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CLIMATIC MODELING OF THE DISTRIBUTION OF SOME *PYRRHURA* PARAKEETS OF NORTHWESTERN SOUTH AMERICA WITH NOTES ON THEIR SYSTEMATICS AND SPECIAL REFERENCE TO *PYRRHURA CAERULEICEPS* TODD, 1947

Leo Joseph¹ & David Stockwell²

¹Department of Ornithology, Academy of Natural Sciences, 1900 Benjamin Franklin Parkway,
Philadelphia PA, 19103-1195, USA. *E-mail*: joseph@acnatsci.org

²San Diego Supercomputer Center, University of California, San Diego, La Jolla, CA 92093,
USA. *E-mail*: davids@sdsc.edu

Resumen. – Modelos climáticos predictivos de la distribución de algunos pericos del género *Pyrrhura* del noroeste de América del Sur con notas sobre su sistemática y referencia especial a *Pyrrhura caeruleiceps* Todd, 1947. – Varios taxones de pericos del género *Pyrrhura* se distribuyen como poblaciones aisladas en el noroeste de Colombia así como en zonas vecinas de Venezuela y Panamá. Aquí se confirma la reciente sinonimización de uno de éstos, *Pyrrhura picta pantchenkoi* Phelps, 1977 con *P. caeruleiceps* Todd, 1947, lo cual resulta en una extensión de la distribución de *P. caeruleiceps* hacia el norte, que pasa a incluir la Sierra de Perijá a lo largo de la frontera entre Colombia y Venezuela. Modelos climáticos predictivos de la distribución de *P. caeruleiceps* sugieren que la distribución real de la especie podría llegar a incluir áreas al sur de su distribución conocida. Por el contrario, la aplicación de modelos similares a la distribución de otra especie endémica de esta región, *P. subandina* Todd, 1917 no resulta en la inclusión de áreas de distribución adicionales mas allá de su distribución conocida, en una porción limitada del Río Sinú. Recomendamos que se le dedique atención inmediata a la conservación de esta singular especie endémica de la planicie del Río Sinú.

Abstract. – Several taxa of *Pyrrhura* parakeets occur as isolated populations in north-western Colombia and nearby Venezuela and Panama. The recent recommendation to place one of them, *Pyrrhura picta pantchenkoi* Phelps, 1977 in the synonymy of *P. caeruleiceps* Todd, 1947 is affirmed and results in a northward range extension of *P. caeruleiceps* into the Sierra de Perijá along the Colombia-Venezuela border. Predictive climatic modeling of the distribution of *P. caeruleiceps* suggests that it might reasonably be expected to occur to the south of its currently known range. Similar modeling of the range of *P. subandina* Todd, 1917, another endemic of the region, does not strongly suggest any area as being within its range beyond the limited part of the Río Sinú valley from which it is currently known. Concern is expressed for the conservation of this distinctive lowland endemic of the Río Sinú. *Accepted 18 May 2001.*

Key words: *Pyrrhura*, *Pyrrhura caeruleiceps*, *Pyrrhura eisenmanni*, *Pyrrhura picta pantchenkoi*, *Pyrrhura subandina*, parrot, Colombia, climatic modeling.

INTRODUCTION

Among the isolated populations of *Pyrrhura* parakeets of northwestern South America and Central America are four in Colombia, Panama and Venezuela that until recently were treated as subspecies of the Painted Parakeet (*Pyrrhura picta*) (Fig. 1). A recent review of these and other parakeets of the *P. picta* and associated White-eared Parakeet (*P. leucotis*) complex (Joseph 2000) recommended that they be treated as three species: *P. subandina* Todd, 1917, a most distinctive endemic of the Rio Sinú valley, *P. eisenmanni* Delgado, 1985 of Panama and *P. caeruleiceps* Todd, 1947 (including *P. picta pantchenkoi* Phelps, 1977), the latter two species being diagnosable relative to each other on the basis of the coloration of the pileum and shoulder.

