



<https://doi.org/10.11646/zootaxa.4294.4.3>

<http://zoobank.org/urn:lsid:zoobank.org:pub:9C94F2EB-A467-4644-8A04-F7EF852FCC1A>

***Penelope superciliaris pseudonyma* Neumann, 1933 (Aves, Cracidae) is the valid name for the blue-faced population of Rusty-margined Guan endemic to the Madeira-Tapajós interfluvium of central Amazonian Brazil**

DIEGO EVANGELISTA-VARGAS^{1,2}, THIAGO V. V. COSTA¹, BRET M. WHITNEY³,
FABIO SCHUNCK^{1,4,5} & LUÍS FÁBIO SILVEIRA^{1,5}

¹*Seção de Aves, Museu de Zoologia da Universidade de São Paulo (MZUSP), Av. Nazaré 481, Ipiranga, CEP 04218-970, São Paulo, SP, Brazil. Email: diegoevangelistav@gmail.com*

²*Programa de Pós-Graduação em Sistemática, Taxonomia Animal e Biodiversidade, Museu de Zoologia da Universidade de São Paulo, São Paulo, SP, Brazil.*

³*Museum of Natural Science, Louisiana State University, Baton Rouge, Louisiana, USA.*

⁴*Programa de Pós-Graduação em Zoologia, Departamento de Zoologia do Instituto de Biociências da Universidade de São Paulo, São Paulo, SP, Brazil.*

⁵*Comitê Brasileiro de Registros Ornitológicos – CBRO.*

Abstract

As a part of a taxonomic study of the *Penelope superciliaris* complex, we noticed that two names are available for the population which occurs on the left margin of the Tapajós River, in Amazonian Brazil, which, in life, possesses a bright-blue face. The type locality of *Penelope superciliares* [sic] *cyanosparius* Nardelli, 1993, described by Nardelli (1993) based on living specimens, is not far from the type locality of *P. s. pseudonyma* Neumann, 1933. We collected new specimens across this region and, after a reexamination of the material used by Neumann (1933) to describe *P. s. pseudonyma*, we conclude that *Penelope superciliaris pseudonyma* is the oldest available name for the blue-faced guans restricted to the Madeira-Tapajós interfluvium, and *P. superciliares* [sic] *cyanosparius* Nardelli, 1993 must be treated as a junior synonym.

Key words: Cracidae, taxonomy, *Penelope superciliares cyanosparius*, synonym

Introduction

Members of the genus *Penelope*, commonly known as guans, are birds of medium to large size, with sexes alike and with bright-red skin on the throat, which may be entirely or partly bare. The majority of *Penelope* have a dark crest, and feathers in the breast often show whitish margins, producing a scaled effect (Vaurie 1968, Delacour & Amadon 2004). It is the most speciose genus within the family, currently comprising fifteen species: *Penelope albipennis*, *P. argyrotis*, *P. barbata*, *P. superciliaris*, *P. pileata*, *P. ochrogaster*, *P. jacucaca*, *P. dabbenei*, *P. jacquacu*, *P. ortonii*, *P. marail*, *P. montagnii*, *P. perspicax*, *P. purpurascens* and *P. obscura* (Dickinson & Remsen 2013). These species are widely distributed, from Mexico (*Penelope purpurascens*) to northern Argentina and southern Uruguay (*P. obscura*).

Penelope superciliaris Temminck, 1815 is the species with the widest distribution within the genus; it is diagnosed by the color of the scapulars, and the upper wing-coverts and secondaries, which are conspicuously edged with reddish-ochre to chestnut. A number of populations were described as subspecies mostly based on size, general coloration, markings on feathers edges, and the extension of the superciliary stripe (Vaurie 1966). This species occurs in the majority of biomes in Brazil: Amazonia, Atlantic Forest, Cerrado, Caatinga and the Pantanal. In northern Brazil, it is distributed south of the Amazon River, from the east bank of the Madeira River in Amazonas east to Ceará, with apparently isolated populations in the northeastern Atlantic Forest, thence southward through central, eastern, and southeastern Brazil to the states of Santa Catarina and Rio Grande do Sul, and west to Paraguay, Bolivia, and northern Argentina (Delacour & Amadon 2004, Brooks *et al.* 2005).

