

HOLOTIPUS

HOLOTIPUS
ONLINE

MAGAZINE

ISSN 2704-7547



Holotipus (online)

RIJCKSMUSEUM
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Phoenia rubriceps Pelahm Sex ♂

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ISSN 2704-7547
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Holotipus (online)
Sexe ♂
Phoenia rubriceps Pelahm
Amsterdam 1972.

WHAT IS AZARA'S (1805) No. 193 SUIRIRI PARDO AMARILLO MENOR?

Received on
03 February 2021 / Accepted on
02 March 2021 / Published on
XX March 2021
Research Article

What is Azara's (1805) No. 193 Suiriri pardo amarillo menor?

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Abstract.

Despite being well-described, Azara's No. 193 Suiriri pardo amarillo menor has never been conclusively identified. Indeed, during the 19th Century it was usually associated with species in the genus *Myiarchus*, despite the cup nest description provided being incompatible with that genus. In the early 20th Century it became associated with *Elaenia obscura*, and that has not been seriously questioned since. However, Paraguayan populations formerly attributed to *E. obscura* are now known as *E. sordida*, a species that is rare in Paraguay and incompatible with the original description. In this paper I argue that the true identity of No. 193 is Large Elaenia *E. spectabilis* (Pelzeln, 1868), a common species in Paraguay, and this error of understanding is responsible for many early 20th Century Paraguayan reports of *E. obscura*. Azara's description predates the type description of *E. spectabilis* by 63 years.

KEY WORDS. *ELAENIA FLAVOGASTER*; *ELAENIA SORDIDA*; *ELAENIA SPECTABILIS*; *LARGE ELAENIA*; *MYIARCHUS FEROX*.

Published in three tomes "Apuntamientos para la historia natural de los pájaros del Paraguay y Río de la Plata" (1802-1805) by Félix de Azara (1742-1821) was an early to attempt to document the South American avifauna. Azara's detailed descriptions, punctuated with ecological observations and incorporating indigenous knowledge, indicated a meticulous and careful approach, despite his lack of formal biological training. In total he documented 448 species, which were ordered into "families" based on their morphological characteristics and to which he applied common names. His failure to apply Linnean names to his species meant that when his work finally reached Europe, academics clamoured to claim "authorship" of his species by applying scientific names to them, with

over half of his species proving to be new to science at the time. As a result, Azara's true contribution to ornithology is often overlooked. Azara's life and work is documented by Contreras (2010).

Azara's work has been reviewed by several authors (Sonnini in Azara 1809; Hartlaub 1847; Burmeister 1861; Berlepsch 1887; Bertoni 1901; Laubmann 1939; Pereyra 1945), but areas of disagreement persist and some descriptions have never been conclusively identified. One such species is his No. 193 Suiriri pardo amarillo menor, which he describes as follows (my translation, original text in appendix). Note that Azara's measurements are given in inches (=25.4 mm) and lines (=2.21 mm):

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Accessible at <https://data.biodiversitydata.nl/naturalis/specimen/RMNH.AVES.68680>.

NUM CXCH DEL PARDO AMARILLO MENOR

"I have had several identical in Paraguay, because they show no sexual dimorphism. Its customs are like the following species. On the 5 of January I bought a nest with two chicks, which left the nest on the fourth day, although the tail had barely emerged. Three days later they flew very little; and two days after that one attempted a long flight but, crashing into the wall, fell to the ground and remained suddenly crippled, or unable to use its legs; for this reason I cut the flight feathers of the other one that was somewhat smaller, although they later attained the same size. They happily ate pieces of raw meat and they begged for it frequently, cheeping melancholically. Their plumage does not differ from that of their parents, apart from being a little darker above, and that the yellow below is somewhat paler. When they brought them to me they did not have the crest; but they took on this characteristic after they began to fly. The nest is so small that they fitted into it with difficulty; and it was very shallow and made of scarce materials. The base was little more than barbs and plant fibres that seem like hairs and a few mane bristles, with the rest consisting of moss, a few spider webs and the same fibres. The clues from the underside indicated that it had been located on a trunk or horizontal branch of one inch thickness. It is not off topic to mention that I have also observed chicks of other birds that, as soon as they touch the cold earth after leaving the nest, find themselves suddenly crippled, or a few days later.

