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A NEW SPECIES IN THE *MYRMOTHERULA HAEMATONOTA* SUPERSPECIES (AVES; THAMNOPHILIDAE) FROM THE WESTERN AMAZONIAN LOWLANDS OF ECUADOR AND PERU

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ABSTRACT.—A new species of antwren (*Myrmotherula fjeldsaai*) closely related to *Myrmotherula haematonota* is described from the lower tropical zone of eastern Ecuador and immediately adjacent Peru. It primarily differs from *M. h. haematonota* by its brown instead of red back in both sexes. New distributional data for nominate *M. h. haematonota* shows that it meets the new species north of the Río Marañón, between the Ríos Napo and Pastaza, with no apparently significant physical barrier between them. Received 6 March 1998, accepted 30 Dec. 1998.

Two species of “stipple-throated” antwrens, Ornate Antwren (*Myrmotherula ornata*) and White-eyed Antwren (*Myrmotherula leucophthalma*) show distinct geographical variation in back color. In some populations of each species the back is rufous; in others it is gray or olive-brown. Separated by large rivers, these populations are not in physical contact and have traditionally been ranked as subspecies. Here we describe similar variation in *Myrmotherula haematonota*, but, because the two forms are known to be in contact and to

retain their integrity, we propose to rank them as species.

Zimmer (1932) defined *Myrmotherula haematonota* to encompass both the rufous backed forms that occupy Amazonian lowlands and the gray backed forms of Andean foothills. He believed two specimens from the lowlands of Loreto, Peru, to be intermediate between these forms. More recently, Hilty and Brown (1986) and Parker and Remsen (1987) considered the foothill forms as a distinct species, *Myrmotherula spodionota* (including *so-roria*), but did not address the issue of the apparently intermediate specimens.

METHODS

In 1992 PJG noticed a male specimen with a brown back in the collection of the Museo Ecuatoriano de Ciencias Naturales (MECN), labeled as *M. h. haematonota*, taken at Río Bufo in the lowlands of Pastaza by R. Olalla on 3 February 1963. This specimen was referred to *Myrmotherula leucophthalma* by Ortiz-Crespo and coworkers (1990) and by Ridgely and Tudor (1994).

In 1994 NK tape recorded and collected a male and a female “stipple-throated” antwren with brown backs near Pompeya, Napo, Ecuador. These specimens and the Río Bufo male were compared directly with the

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FRONTISPIECE. Left from top to bottom: *Myrmotherula haematonota haematonota* male, *Myrmotherula haematonota pyrhoneota* male, *Myrmotherula haematonota pyrhoneota* female, *Myrmotherula spodiopota spodiopota* male, *Myrmotherula spodiopota spodiopota* female. Right from top to bottom: *Myrmotherula fjeldsaai* male type, *Myrmotherula fjeldsaai* female, *Myrmotherula leucophthalma leucophthalma* male, *Myrmotherula leucophthalma leucophthalma* female. Water color painting by J. Fjelds .

male from the "Mouth of Río Curaray" at the American Museum of Natural History (AMNH). The male is one of two specimens Zimmer (1932) identified as intermediate between the lowland and foothill forms. Six additional specimens of the brown backed form were later collected or located in the Western Foundation of Vertebrate Zoology (WFVZ), Louisiana State University, Museum of Zoology (LSUMZ), Museum of Natural History, University of Kansas (MNHUK), and Museo de Historia Natural de San Marcos (MUSM). Four records were available only as photographs. Thus, 12 specimens (4 of them photographic) were compared: 7 males and 5 females. All males were compared directly with the Río Curaray specimen. Two females were compared with each other by NK, three by MLI. Both red backed and brown backed forms were collected along Río Tigre, Loreto, Peru in 1995. An apparently intermediate specimen (not located) from an unspecified locality along Río Tigre was described as having the back "dark olive-brown, some of the feathers of the middle of the upper back with rufous brown edges" (Hellmayr 1910), suggesting some gene flow between the two forms. This was the second specimen that Zimmer (1932), without examining it, had considered intermediate between *M. h. haematonota* and *M. h. spodionota*.