Understanding of the morphological variation and its implications in the taxonomy of *Penelope superciliaris* is complex. Some authors recognize three subspecies: *Penelope superciliaris superciliaris* Temminck, 1815; *P. s. jacupemba* Spix, 1825; and *P. s. major* Bertoni, 1901 (e.g. Vaurie 1966, del Hoyo *et al.* 1994, Delacour & Amadon 2004). Pinto (1964), on the other hand, recognized four, including *P. s. ochromitra* Neumann, 1933, the same number of subspecies accepted by Dickinson & Remsen (2013), who accepted *P. s. alagoensis*, but considering *P. s. ochromitra* as a synonym of *P. s. jacupemba*. Oscar Neumann (1933) proposed three new races for the complex: *P. s. pseudonyma*, *P. s. argyromitra* and *P. s. ochromitra*. Most modern authors have synonymized the races *ochromitra* and *argyromitra* with *jacupemba*, and *pseudonyma* with the nominate (e. g. Dickinson & Remsen 2013, del Hoyo & Kirwan 2016), although these assumptions also lack formal comparison of material and a clear rationale. Most recently, Nardelli (1993) added two more taxa to the complex, describing *P. superciliares* [sic] *cyanosparius* and *P. superciliares* [sic] *alagoensis*, which he described from living specimens kept in captivity, without holotypes or any other specimen deposited in scientific collections or museums. The descriptions are short and followed by color plates. This procedure, albeit unusual, validates the proposed names, but does not allow an objective comparison between the taxa described therein and specimens of other taxa or populations.

As part of a larger revision of the taxonomy of *Penelope superciliaris* complex (Evangelista-Vargas *et al.*, in prep.), we report here the recent series of specimens of *P. superciliaris* from the region between the Madeira and Tapajós rivers and discuss the applicability of names proposed by Neumann (1933) and Nardelli (1993) for the birds from that area.

Material and methods

We examined museum skins of *Penelope superciliaris* from Madeira-Tapajós interfluvium in the Brazilian Amazon, deposited in the collections of the Museu de Zoologia da Universidade de São Paulo (MZUSP), São Paulo, Brazil; Louisiana State University, Museum of Natural Science (LSUMNS), Louisiana, USA; and Field Museum of Natural History (FMNH), Chicago, USA (Appendix), including a syntype of *Penelope superciliaris pseudonyma*.

These specimens were compared with large series of specimens of *Penelope superciliaris* ssp. from localities east of the Tapajós River. The analysis focused on unfeathered regions of the head, and on purported diagnostic plumage characters. Geographical coordinates were obtained from the labels on museum specimens or ornithological gazetteers (Paynter & Traylor 1991, Vanzolini 1992). The maps was produced using the free software QGIS for Windows (v. 2.14.3).

Results and discussion

Neumann (1933) described *Penelope superciliaris pseudonyma* and mentioned he examined seven specimens, but provided no further information on their identity. He did not designate a holotype, but it is clear that one now housed at the Field Museum of Natural History (Chicago, USA) under the accession number FMNH 407458 (Fig. 1) is the specimen he primarily based his description on. The data recorded on the labels with this specimen match the sex of the specimen, the identified collector and collection date, and the collection locality (after correction of obvious errors in interpretation of the hand-writing on the labels; see below). The specimen had been in the private collection of Mr. H. B. Conover. The whereabouts of the other six specimens are unknown at this time, therefore, we designate here FMNH 407458 as the lectotype of *Penelope superciliaris pseudonyma* Neumann, 1933, whose action fixes the name to this specimen among Neumann's series of seven syntypes.

The original description of *P. s. pseudonyma* has “Rio de Cumana” as the type locality, which Vanzolini (1992) incorrectly interpreted as a misreading of “Curuá-Una”, in the state of Pará. The two labels attached to FMNH 407458, the lectotype, collected by H. Lako on 12 June 1929 (not “January”, as interpreted by Neumann 1933), bear the locality “Rio Canuma”, which is a tributary to the right bank of the lower Madeira River, as previously observed by Vaurie (1966). The type locality and date of collection were incorrectly designated by Neumann (1933) due to misinterpretation of the hand-writing on the old labels attached to the specimen (Fig. 2).