Synonymizing *P. p. pantchenkoi* with *P. caeruleiceps* extends the range of *P. caeruleiceps* to the north (see Fig. 1). It invites the question of whether *P. caeruleiceps* could be expected to occur anywhere else. The main goal of the present paper is to estimate the potential distributions of *P. caeruleiceps* and *P. subandina* in northern Colombia and nearby Venezuela. We also offer systematic notes to supplement Joseph (2000) and consider vernacular names that might be applied to *P. caeruleiceps*, *P. eisenmanni*, and *P. subandina*.

MATERIALS AND METHODS

To examine the potential ranges of *P. caeruleiceps* and *P. subandina*, we employed predictive modeling using the Biodiversity Species Workshop (BSW). BSW is an Internet-based methodology that has been explained in detail elsewhere in another application to Neotropical birds (Joseph & Stockwell 2000). For full

documentation, see Stockwell (1999), Stockwell & Peters (1999), and http://biodi.sdsc.edu/bsw_home.html. Briefly, BSW is a tool that allows one to use the latitudes and longitudes of museum specimens of a taxon of interest to generate predictive climate- and environment-based models of that taxon's potential distribution.

BSW offers 21 climatic and environmental parameters for northwestern South America and these are activated for analysis at the web site given above by selecting Base Data and then Colombia. Input data were the latitudes and longitudes of museum specimens of *P. caeruleiceps* and *P. subandina* (Table 1). Analyses were run separately for each species. Localities were few ($n = 4$ for both) and for either species we used either all localities or subsets of them. We used the model-building algorithm GARP (Genetic Algorithm for Rule Production), which is the most reliable such algorithm available at BSW when using essentially arbitrary museum specimen-based data points. Its output assigns probabilities of occurrence to different areas and is thus a more refined form of output than algorithms that use a simple all-encompassing climatic envelope. We began with BSW's default settings and then varied the parameters "convergence criteria" and "biases" to build more – as well as less restrictive models. Finally, we used alternative model-building algorithms available at BSW (e.g., logit, bioclimatic envelope). We interpreted the results of the models in light of what is known about the environments at localities at which both species have been recorded (Paynter 1997; Table 1) and in a biogeographical context provided by knowledge of the distribution of *Pyrrhura* parakeets generally in northern South America