Length 7 inches: tail 3: wingspan 11. The colours are those of the following (Short-crested Flycatcher *Myiarchus ferox*), with no other difference other than not having white edges to the outermost feather of the tail, nor those of the secondaries; and that the three sets of wing coverts have the tips notably whiter. So that this bird is not confused with the following I add: that the head of the current bird is notably more rounded, and the feathers of the crown are somewhat longer. The vibrissae are so difficult to detect, that it may be said that it does not have any. The hook of the bill is almost invisible; and in length it is 4 1/2 lines, height 2 escasas, and width 3, so that it can be inferred that its volume is not even a third of the following: mouth lining yellow: leg 14 lines: tarsus 10, black, and more robust than in the aforementioned: mid-toe 6 1/3. This comparison was made in the presence of both."

Previous reviewers of Azara's work have struggled to agree on an identity for this description. Sonnini (in Azara 1809) was rather too quick to dismiss the description as the same as Azara's (1805) No. 194 Suiriri pardo amarillo mayor, expressing limited understanding of the true diversity of Tyrannidae by stating:

"Cet oiseau, aux dimensions près, est le même que le petit tyran de Cayenne, Buffon, tom. viii, pag. 405.—*Muscicapa ferox*, var. Linn. syst. nat. gen. 113, sp. 32.—Latham, syst. ornith. gen. 40, sp. 72. Au reste, il y a tant de ressemblance entre ces tyrans, grands et petits, de Cayenne et du midi de l'Amérique, que l'on ne peut qu'adopter l'opinion de Buffon, qui les donnés comme des variétés de la même espèce".

(My translation)

"This bird, to the closest dimensions, is the same as the petit tyran de Cayenne, Buffon, tom. viii, pag. 405.—*Muscicapa ferox*, var. Linn. syst. nat. gen. 113, sp. 32.—Latham, syst. ornith. gen. 40, sp. 72. Besides, there is so much similarity between these tyrants of Cayenne and South America, both great and small, that we have no recourse but to adopt the opinion of Buffon, who considers them all varieties of the same species".

Sonnini (in Azara 1809) was the French translator and annotator of Azara's work, and at times was presumptuously dismissive of its contents. Indeed, he attempted repeatedly (and as often as not erroneously) to associate Azara's descriptions with known species, and frequently rejected Azara's first hand conclusions in favour of second hand assumptions by French zoologists, despite never having seen the birds in question.

This contributed to a rather dim view of Azara's scholarly efforts in French society at the time, which persisted until the voyages of d'Orbigny confirmed the perspicacity of the original author. Sonnini's flippant conclusion can be rejected easily, firstly because he seems to have little confidence in his own ability to tell such species apart, but also because the description of the nest clearly suggests these birds were in the genus *Elaenia*, and cannot be *Myiarchus* (which are cavity nesters) (Lanyon 1978, de la Peña 2010).

Sonnini apparently also failed to convince other researchers of the time. Hartlaub (1847) noted that the identity of the description "was not certain", whilst Bertoni (1901) omitted mention entirely and Berlespch (1887) proposed "*Contopus?*" with a query. The first authors to settle on a specific identity were Sclater & Salvin (1869) who considered the description to refer to Swainson's Flycatcher *Myiarchus swainsoni*, but this falls foul of the same ecological error as Sonnini and bears little resemblance otherwise to the description.

Laubmann (1939), correctly recognized the genus, but he opted for *Elaenia obscura obscura* (d'Orbigny & Lafresnaye, 1837) (almost certainly *fide* Bertoni 1907), and the same conclusion was repeated by Pereyra (1945). However, given that that taxon does not occur in Paraguay (Rheindt et al. 2008, Tang et al. 2018) and Azara reported having several identical individuals, the identity of this description is worthy of a closer look.

