJ, collected in 2004.

Were we to have sought to publish our draft description elsewhere, this could have resulted in nomenclatural instability if two names were published. In this short paper, we publish various additional data relating to the distribution and conservation status of the East Andean population of *E. cesarensis* in Colombia as collaboration was not possible. These records will complement data in Pulido *et al.* (2011).

Methods

Specimens were collected in 2003 and 2005 during surveys in Serranía de los Yariguíes, Santander, Colombia during fieldwork conducted during Proyecto EBA and YARE (see details in Huertas 2004; Donegan & Huertas 2005; Huertas & Donegan 2006). Other specimens were found in one museum although various others were consulted:

AMNH	American Museum of Natural History, New York, USA.
BMNH	Natural History Museum, London, UK. (formerly British Museum (Natural History))
IAVH	Instituto Alexander von Humboldt, Villa de Leiva, Colombia.
JFLCPC	Jean François Le Crom Personal Collection, Bogotá, Colombia.
MHNUIS	Museo de Historia Natural Universidad Industrial de Santander, B/manga, Colombia.
MIZA	Museo del Instituto de Zoología Agrícola, Maracay, Venezuela.
AOPC	Andres Orellana, Personal Collection.
MPUJ	Museo Javeriano de Historia Natural, Pontificia Universidad Javeriana, Bogotá, Colombia.

Locality data were geo-referenced using GPS. In order to evaluate distributions, specimen localities were plotted and models of potential distribution built using DIVA-GIS software version 5.2.0.2 (Hijmans *et al.* 2005a) based on climate data obtained from Worldclim (Hijmans *et al.* 2005b). Bioclimatic variables selected for modelling were average annual temperature and precipitation variables. The extent of occurrence was calculated based on a minimum polygon collecting all localities. The modelled range including regions continuous with known localities was used as a surrogate for the area of occupancy.

Additional data for *Euptychia cesarensis*

1 male: Colombia, Santander, Serranía de los Yariguíes, Municipio San Vicente de Chucurí, W Finca El Talisman, 1690–2000 m, 06°50'57"N, 73°21'51"W, west slope, 4–9 January 2003 (B. Huertas & J. J. Arias *leg.*) to be deposited at IAVH and a photograph is illustrated in Huertas (2004, Appendix 1, Plate 5). 1 male: Colombia, Santander, Serranía de los Yariguíes, Municipio Galán, La Luchata, 1950–2050 m, 06°38'20"N, 73°16'57"W, east slope, 2 July 2005 (B. Huertas, J. J. Arias & C. Ríos *leg.*) to be deposited at IAVH. 2 males and 2 females: Colombia, Santander, Encino, Reserva Biológica Cachalú, Vereda Los Rosales, 2100 m, 06°03'42"N, 73°08'04"W, 8 May 2004 (D. Montañez *leg.*), deposited at MPUJ.

Habitat, distribution and conservation of *Euptychia cesarensis*

Nominate *E. cesarensis* occurs in remaining premontane forest dominated by Andean Oak *Quercus humboldtii* in the East Andes of Colombia in Santander department. The species was observed in a forest clearing in Serranía de los Yariguíes at ca. 2 m above ground level. In Cachalú reserve this butterfly was observed between the forest edges up to 60 m into the forest. The distributional range of the nominate subspecies is extended by c. 230 km to the South and into Santander department in Colombia, with the elevational range also extended by 300 metres to 2100 metres above sea level compared with the data registered by Pulido *et al.* (2011). According with the data obtained and observations made, *E. cesarensis* is not an endemic to Cesar.

Modelling of the East Andean nominate subspecies produced an Extent of Occurrence (EOO) of 95 km² and a predicted range of 4308 km². The EOO was lower due to known sites having such similar longitude. An additional study of the species as a whole including spp viloriae and more locations is needed it for a conservation assessment of this species. Models predicted disjunct suitable habitats elsewhere in the northern Andes, including on the east slope of the East Andes, other Colombian Andean ranges and South to Ecuador and Peru.

This taxon is apparently endemic to the Colombian East Andes Endemic Area (EBA, see Stattersfield *et al.* 1998). Oak forest in the East Andes has been subject to considerable deforestation and remains threatened by habitat loss for logging and agriculture. Habitat loss across the population's predicted range is 56%. The modelled distribution and known localities for the species include various protected areas: the Serranía de los Yariguíes National Park, Reserva Biológica Cachalú, Santuario de Fauna y Flora de Guanentá, Alto Río Fonce and Reserva Natural de Aves Reinita Cerulea. The East Andes population of *E. cesarensis* was first collected in the latter site when it was an unprotected area but which is now part of Fundación ProAves' reserves network. This reserve and Serranía de los Yariguíes National Park were both designated recently based in great part on findings of the YARE and EBA projects.

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