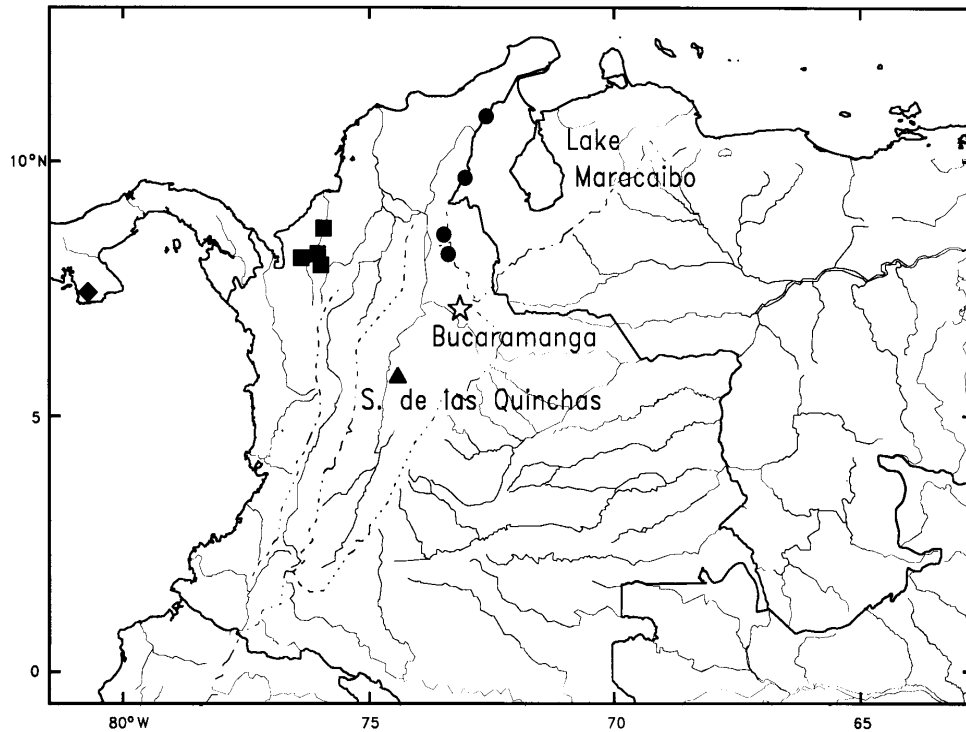


FIG. 1. Map of northwestern South America and Panama showing locations at which *P. caeruleiceps* (the northernmost locality shown is the type-locality of *P. picta pantchenkoi*) (circles), *P. subandina* (squares) and *P. eisenmanni* (diamond) have been recorded, and other key localities (star, triangle) mentioned in the text. An electronic appendix (<http://www.acnatsci.org/publication/appendix2.html>) has a color distribution map showing specimens of *P. caeruleiceps* (CM 54727), *P. eisenmanni* (ANSP 189116) and *P. subandina* (CM 52829) as well as of other images showing the two specimens of *P. picta pantchenkoi* and four specimens of *P. caeruleiceps* showing variation within that taxon. See also Joseph (2001).

(Forsaw & Cooper 1989, Juniper & Parr 1998).

RESULTS AND DISCUSSION

Distribution, biogeography and conservation. All models and inputs that were used, including those based on the default settings for GARP at BSW, predicted the range of *P. caeruleiceps* to include three disjunct areas: the vicinity of the type-locality of *P. p. pantchenkoi* Phelps, 1977, which is the northernmost locality for *P. caeruleiceps* (Table 1), the area encompassing

the three other localities from which it has been recorded (Table 1), and one region about Bucaramanga (Fig. 1) slightly to the south of its present southernmost recorded limit. All of those areas were also predicted when the type-locality of *P. picta pantchenkoi*, i.e., the northernmost locality, was excluded from the input. We interpret this result to mean that *P. caeruleiceps* might reasonably be looked for to the south of its recorded range in wet, western slope low- to mid-elevation forests south and southwest of Bucaramanga (Fig. 1) in central Santander and Boyacá and

TABLE 1. Summary of the specimens examined of *P. caeruleiceps* (including *P. picta pantchenkoi*, see Joseph 2000 and Appendix 1) and *P. subandina*. All latitudes, longitudes, elevations and other notes on localities are taken from Paynter (1997) and Phelps (1977). ANSP: Academy of Natural Sciences, Philadelphia; CM: Carnegie Museum, Pittsburgh; COP: Phelps Collection, Caracas; USNM: United States National Museum, Washington, D.C.

Taxon	Specimens(s)	Locality: coordinates, elevation (m a.s.l); other notes
<i>P. caeruleiceps</i>	USNM 372610	Below Airoca, Magdalena (09°42'N, 73°05'W), 600 m. Airoca is on the western slope of the central Serranía de Perijá.
	USNM 372611–372619	Guamalito, Santander del Norte, Colombia (08°34'N, 73°29'W). Guamalito is on the western slope of the northern Eastern Andes at c. 400 m but the dates of collection indicate that these specimens were collected between 450 and 900 m (Paynter 1997).
	CM 54727	El Cauca, Santander, Colombia (08°10'N, 73°24'W), 900 m on western slope of northern Eastern Andes.
	COP 73168 (holotype)	Frontera, 16 July 1975, Sierra de Perijá, Zulia, Venezuela (10°51'N, 72°57'W), at 2000 m.
	COP 73169 (paratype)	<i>P. picta pantchenkoi</i> Phelps, 1977 was based on these specimens.
<i>P. subandina</i>	CM 52828, 52829	Jaraquiel, Bolivar (08°42'N, 75°57'W), 20 m on left bank of lower middle Rio Sinú, now deforested.
	USNM 410662–410667	Rio Sinú, 12 miles NW Tierra Alta, Nazaret, (08°11'N, 76°04'W), 20 m
	ANSP 160658–160665	Quimarí, Bolivar (08°07'N, 76°23'W), 400–700 m eastern slope of mountain covered by deciduous forest.
	ANSP 160666	Murucucú, Bolivar (07°59'N, 76°00'W), altitude uncertain but presumably no higher than 1500 m.