Six species of *Elaenia* occur in Paraguay (Guyra Paraguay 2004, Smith & Clay in press), three "large" species (*E. spectabilis*, *E. flavogaster* and *E. sordida*) and three "small" species (*E. parvirostris*, *E. chiriquensis* and *E. albiceps chilensis*). From the measurements provided it is clear that this bird is one of the "large" species. Comparative measurements for all are provided in Table 1.

The species that most closely approaches the measurements provided by Azara (1805) is the Large Elaenia *E. spectabilis* (note that the bill measurements are not compared here because of the non-standard measurement technique employed by Azara). This is also the species that most closely resembles the Short-crested Flycatcher (with which Azara compares it) and the species to which Azara's description most applies. Below I discuss the three species separately:

Yellow-bellied Elaenia *E. flavogaster*: This is a common species in Paraguay (Guyra Paraguay 2004, Smith & Clay in press). The species is distinguished from other large Paraguayan Elaenias by the long, untidy crest, two yellowish wing-bars and the extensively pinkish yellow mandible. It generally shows some white in the crown (Smith et al. 2017).

Small-headed Elaenia *E. sordida*: This is an uncommon species in Paraguay (Guyra Paraguay 2004, Smith & Clay in press). The species is distinguished from other large Paraguayan Elaenias by the small, rounded head (i.e. it lacks a crest), two white wing-bars and the dull ventral colouration with pale yellow restricted to the lower abdomen. Lacks white in the crown (Smith et al. 2017).

Large Elaenia *E. spectabilis*: This is a common species in Paraguay (Guyra Paraguay 2004, Smith & Clay in press). The species is distinguished from other large Paraguayan Elaenias by the short, neat crest, three yellowish wing-bars and the shortish bill with a mostly dark mandible. Usually shows either no white in the crown, or only a slight trace of it (Smith et al. 2017).

Azara (1805) specifically mentions three rows of pale-tipped coverts (wing-bars), a somewhat rounded head with long feathers (i.e. a crest that can be lowered) and a bill that is similar in colour to that of

Short-crested Flycatcher (i.e. black, sometimes with pinkish tinge to the base of the lower-mandible), but much shorter. In combination with the measurements, the lack of a mention of white in the crown and the nest description, these characteristics are diagnostic in Paraguay for the Large Elaenia

There is also considerable circumstantial evidence to support this conclusion. Despite being arguably the commonest Paraguayan Elaenia (at least during the summer months), mention of the Large Elaenia was omitted entirely from the works of Bertoni, the most significant ornithologist working in Paraguay during the early 20th Century, whilst *Elaenia obscura* (= *sordida*) was referenced on repeated occasions (Bertoni 1907, 1914, 1922, 1939). Bertoni repeatedly cited Azara throughout his career, indicating that it was a key reference to him, especially in his early years. Bertoni's references to "*E. obscura*" include the claimed rediscovery of the species in Paraguay where he specifically states that he believed his bird to be the same as Azara No. 193 and provided measurements of eggs as 24 x 16 mm. These measurements correspond to published measurements for Large Elaenia (de la Peña 2010), with Bertoni (1907) himself noting that they were larger than the published measurements available to him for *E. sordida* (21-22 x 15-16 mm) (Ihering 1900). Bertoni (1922) reports the species from the Parque Municipal in the capital city of Asunción, where Large Elaenia is to this day a common species, but Small-headed Elaenia has never been subsequently been recorded. On the other hand, Yellow-bellied Elaenia *E. flavogaster* is referred to in the work of Bertoni under the synonyms *E. pagana* (Bertoni 1901), *E. martinica flavogaster* (Bertoni 1914) and *E. f. flavogaster* (Bertoni 1939), providing strong evidence that Bertoni at least did not see that species in the description of Azara.

I conclude that the true identity of No. 193 is Large Elaenia *E. spectabilis* (Pelzeln, 1868). To my knowledge no scientific names were based upon Azara's No. 193 Suiriri pardo amarillo menor, but Azara's description predates that of Pelzeln (1868) by over half a century.