RESULTS

Specimens of each sex of the brown backed birds were found to be essentially identical, suggesting a homogenous population rather than birds variously intermediate between *M. haematonota* and *M. spodionota*. The grayish edges of the inner webs of the remiges in the males (reddish in *M. leucophthalma*) and the coloration of the underparts of the female indicate that the brown backed specimens are more closely related to *M. haematonota* and *M. spodionota* than to *M. leucophthalma*. An analysis of vocalizations (unpubl. data) confirms this relationship. Nominate *M. h. haematonota* was found to be parapatric with brown backed birds in seemingly uniform habitat (see Fig. 1). Brown backed birds are uniform in plumage over a large area and thus clearly represent a valid taxon. They are replaced sharply by red-backed birds in similar habitat, suggesting species rank of the new taxon, which we propose to name:

Brown-backed Antwren

Myrmotherula fjeldsaai, new species

Holotype.—MECN 6924, adult male obtained by N. Krabbe 16 July 1994 near Río Tiputini, 37 road km south-southwest of Pompeya, Provincia de Napo, Ecuador; 0° 38' S

76° 26' W, altitude 275 m. Blood sample (NK14-16.7.94) deposited at Zoological Museum, University of Copenhagen. Vocalization recordings (LNS 65998) archived at the Library of Natural Sounds, Cornell Laboratory of Ornithology.

Diagnosis.—Capitalized names and numbers of colors follow Munsell Soil Color Chart (Kollmorgen Instruments Corp., 1994 edition). Size, shape, plumage pattern, and coloration similar to those of *M. haematonota haematonota*, except that the mantle and back are between Dark Yellowish Brown (10YR3/4) and Dark Brown (10YR3/3). In *M. h. haematonota* the back is Dark Red (varying between 2.5YR4/8 and 2.5YR3/6). The male of *M. fjeldsaai* differs from *M. h. pyrrhonota* by having brown instead of red back, paler flanks and tail, and larger and pale buff instead of pure white spots on tips of median and some lesser coverts. Female differs from *M. h. pyrrhonota* by having a red back, pale (mostly white) throat streaked with black, and buffy brown breast and belly; in *M. h. pyrrhonota* the throat is yellow ochre and usually unstreaked, and the breast is reddish brown (Table 1). Male differs from *M. spodionota* by having a brown instead of pure gray back; larger, more buffy, and rounded wing covert spots, distinctly lighter gray underparts with darker olive brown sides and flanks, and by not showing the tendency in many individuals of *M. spodionota* to have the white streaks of the throat that continue onto the breast and sometimes even the belly. Female differs from *M. spodionota* by having a red back and being considerably paler throughout with whitish, black-streaked throat and virtually uniform buffy brown breast and belly. *Myrmotherula spodionota* has a somewhat flammulated yellow ochre throat, breast and belly (with throat lightly marked; Table 1). Females differ from the two known females of *M. h. haematonota* from north of the Río Marañón by throat color (Table 1), but this difference falls within the variation seen in large samples of *M. h. haematonota* and *M. h. amazonica*. *Myrmotherula fjeldsaai* differs from brown backed forms of *M. leucophthalma* by having darker general coloration and smaller, paler, and decidedly more rounded wing spots; male has grayish as opposed to buffy inner webs of remiges, and usually has smaller throat spots; female has