approximately where GARP predicted the species may occur. Stiles & Bohórquez (2000) in their survey of one of these areas, the Serranía de las Quinchas (Fig. 1) southwest of Bucaramanga, did not record it there, however. Other areas that seem plausible but less likely were to the east in Venezuelan highlands south of Lake Maracaibo. All models, including less restrictive ones, predicted much wider potential distributions that extend to the Central Cordillera of Colombia and highlands of southern Venezuela. We interpret this as most likely being over-prediction that describes the climatic envelope of *Pyrrhura* parakeets generally rather than that of *P. caeruleiceps* specifically. We also think it unlikely that undescribed taxa closely related to *P. caeruleiceps* are being predicted here. Finally, we

note that the models did not include the range of *P. subandina* in the predicted range of *P. caeruleiceps*.

Results of GARP models in predicting the potential range of *P. subandina* (not shown) did not show any regions beyond its recorded range with high predicted likelihood of occurrence. Lower probability over-prediction was widespread, however, and we consider that a biogeographically plausible interpretation of this is simply to endorse Hilty & Brown's (1986) suggestion that *P. subandina* could occur in the valleys of the lower Cauca and middle Magdalena rivers. That it has not been recorded there in recent surveys (e.g., Stiles *et al.* 1999) may indicate that if it ever occurred there, suitable habitat has already been lost and that it is locally extinct. Other models

resulted in what we consider to be extensive over-prediction that reflects broad suitability for *Pyrrhura* generally rather than *P. subandina* specifically. We take this opportunity to express concern for the continued survival of this most distinctive lowland parakeet because rainforest habitats in and near the valley of the Rio Sinú have been extensively altered and lost.

Systematics. Climatic modeling is only as reliable as the systematics on which it is based. Accordingly, we offer the following brief systematic notes to supplement those in Joseph (2000).

Todd (1917: 6) described *P. subandina* from the valley of the Rio Sinú in northwestern Colombia [holotype from Jaraquiel, Bolívar, Carnegie Museum (CM) 52830] but later (Todd 1947: 336–337) cited two further specimens from this locality (CM 52829, CM 52828). Table 1 lists 15 further specimens from three other localities. Todd (1947: 337) also described *P. subandina caeruleiceps* from El Cauca “on the western slopes of the eastern Andes”. He based *P. s. caeruleiceps* on two specimens [CM 54728 (holotype) and CM 54727] and there are ten further specimens from two other localities. Todd’s diagnosis of *P. s. caeruleiceps* follows:

[*caeruleiceps* has] the entire pileum dull blue (porcelain blue), with the nape more dusky; lores, cheeks, and circumocular region garnet brown; and throat and breast with the feather-edgings broader and paler soiled white. Size the same: wing (type) 119 [mm]; tail, 104, bill, 15; tarsus, 12.

Peters (1937) treated Todd’s *P. s. subandina* as a subspecies of *P. picta* P. L. S. Muller, 1776 and Meyer de Schauensee (1949) did likewise for both *P. s. caeruleiceps* and *P. s. subandina*. Most subsequent authors have followed this

treatment with at best tentative questioning. Joseph (2000) examined patterns of variation in plumage and morphometrics and argued that *P. caeruleiceps* Todd, 1947 and *P. subandina* Todd, 1917 should both be recognized as species because they are clearly distinct with respect to each other as well as to other members of the “*P. picta* complex”; he showed them to be easily diagnosable by their respective combinations of character states of the pileum and underparts and, in the case of *P. subandina*, by its smaller size (see his Table 2).

