

## New observations of the Masafuera Rayadito *Aphrastura masafuerae*

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Son presentadas nuevas observaciones del poco conocido *Aphrastura masafuerae*, en la isla Alexander Selkirk, en el archipiélago de Juan Fernández, de Chile, junto con la traducción de la descripción original en alemán. Son fornecidas algunas características para la identificación en el campo de esta especie, y son presentadas algunas discrepancias con las descripciones en la literatura. Finalmente, son dados algunos detalles de su ciclo de vida.

### Introduction

The Masafuera Rayadito *Aphrastura masafuerae* is endemic to Alexander Selkirk Island, the westernmost island of the Juan Fernández archipelago, 768 km west of Chile. The species was described in 1866<sup>10</sup>. Originally the island may have been covered by dense vegetation but domestic goats *Capra aegagrus hircus* introduced on the island by its discoverer Juan Fernández in 1574<sup>4,12</sup> have significantly changed the vegetational structure. Their continued presence in the Juan Fernández National Park and Biosphere Reserve has endangered the natural habitats of the Masafuera Rayadito, which has been classified as Vulnerable<sup>3,5</sup>.

Few reports have been made on the Masafuera Rayadito. Lönnberg<sup>8</sup> listed four observed specimens, Johnson & Goodall<sup>7</sup> reported it as very rare, referring to the report of an unsuccessful visit by Millie in 1955, who, according to our knowledge of the island's topography, mistakenly visited a different island, Vaurie<sup>11</sup> provided biometric information for 12 specimens and Bourne<sup>1</sup> observed four birds, with others heard. Brooke<sup>2</sup> found the species to be "by no means numerous", with a mini-

mum population of 330 individuals being suggested, during a visit in January-February 1986. Nearly 130 years after the discovery of *Aphrastura masafuerae*, IH was only the second person to photograph live birds and to observe their behaviour, of which an extensive report will be given elsewhere<sup>6</sup>.



Right and below: Masafuera Rayadito *Aphrastura masafuerae* (Ingo Hahn)



### Description

As the original description<sup>10</sup> (probably based on a single specimen) was in German, we present here a translation of that description. The species was formally described as *Synallaxis Masafuerae*, but subsequently renamed *Aphrastura*<sup>9</sup>.

"This bird is taxonomically related to the long known and (in Chile) abundant *Synallaxis spinicauda*, at the end of its tail the feathers become thinner, apparently creating beardless curved spines, also showing similar colour-pattern of head and wings. But it is so different from the former that any mistake is probably impossible.

In proportion to the size of the bird and compared to the previously mentioned species the bill is very strong and long. Upper mandible (culmen) slightly curved downwards, horn-brown; lower mandible fairly straight, horn yellowish-white, little darker only at the top. Iris brown. Tarsus horn-grey; the claws strongly curved, horn-white. The basic colour of the body is dull smoke-grey, merging into oil-brown on mantle and uppertail coverts. Forehead rust-yellowish, a stripe above and below the eyes dirty white, crown brown-black. The wings are black, all coverts have a pale rust-yellowish spot on their tip, which form a transversal band, from the fourth to the third last primary each one has a 10 mm long, intense rusty-red spot at the outer side of the feather, which forms a diagonal speculum, running backwards from the front. A second pale rust-coloured, longitudinal spot is formed by the broad rust-coloured fringes of the outer side of the primary, barely in front of its tip; the last two primaries are also fringed pale rust-yellowish at the broader part. The final six primaries show white tips. The underwing coverts are pale rust-white, as well as a spot on the primaries, which is largely confined to the upper side. The tail is graduated, so that the central feathers are longer than the outermost ones by about 40 mm, in the same relation the spines of the tail feathers are extended, measuring 7.5 mm on the outermost feathers and up to 25 mm on the inner and central ones. The tail is black, but the distal half of each of the four external feathers is rust-red, as well as the inner part of the two central tail feathers; likewise the uppertail coverts are the same colour – the oil-brown feathers of the back and scapulars are fringed black. The chin is dirty white, the entire remainder of the underparts smoke-grey, with a smooth rust-brown hue, which merges into an intense rust-brown at the rear of the flanks, vent and undertail coverts."

IH recently inspected the holotype, a male, which is preserved in the Museo Nacional de Historia Natural (Santiago, Chile), No. MNHN-338. It was collected in October 1855 by Dr. R. A. Philippi. The skin was in good condition but remarkably bleached and scarcely recalled the species in life. The museum also houses the following specimens, all collected on the same island: MNHN-337, male, MNHN-339, female, MNHN-340, male, MNHN-341, male, collected by F. Leybold, October 1869, and MNHN-4494, not sexed, collected by Instituto Paedagogico de Universidad de Chile, January 1892. Nine specimens are preserved in the British Museum of Natural History (Tring, England): four collected by Reed in 1871, three by Leybold in 1875 and two by H. Berkeley James (no date provided) (Pete Davidson pers. comm. to Guy Kirwan).

### Additions to the description and characteristics for field identification

During November-February 1992/93 and December-February 1994/95 IH studied the species on Alexander Selkirk Island. Some individuals differed significantly from the description given by Philippi & Landbeck<sup>10</sup>, exhibiting an upper mandible horn-brown only on the culmen, whilst Philippi & Landbeck<sup>10</sup> describe it as wholly dark. Most of the upper mandible (about 2/3) is horn-yellowish-white in such individuals. These latter have slightly paler crowns with the blackish-brown coloration being less extensive towards the rear. These differences may represent sexual characteristics, as IH observed a pair which differed clearly from each other in the characteristics mentioned above.

All observed individuals possessed white on the anterior of the forehead, not black-brown, as stated by Philippi & Landbeck<sup>10</sup>. The posterior part of the forehead and the crown are blackish-brown. IH observed adults lacking the white tips of the six outermost primaries, described by Philippi & Landbeck<sup>10</sup>, although this may be an effect of wear.

In summer the species occurs solely above 800 m, predominantly within dense vegetation, in the alpine and subalpine zones of the island. They are usually noticed only by their churring call, "trrrt", lasting about 1-2 seconds. Their biology is practically unknown, due to the remoteness of the island, their skulking habits and low population density. Brooke<sup>2</sup> estimated less than 1000 individuals / 50 km<sup>2</sup>, using line transect censuses.

Masafuera Rayaditos rarely leave dense vegetation or fly above the fern-cover. They search for

food (Arthropoda) on fern-fronds (*Lophosoria quadripinnata* and *Dicksonia externa*), more occasionally on epiphytic mosses and lichens, which grow on Winteraceae *Drimys confertifolia*. They progress slowly through the ferns, by means of short flights or hops, as well as upwards on the trunks, the long hind claws pointing outward. They also resemble Old World tits *Parus* when hanging upside down searching for arthropods on the underside of twigs or fern-fronds. Occasionally they were observed scratching for food in the leaf-litter.

The species appears tolerant of human presence, with birds often approaching to within 2 m of the observer. The species was always seen in pairs, except when the young had left the nest. Pairs apparently remained in continuous vocal contact.

Antagonistic behaviour is exhibited toward potential predators, e.g. several times Red-backed (Juan Fernández) Hawks *Buteo polyosoma exsul* were observed flying immediately above the fern-cover apparently hunting the rayaditos. In dense vegetation the species will approach predators to within a few meters, constantly "churring", hopping between fronds. The tail is permanently cocked, wren-like, and the birds rotate laterally, wings depressed, displaying their pattern. Such behaviour may persist for several minutes.

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