FIGURE 1. Lectotype FMNH 407458 of *Penelope superciliaris pseudonyma* Neumann, 1933, deposited at the Field Museum of Natural History. Photos: Thiago V. V. Costa

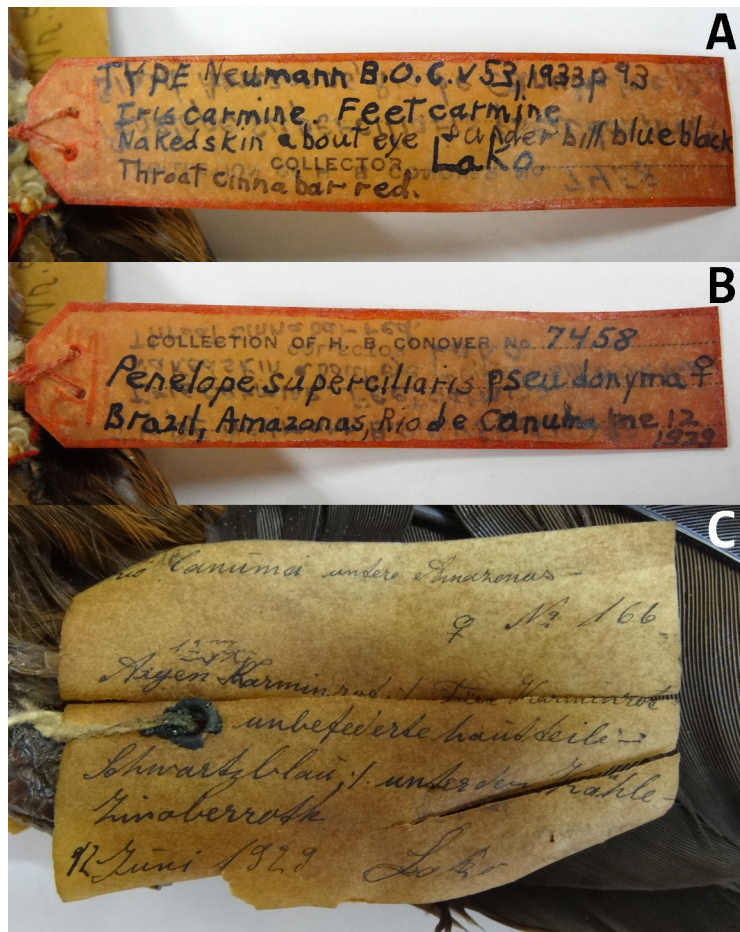


FIGURE 2. Labels attached to the lectotype FMNH 407458 of *Penelope superciliaris pseudonyma* Neumann, 1933, collected by H. Lako. Newest label (A, B) translated from German from the oldest label (C). Photos: Thiago V. V. Costa

Neumann (1933) stated in the description of *Penelope superciliaris pseudonyma*: “This race differs from all the other geographic races of *Penelope superciliaris* by having either (in most cases) no superciliary stripe at all, or only a more or less indicated thin greyish-white line behind the eye. The general colour in this race is darker than in *P. s. superciliaris* Temminck. The well-marked edges of the secondaries, the rump, and upper tail-coverts are dark

maroon”. Neumann focused his description on plumage coloration but, curiously, did not consider the soft part colors described by Lako on the specimen’s label: “Iris carmine. Feet carmine. Naked skin about eye + under bill blue-black. Throat cinnabar red” (translation from the German text on the label).