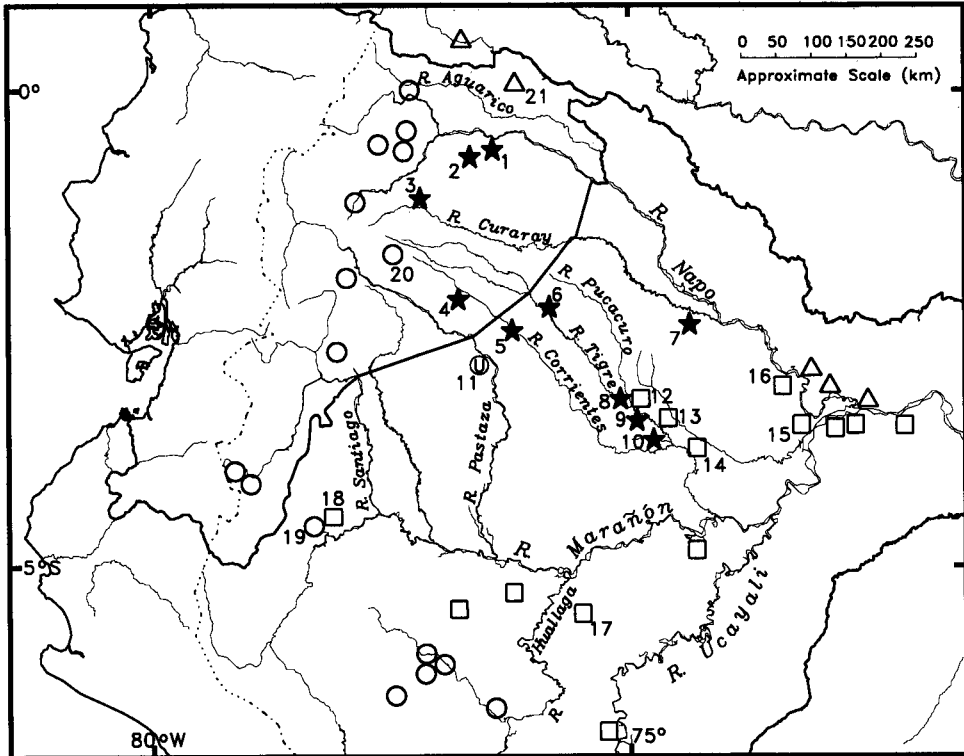


FIG. 1. Distribution of taxa of the *Myrmotherula [haematonota]* superspecies in the eastern Ecuador-northern Peru region. Heavy lines = coast and national boundaries. Dotted line = continental divide. Black stars = *Myrmotherula fjeldsaai*. Open circles = *M. spodionota* (including *sororia*). Open squares = *M. h. haematonota*. Open triangles = *M. h. pyrrhonota*. Circle surrounding a "U" = species unknown. Identification of locations discussed in text and type localities (identification of other locations on map available from MLI): 1. Río Tiputini ($0^{\circ} 38' S$, $76^{\circ} 26' W$), Napo; type locality of *M. fjeldsaai*. 2. "Sunka 1" ($0^{\circ} 42' S$, $75^{\circ} 51' W$), Napo. 3. Tzapino (ca $01^{\circ} 11' S$, $77^{\circ} 44' W$), Pastaza. 4. Río Bufeo (ca $02^{\circ} 12' S$, $76^{\circ} 48' W$), Pastaza. 5. Teniente Lopez (ca $02^{\circ} 32' S$, $76^{\circ} 14' W$), Loreto. 6. San Jacinto (ca $02^{\circ} 21' S$, $75^{\circ} 43' W$), Loreto. 7. Mouth of Río Curaray (ca $02^{\circ} 24' S$, $74^{\circ} 04' W$, exact location of collecting station uncertain), Loreto. 8. Cocha Hildalgo, left bank Río Tigre above mouth of Río Pacacuro, Loreto. 9. Vicinity of Intuto, right bank Río Tigre ($03^{\circ} 16' S$, $75^{\circ} 04' W$), Loreto. 10. Río (Quebrada) Pavayacu, Loreto. 11. Andoas, Loreto. 12. Río Pacacuro, left bank near mouth, Loreto. 13. Santa Andrea, left bank Río Tigre approximately half way between mouth of Río Pacacuro and Intuto. 14. Nuevo Manchuria ($03^{\circ} 50' S$, $74^{\circ} 19' W$) and Nuevo Tarma ($03^{\circ} 48' S$, $74^{\circ} 21' W$), left bank Río Tigre, Loreto. 15. Puerto Indiana, Loreto. 16. Libertad, Loreto. 17. Chamicuros, Loreto; type locality of *M. h. haematonota*. 18. Huampami (200 m), Amazonas. 19. Río Kagka (800 m), Amazonas. 20. Sarayacu, Pastaza; type locality of *M. spodionota*. 21. Tigre Playa, Sucumbíos (MECN 6750 and 6751).

mottled cheeks, whitish-streaked throat and buffy brown breast, as opposed to uniform bright buffy yellow cheeks, throat and breast in *M. leucophthalma*.

Description of holotype.—Above, including most of crown, between Dark Yellowish Brown (10YR3/4) and Dark Brown (10YR3/3), edge of tail and 1–2 mm wide tips of feathers of back a more reddish Dark Brown (7.5YR3/3). Wing coverts brownish black with pale tips, forming three distinct rows of

pale Reddish Yellow (7.5YR8/6) spots. Inner webs and basal half of outer web of inner greater secondary coverts Dark Brown (10YR3/3) to Dark Yellowish Brown (10YR3/4), inner webs washed with Dark Brown (7.5YR3/3) on their tips. Primary coverts blackish brown with minute, barely discernible, Reddish Yellow (7.5YR6/8) tips. Pale tips of the two alula feathers as large as on secondary coverts, but lighter, whitish on outer web. Median coverts and the largest of the

TABLE 1. Diagnosis of plumage differences of females of *Myrmotherula fjeldsaai* and neighboring populations in the *M. [haematonota]* superspecies.