Phelps (1977: 45–46) described *P. picta pantchenkoi* from two specimens collected in the Sierra de Perijá on the Colombia-Venezuela border. For completion, his diagnosis is reproduced in full, with an English translation, in Appendix 1. What is striking about Phelps’s diagnosis of *P. p. pantchenkoi*, apart from errors concerning *P. subandina*, (e.g., that it has no blue in the frons), is the inclusion of diagnostic traits of *P. caeruleiceps* such as the broad barring on the breast, the blue on the crown, and red shoulder, as well as the absence of any reference to *P. caeruleiceps*, which by 1977 had been known for thirty years. These omissions are all the more surprising because *P. caeruleiceps* is the member of the *P. picta* – *P. leucotis* complex that is geographically (c. 110 km) and phenotypically closest to *P. p. pantchenkoi* (Fig. 1; Joseph 2000).

The holotype of *P. p. pantchenkoi*, a male from the Sierra de Perijá, Venezuela (10°51’N, 72°57’W; COP 73168, on permanent loan to the American Museum of Natural History) is in extremely worn plumage but when its condition is allowed for, it shows the diagnostic combination of character states of *P. caeruleiceps* (Joseph 2000). Observations recently made by LJ on the only other specimen of *P. p. pantchenkoi*, the female paratype in the Phelps Collection (COP 73169), show the same diagnostic traits. The bluish cast that is evident in the bases of the feathers of

the underparts of the two specimens of *P. p. pantchenkoi* as well as a few bluish green feathers on the lower cheeks is in several *P. caeruleiceps* specimens, especially females, e.g., United States National Museum (USNM) 372610, 372613, 372619. Both specimens of *P. p. pantchenkoi* therefore fall within the range of variation of *P. caeruleiceps* and share with that taxon its diagnostic combination of character states (Joseph 2000). Images at an electronic appendix (<http://www.acnatsci.org/publication/appendix2.html>) show this. Accordingly, we affirm the earlier conclusion that *P. p. pantchenkoi* Phelps, 1977 is not diagnosable relative to *P. caeruleiceps* Todd, 1947 into the synonymy of which it should be placed.

Vernacular nomenclature. We briefly discuss vernacular names for these parrots because their use seems entrenched in ornithology and because the argument that immediate conservation measures are assisted by availability of vernacular names is a not unreasonable one. The name Magdalena Conure (or Parakeet) has been suggested for *P. caeruleiceps* (Arndt undated). We suggest that an alternative is warranted for two reasons. First, the range of *P. caeruleiceps* extends well beyond the valley of the Rio Magdalena and, for that matter, the Department of Magdalena. Second, the name might convey the impression that it is a lowland bird when instead it is known mostly from mid-elevation localities. On the other hand, a simple, descriptive vernacular name for *P. caeruleiceps* that concisely differentiates it from all other *Pyrrhura* taxa eludes us. Accordingly, we suggest the eponymous Todd's Parakeet (Spanish: Perico de Todd, Portuguese: Tiriba do Todd) in recognition of Todd's initial scientific naming of the bird. Although Todd also named *P. subandina*, it is easier to conjure an adequate descriptive or geographical name for that bird. For *P. subandina* we favor Sinú Parakeet to draw attention to the avian endemism of the Rio Sinú (Meyer de

Schauensee 1950), Arndt's suggestion of Jaraciel Conure being too restrictive. In the case of *P. eisenmanni*, its scientific name already commemorates the late Eugene Eisenmann. Accordingly, we agree with Arndt's suggestion of Azuero Parakeet to reflect its discovery on the Azuero Peninsula in Panama. In summary, we adopt the following nomenclature for the parakeets discussed in this paper:

- Pyrrhura subandina* Todd, 1917
Sinú Parakeet
- Pyrrhura subandina* Todd, 1917 Proc. Biol. Soc. Wash. 30: 6, 1917
- Pyrrhura caeruleiceps* Todd, 1947
Todd's Parakeet
- Pyrrhura subandina caeruleiceps* Todd, 1947, Ann. Carn. Mus. 30: 337,
- P. picta pantchenkoi* Phelps, 1977 Bol. Soc. Venez. Cienc. Nat. 134: 45–47.
- Pyrrhura eisenmanni* Delgado, 1985
Azuero Parakeet
- P. picta eisenmanni* Delgado, 1985 Orn. Monogr. 36: 16–20.

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the results of the GARP modeling and commented on a draft. A. L. Porzecanski translated the Abstract into respectable Spanish and L. Belasco and L. Roselli also assisted with the text. Comments on earlier drafts from N. Rice, J. Wiley and two anonymous reviewers considerably improved this contribution. We acknowledge R. Paynter for the information he has meticulously assembled in Paynter (1997) concerning localities at which the parakeets under discussion here have been collected.

REFERENCES

- Arndt, T. Undated. Lexicon of Parrots. Verlag Arndt & Muller. Place of publication unknown.
- Delgado B., F. S. 1985. A new subspecies of the Painted Parakeet (*Pyrrhura picta*) from Panama. Ornithol. Monogr. 36: 16–20.
- Forshaw, J. M., & W. T. Cooper. 1989. Parrots of the world. 3rd ed. Landsdowne, Melbourne.
- Hilty, S. L., & W. L. Brown. 1986. A guide to the birds of Colombia. Princeton Univ. Press, Princeton.
- Joseph, L. 2000. Beginning an end to 63 years of uncertainty: the Neotropical parakeets *Pyrrhura picta* and *P. leucotis* comprise more than two species. Proc. Acad. Nat. Sci. Phil. 150: 279–292.
- Joseph, L. 2001. Three ‘new’ parakeet species. World Birdwatch 23: 4.
- Joseph, L., & D. Stockwell. 2000. Temperature-based models of the migration of Swainson’s Flycatcher *Myiarchus swainsoni* across South America: a new use for museum specimens of migratory birds. Proc. Acad. Nat. Sci. Phil. 150: 293–300.
- Juniper, T., & M. Parr. 1998. Parrots. A guide to parrots of the world. Yale Univ. Press, New Haven, Connecticut.
- Meyer de Schauensee, R. 1949. The birds of the Republic of Colombia. Their distribution and keys to identification. Caldasia 5: 381–644.
- Meyer de Schauensee, R. 1950. Colombian zoological survey. Part V. New birds from Colombia. Not. Nat. 221: 1–13.
- Paynter, R. A. 1997. Ornithological gazetteer of Colombia. 2nd ed. Mus. Comp. Zool., Cambridge, Massachusetts.
- Peters, J. L. 1937. Check-list of birds of the world. Volume III. Harvard Univ. Press, Cambridge, Massachusetts.
- Phelps, Jr., W. H. 1977. Una nueva especie y dos nuevas subespecies de aves (Psittacidae, Furnariidae) de la Sierra de Perijá cerca de la divisoria Colombo-Venezolana. Bol. Soc. Venez. Cienc. Nat. 134: 43–53.
- Stiles, F. G., & C. I. Bohórquez. 2000. Evaluando el estado de la biodiversidad: el caso de la avifauna de la Serranía de la Quinchas, Boyacá, Colombia. Caldasia 22: 61–92.
- Stiles, F. G., L. Rosselli, & C. I. Bohórquez. 1999. New and noteworthy records of birds from the middle Magdalena valley of Colombia. Bull. Br. Ornithol. Club 119: 113–129.
- Stockwell, D. R. B. 1999. Genetic algorithms II. Pp. 123–144 in Fielding, A. H. (ed.). Machine learning methods for ecological applications. Kluwer Academic Publishers, Boston.
- Stockwell, D. R. B., & D. Peters. 1999. The GARP Modeling System: problems and solutions to automated spatial prediction. Int. J. Geogr. Inf. Sci. 13: 143–158.
- Todd, W. E. 1917. Preliminary diagnoses of apparently new birds from Colombia and Bolivia. Proc. Biol. Soc. Wash. 30: 3–6.
- Todd, W. E. 1947. New South American parrots. Ann. Carn. Mus. 30: 331–338.