Acknowledgements

Biodiversity Heritage Library made some of the, once hard to find, literature cited here available for download. The author is grateful to the PRONII Program of CONACyT Paraguay.

Declaration of conflicting interests

The author declares no conflicting interests.

Table 1

Comparative measurements for the “large” Paraguayan Elaenias, Short-crested Flycatcher (*Myiarchus ferox*) and Azara’s Nos. 193 and 194. Measurements are based on my own field measurements of Paraguayan birds unless a reference is provided, and sexes are combined (as the sex of his birds was not clarified by Azara). Measurements have been converted from inches and lines used by Azara into millimetres.

	NO 193 PARDO AMARILLO MENOR	YELLOW- BELLIED ELAENIA <i>Elaenia f. flavogaster</i> (n=6)	LARGE ELAENIA <i>Elaenia spectabilis</i> (n=3)	SMALL- HEADED ELAENIA <i>Elaenia sordida</i>	NO 194 PARDO AMARILLO MAYOR	SHORT-CRESTED FLYCATCHER <i>Myiarchus ferox australis</i> (n=1)
Total Length	178	147-160	170-176	180-200 (del Hoyo et al. 2020)	190.5	190
Tail	76.2	66-70	72-81	75-91 (Zimmer 1941)	82.6	77-94 (Lanyon 1978)
Tarsus	22.1	20-23	20-23	21 (Zimmer 1941)	24.3	23
Mid-toe	14	10-12	10-12	N/A	15.5	12

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Appendix: Azara's (1805) original Spanish text.

NUM CXCIII
DEL PARDO AMARILLO MENOR

He tenido bastantes idénticos en el Paraguay, porque no conoce diferencia sexual. Sus costumbres son las del siguiente. El 5 de enero compré un nido con dos pollos, que al cuarto día salían del nido, aunque apenas apuntaba la cola. Tres días después volaron muy poco; y á otros dos días el uno un vuelo grande, y tropezando con la pared, cayó en el suelo, y quedó repentinamente tullido ó sin juego en las piernas; por cuyo motivo corté los remos al otro que era algo menor, aunque se igualaron luego. Comían bien pedacitos de carne cruda, y la pedían con frecuencia piando melancólicamente. Su vestido no difería del de los padres, sino en ser algo más obscuro encima, y que lo amarillo de abajo era algo más apagado. Quando los traxéron no tenían la cabeza amontonada; pero tomaron esta insignia luego que volaron. El nido era tan pequeño, que con dificultad cabían; y tenía muy poca profundidad y escasez de materiales. El colchón se reducía á barbitas y fibras de plantas que parecen pelos y pocas crines, reduciéndose el resto á musgo, pocas telas de araña, y dichas fibras. La señal que se conocía debaxo indicaba que estuvo sobre un tronco ó rama horizontal del grueso de una pulgada. No es fuera del caso advertir, que también he observado en pollos de otros pájaros, que luego que tocan con el tarso la frialdad del suelo al salir del nido, quedan tullidos repentinamente ó pocos días después.

Longitud 7 pulgadas: cola 3: braza 11. Los colores son los del siguiente, sin más diferencia que no ser blancas las bordas de la pluma externa de la cola, ni la de los remos en los trozos internos; y la de que los tres órdenes mayores de cobijas tienen la puntita notablemente más blanquizca. Para que no se confunda este pájaro con el que sigue añadido: que la cabeza del presente es notablemente más redonda, y la pluma sobre ella más larguita. Los bigotes se notan tan poco, que puede decirse que no los tiene. El gancho del pico es casi insensible; y siendo largo 4 1/2 líneas, alto 2 escasas, y ancho 3, se infiere que su volumen no es el tercio que el del siguiente: boca amarilla: pierna 14 líneas: tarso 10, negrizco, y más fuerte que en el dicho: dedo medio 6 1/3. Esta comparación se hizo en presencia de los dos.