| | <i>M. spodiota</i> <i>n</i> = >10 | <i>M. fjeldsaai</i> <i>n</i> = 5 | <i>M. h. haematonota</i> from north of Río Marañón; <i>n</i> = 2 | <i>M. h. pyrrhonota</i> from north bank of Río Napo; <i>n</i> = 2 |
|---|--|--|--|---|
| Chin & throat | Buff Yellow to Yellow Ochre 10 YR8/6 to 10YR6/8 | Mostly white; sides faintly tinged yellow brown | Pale Buff 10YR8/2 | Buff Yellow 10YR8/6 to Yellow Ochre between 10YR7/6 and 7.5YR7/6 |
| Streaks on throat | Streaks are minimal, but blackish feather bases show through | Moderate to heavy blackish streaks over blackish feather bases | Moderate to heavy blackish streaks over blackish feather bases | Usually no streaks, sometimes a few fine streaks, but blackish feather bases not apparent |
| Center of breast to upper center of belly | Yellow Ochre 10YR7/6 to 10YR6/8 spots; lateral feather edges like sides giving a spotty appearance | Buff Brown to Light Yellowish Brown 10YR7/4 to 10YR6/4 suffused with Light Olive Brown 2.5Y5/3 | Buff Brown to Light Yellowish Brown 10YR7/4 to 10YR6/4 suffused with Light Olive Brown 2.5Y5/3 | Reddish-yellow 7.5YR6/8, suffused with Light Olive Brown 2.5Y5/3 |
| Crown & anterior mantle | Very Dark Grayish Brown 2.5Y3/2 | Dark Yellowish Brown between 10YR4/4 & 10YR4/6 | Olive Brown 2.5Y4/3 | Olive Brown 2.5Y4/3 |
| Posterior mantle to tail coverts | Same as crown | Same as crown | Reddish Brown 2.5YR3/6 to 4/6 to Dark Reddish Brown 2.5YR4/8 | Reddish Brown 2.5YR3/6 to 4/6 to Dark Reddish Brown 2.5YR4/8 |

lesser coverts blackish brown, spots palest on the distal coverts. The smallest of the lesser wing coverts mainly Bluish Gray (5PB5/1), each with a small, black bordered whitish dot at the tip. Forehead, cheeks, breast, and belly Bluish Gray (5PB5/1, but slightly lighter), flanks and vent between Olive Brown (2.5Y4/4) and Light Olive Brown (2.5Y5/4). Throat black, feathers with pale shafts and white tips, forming white, triangular spots pointing anteriorly. Inner webs of remiges gray. Twelve rectrices, tail strongly graduated, with tips of the three outer rectrices 16, 8 and 4.5 mm from the tips of the central pair of rectrices. Body mass 9.8 g. Irides grayish brown; bill blackish with thin gray blue line along cutting edge; feet gray blue. Skull 100% ossified. No Bursa Fabricii found. Largest testis 3 × 1 mm. No fat. Stomach contents: small arthropods (saved). Netted in tongue of flooded forest in hill country.

Variation in males.—Specimens from the

Río Bufo, the mouth of Río Curaray, and one hand held bird photographed near the type locality in 1994 (C. Canaday photo) were examined by NK and found to be similar to the type. The two old specimens were slightly lighter gray, equivalent to the difference seen between old and fresh material of *M. spodiota*. MLI made the same conclusions when he compared the Río Curaray specimen to the Teniente Lopez specimen and to the description of the Río Tigre specimen collected by JA. The backs of the males were slightly brighter (Dark Yellowish Brown, 10YR3/4) than the description of the type specimen; backs of two specimens were more Olive Brown (between 10YR3/4 and 2.5Y4/4); and all lacked the reddish brown feather tips described for the type specimen.

Additional male specimens examined.—*Myrmotherula fjeldsaai*: ECUADOR: Napo, Río Bufo (MECN 2181). PERU: Loreto, mouth of Río Curaray (AMNH 255780); Ten-

iente López, Río Corrientes (MNHUK uncatalogued, skull incompletely ossified, collected July 1993 by Auca); above Intuto, Río Tigre (collected January 1995 by JA, to be deposited in MUSM). *Myrmotherula h. haematonota* and *M. h. amazonica* (Museum abbreviations are followed by number of specimens): PERU: Loreto, Loes, Río Tigre (collected January 1995 by JA, to be deposited in MUSM, 2); Libertad, S bank Napo (LSUMZ, 2); Puerto Indiana, N bank Amazon (AMNH, 1); Quebrada Vainilla, S bank Amazon (LSUMZ, 5); Orosa (AMNH, 3); Sarayacu (AMNH, 2); 15 km E Puerto Maldonado (MNHUK, 1). BOLIVIA: (LSUMZ, 5). BRAZIL: (AMNH, 10). *Myrmotherula h. pyrrhonota*: ECUADOR: Sucumbíos, about 14 km N Tigre Playa (MECN, 1). PERU: Loreto, N of Río Napo, 157 km by river NNE of Iquitos (LSUMZ, 2); Río Yanayacu (LSUMZ, 2); Quebrada Orán (LSUMZ, 2). COLOMBIA: (AMNH, 1). BRAZIL: (AMNH, 8; USNM, 10). VENEZUELA: (AMNH, 26; USNM, 6). *Myrmotherula spodionota* including *sororia*: ECUADOR: Napo, San José Abajo (AMNH, 5; USNM, 1); above San José (ANSP, 1); Avila (ANSP, 1); above Avila (AMNH, 4); Chonta Urcu (ANSP, 1); Morona-Santiago, Cutucú (AMNH, 1). PERU: (AMNH, 8; LSUMZ, 23).