FIGURE 3. Dorsal (A) and ventral view (B) of the seven specimens collected in the Madeira-Tapajós interfluvium. Left to right: LSUMZ B-86475, MZUSP 97239, MZUSP 95762, LSUMZ B-80658, MZUSP 95764, MZUSP 86399 and MZUSP 86400. Photos: Fabio Schunck

About 60 years later, *Penelope superciliaris* [sic] *cyanosparius* was described by Nardelli (1993) from his captive birds as follows: “Head with white eyebrow very faint. Back, wing coverts, remiges and rectrices dark

brown with a slightly dark green sheen; last secondary remiges, intermediate and large wing coverts with lateral edges of feathers dark orange, this area larger on the remiges. Dorsal region brown with distinct rust-colored vermiculation. Face nude, this area larger than in other birds of the species, dark bluish gray. Chin dark gray, wattle red. Tarsus and toes dark-reddish gray”. Nardelli also observed: “Compared to the other subspecies, this one is distinguished by the bluish color of the bare skin on the face and eyebrow” He designated the geographic distribution as “Headwaters of the Maués River, Amazonas, Brazil”.



FIGURE 4. Blue face skin of recently collected specimens: MZUSP 95764 seconds (A) and MZUSP 86399 minutes (B) after being collected, showing the rapid loss of color in bare parts. Photos: Fabio Schunck