APPENDIX 1. The original Spanish diagnosis given by Phelps (1977) of *P. picta pantchenkoi* and a translation into English.

DIAGNOSIS: Más parecida a la subespecie *Pyrrhura picta subandina* Todd, 1917, que habita en el oeste del Departamento de Bolívar, Colombia (Jaraquiel y Quimarí, elevación 400 metros); pero *pantchenkoi* tiene el anillo circumocular rojo; este anillo en *subandina* es blanco con solamente algunas plumas rojas en el borde

anterior del ojo. La corona es color fusco con un débil tinte azulado que se torna más marcado hacia la frente, mientras que *subandina* tiene el occiput de un color pardo y no tiene azul en la frente.

En el aspecto de las partes inferiores *pantchenkoi* es diferente a todas las otras subespecies: *P. p. subandina*; *P. p. picta* (Muller, 1776); *P. p. amazonum* Hellmayr, 1906; *P. p. luciani* Deville, 1851). La diferencia más conspicua en el aspecto inferior está en la apariencia escamada de las plumas de la garganta y del pecho; en este carácter difiere de *picta* de las Guayanas y del Sur de Venezuela, y de *amazonum* del Amazonas, en no tener el escamado claramente marcado como lo tienen esas dos poblaciones sureñas; en la apariencia del escamado la nueva subespecie se aproxima a *subandina*, pero el color de las orillas de las plumas de la garganta y el pecho de *pantchenkoi* es gris ahumado y no blancuzco con bordes anteados como en *subandina*. El resto de las partes inferiores son similares en coloración a *subandina*, pero la mancha roja abdominal es algo más pequeña en *pantchenkoi*. El dobléz del ala de *pantchenkoi* es rojo como *picta*; este color está ausente en los especímenes examinados de *subandina*.

El término medio del largo del ala de *pantchenkoi* es 120 mm., 6% mayor que *subandina*: 113 mm.

The English translation is:

DIAGNOSIS: Most resembles the subspecies *Pyrrhura picta subandina* Todd, 1917, which inhabits the west of the Department of Bolívar, Colombia (Jaraquiel and Quimarí, elevation 400 m); but *pantchenkoi* has the circumocular ring red; this ring in *subandina* is white with only some red feathers on the anterior border of the eye. The crown is fuscous with a weak blue tint which becomes more marked towards the frons, whereas *subandina* has the occiput of a gray color and has no blue in the frons.

On the lower underparts, *pantchenkoi* is different to all the other subspecies: *P. p. subandina*; *P. p. picta* (Muller, 1776); *P. p. amazonum* Hellmayr, 1906; *P. p. luciani* (Deville, 1851). The most conspicuous difference in the underparts is in the scaled appearance of the feathers of the throat and breast; in this character it differs from *picta* of the Guianas and of the south of Venezuela, and from *amazonum* of Amazonia, in not having the scaling clearly marked as those southern populations do; in its appearance of the scaling the new subspecies approximates *subandina*, but the color of the edges of the feathers of the throat and of the breast of *pantchenkoi* is smoky gray and not whitish with buff borders as in *subandina*. The rest of the underparts are similar in coloration to *subandina*, but the red abdominal patch is somewhat smaller in *pantchenkoi*. The bend of the wing of *pantchenkoi* is red as in *picta*; this color is absent in the specimens examined of *subandina*.

The average length of the wing of *pantchenkoi* is 120 mm, 6% bigger than *subandina*: 113 mm.