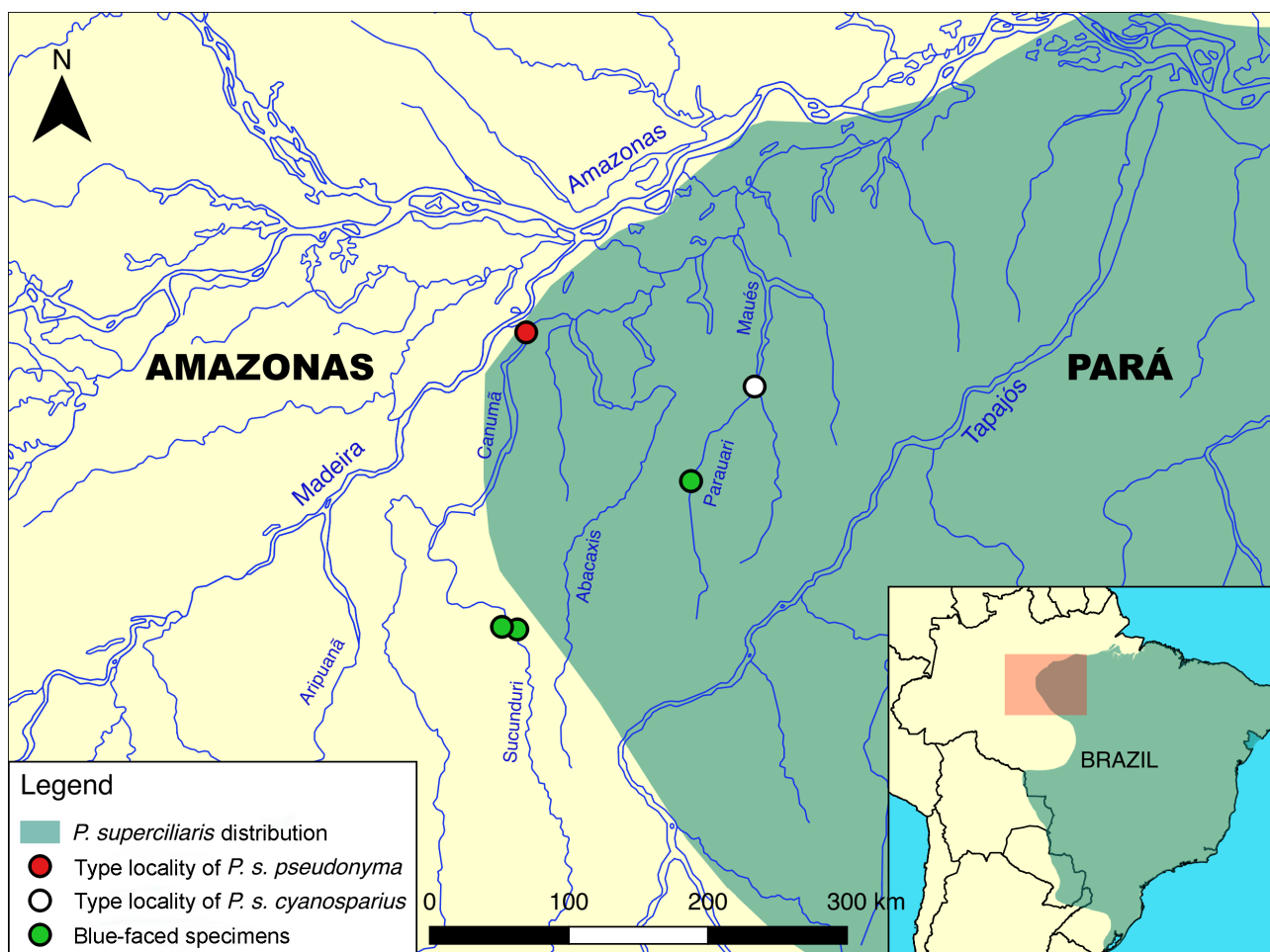


FIGURE 5. Type localities of subspecies proposed by Neumann (1933; red circle) and Nardelli (1993; white circle), and specimens collected by MZUSP expeditions in the central Amazonian area of Brazil (green circles), with the distribution of *Penelope superciliaris* shaded green; the inset map of South America shows the study region (shaded rectangle) and the wider distribution of *Penelope superciliaris* (shaded green) according to BirdLife International and NatureServe (2015).

The characters proposed to support the validity of *Penelope superciliares* [sic] *cyanosparius* Nardelli, 1993 are essentially the same described by Neumann (1933) for *P. superciliaris pseudonyma*, notwithstanding that Neumann (1933) did not incorporate in the description the information contained on the original label regarding the bluish face coloration considered a diagnostic character by Nardelli (1993). Furthermore, the type localities of the two taxa, Rio Canumã and Rio Maués, are only about 200 km apart. Collection of seven specimens of *P. superciliaris* by Museu de Zoologia da Universidade de São Paulo-led expeditions in both the headwaters region of the Maués River (two specimens in 2009; MZUSP 86399 and 86440) and also the Canumã River (which becomes the Sucunduri river above its mouth; five specimens in 2012 and 2013; MZUSP 95762, 95764, 97239; LSUMZ unreg., but associated tissue samples are B-80658 and B-86475) confirmed that the birds inhabiting this region possess the characters ascribed by both authors (Fig. 3). All of the specimens possessed bright-blue facial skin at the time of collection (Fig. 4), which, however, rapidly faded to a much duller bluish tone. In sum, *P. superciliaris pseudonyma* is the older available name for the blue-faced guans from the Madeira-Tapajós interfluvium (west of the Tapajós River), and *P. superciliares* [sic] *cyanosparius* Nardelli, 1993 must be treated as a junior synonym.

As far as is known, *Penelope superciliaris pseudonyma* is restricted to the Madeira-Tapajós interfluvium of central Amazonian Brazil (Fig. 5); it appears to be fully diagnosable from other forms of *Penelope superciliaris* and is a likely candidate for a taxonomic split at the species-level. A comprehensive taxonomic review of the *Penelope superciliaris* complex will be published elsewhere (Evangelista-Vargas *et al.*, *in prep.*).

Acknowledgments

We are very grateful to Marco Antonio Rêgo, Paulo César Balduino, and Seu Antônio for their collaboration in the field work during the Maués/Parauari River expedition. TVVC is greatly indebted to the Field Museum of Natural History for the Visiting Scholarship granted in 2012, and to John Bates, Shannon Hackett, Ben Marks and Mary Hennen for allowing his visits to the Bird Division of that institution. LFS received a grant from FAPESP (São Paulo Research Foundation) and receives a fellowship from CNPq (Brazilian National Council of Research). DEV receives a grant from CAPES (Coordination for the Improvement of Higher Education Personnel). Dr. Dan Brooks, an anonymous reviewer and Dr. Trevor Worthy for the valuable suggestions made in a previous version of the ms.

References

- BirdLife International and NatureServe (2015) Birds species distribution maps of the world. BirdLife International, Cambridge & NatureServe, Arlington. Available from: <http://datazone.birdlife.org/home> (accessed 30 May 2017)
- Brooks, D.M., Porzecanski, A.L., Weicker, J.J., Honig, R.R.A., Saavedra, A.M. & Herrera, M. (2005) A preliminary assessment of avifauna of the Bolivian Chiquitano and Cerrado. *Ornitologia Neotropical*, 1, 85–99.
- Delacour, J. & Amadon, D. (2004) *Curassows and Related Birds. 2nd Edition*. Lynx Edicions and The National Museum of Natural History, Barcelona and New York, 476 pp.
- Del Hoyo, J., Elliott, A. & Sargatal, J. (1994) *New World Vultures to Guinea-fowl*. In: *Handbook of the Birds of the World. Vol. 2*. Lynx Edicions, Barcelona, pp. 1–638.
- Del Hoyo, J. & Kirwan, G.M. (2016) Rusty-margined Guan (*Penelope superciliaris*). In: del Hoyo, J., Elliott, A., Sargatal, J., Christie, D.A. & de Juana, E. (Eds.), *Handbook of the Birds of the World Alive*. Lynx Edicions, Barcelona. Available from: <http://www.hbw.com/node/53285> (accessed 30 May 2017)
- Dickinson, E.C. & Remsen, J.V. Jr. (Eds.) (2013) *The Howard & Moore Complete Checklist of the Birds of the World. 4th Edition. Vol. 1*. Aves Press, Eastbourne, U.K.
- Frank-Hoefflich, K., Silveira, L.F., Estudillo-López, J., García-Koch, A.M., Ongay-Larios, L. & Piñero, D. (2007) Increased taxon and character sampling reveals novel intergeneric relationships in the Cracidae (Aves: Galliformes). *J Zool Syst Evol Res*, 45 (3), 242–254.
- Nardelli, P.M. (1993) Description of new races of *Penelope superciliares*. In: *The Preservation of the Alagoas Curassow. 1st Edition*. Zôo-botânica Mário Nardelli, Nilópolis, Rio de Janeiro, pp. 9–10.
- Neumann, O. (1933) *Penelope superciliaris pseudonyma*, subsp. nov. *Bulletin of the British Ornithologists' Club*, 53, 93–94.
- Paynter, R.A. & Traylor, M.A. (1991) *Ornithological Gazetteer of Brazil*. Obtainable from Bird Dept., Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts, 788 pp.
- Pinto, O. (1964) *Ornithologia Brasiliense. Vol. 1*. Departamento de Zoologica da Secretaria da Agricultura do Estado de São Paulo, São Paulo, 182 pp.
- Vanzolini, P.E. (1992) *A Supplement to the Ornithological Gazetteer of Brazil*. Museu de Zoologia, Universidade de São Paulo,

São Paulo, 252 pp.

Vaurie, C. (1966) Systematic Notes on the Bird Family Cracidae. No. 6. Reviews of Nine Species of *Penelope*. *American Museum Novitates*, 2251, 1–30.

Vaurie, C. (1968) Taxonomy of the Cracidae (Aves). *Bulletin of the American Museum of Natural History*, 138 (4), 131–260.

Vuilleumier, F. (1965) Relationships and evolution within the Cracidae. *Bulletin of the Museum of Comparative Zoology, Harvard University*, 134 (1), 1–27.

APPENDIX. Museum specimens (skins) examined.

MZUSP, São Paulo (5): Amazonas: Rio Parauari, margem esquerda, 5 km abaixo da Cachoeira Tambor (1 ♀, 86399; 1 ♂, 86440); Rio Sucunduri, margem direita, em frente a Ilha do Castanho (1 undetermined, 95762); Rio Sucunduri, margem direita, igarapé do Prego (1 ♂, 95764); Rio Sucunduri, margem esquerda, 60 Km abaixo da BR 230, Ponto 08 (1 ♀, 97239).

LSUMZ, Louisiana (2): Amazonas: Rio Sucunduri, margem esquerda, 60 Km abaixo da BR 230, Ponto 08 (1 ♂, LSUMZ unreg., associated tissue sample B-80658); Margem esquerda Rio Sucunduri, right bank lower Rio Campinarana (1 ♂, LSUMZ unreg., associated tissue sample B-86475).

FMNH, Chicago (1): Amazonas: Rio Canumã (1 ♀, 407458, Lectotype of *Penelope superciliaris pseudonyma*).