Female.—A topotypical young female (MECN 6925) with 2% ossified skull is similar to the male above, but slightly lighter and yellower (between 10YR4/4 and 10YR4/6), with tail feathers having Strong Brown (7.5YR4/6) lateral edges. Sides of head like crown, but with ill-defined buff mottling. Below Light Yellowish Brown (between 2.5Y6/4 and 10YR6/4), somewhat browner on sides and flanks, breast with faint pale flammulations. Throat white tinged Pale Yellow (2.5Y8/3), irregularly but conspicuously streaked by black edges (but not tips) on some feathers. Irides gray brown, bill like the type, feet slaty; body mass 9.0 g.

Another female netted and released at the type locality in 1994 by NK was similar, but with whitish irides and with narrower black edges on the feathers of the whitish throat; body mass 10.7 g. A third individual netted and photographed near the type locality in 1994 (C. Canaday photo) was found by NK to be similar. It had a whitish throat with narrow dark feather edges, appeared to have a

fully ossified skull, brown irides, and blue gray feet; body mass 9.5 g. The foregoing description of MECN 6925 was found by MLI to match females taken at "Sunka 1", Tzapino, and San Jacinto, as well as the description and photographs of the specimen collected upstream from Intuto on the Río Tigre by JA, except that central feathers of throats were white (untinged) and lateral edges of tail feathers were the same as the color of the back (rather than reddish brown).

Additional female specimens examined.—*Myrmotherula fjeldsaai*: ECUADOR: Napo, "Sunka 1", 40 km S Coca (WVZ 45662, collected November 1988). Pastaza, Tzapino (LSUMZ 83109, collected in May 1976 by Tallman). PERU: Loreto, San Jacinto, upper Río Tigre (MNHUK uncatalogued; collected in July 1993 by Auca); above Intuto, Río Tigre (taken by JA in January 1995 and to be deposited at MHNJP). *Myrmotherula h. haematonota* and *M. h. amazonica*: PERU: Loreto, Libertad, S bank Napo (LSUMZ, 2); Puerto Indiana, N bank Amazon (AMNH, 1); the vicinity of Huampami, Amazonas, Peru, about 200 m elevation (LSUMZ, 1); Quebrada Vainilla, S bank Amazon (LSUMZ, 6); Orosa (AMNH, 1); Sarayacu (AMNH, 1); "mouth of Río Urubamba" (AMNH, 1). Madre del Dios, 15 km E Puerto Maldonado (MNHUK, 1). BOLIVIA: (LSUMZ, 5). BRAZIL: (AMNH, 7). *Myrmotherula h. pyrrhonota*: ECUADOR: Sucumbíos, about 14 km N Tigre Playa (MECN, 1). PERU: Loreto, Quebrada Orán (LSUMZ, 1). COLOMBIA: (AMNH, 1). BRAZIL: (AMNH, 16; USNM, 7). VENEZUELA: (AMNH, 26; USNM, 5). *Myrmotherula spodionota* including *sororia*: ECUADOR: Napo, San José Abajo (AMNH, 2; USNM, 1); Morona-Santiago: Chiguaza, Cutucú (ANSP, 1); Zamora-Chinchipe: Zamora (AMNH, 1). PERU: (AMNH, 4; LSUMZ, 20).

Mensural variation.—Measurements are given in Table 2. As a whole, measurements of populations in *M. haematonota* and *M. spodionota* do not differ significantly (Table 2). The only measurement whose ranges do not overlap are the wing measurements for the few known specimens of *M. h. haematonota* from north of the Amazon and *M. spodionota*, although there is only slight overlap of some wing and tail measurements of *M. spodionota* compared to other populations. Using a rule

TABLE 2. Measurements of six populations in the *Myrmotherula [haematonota]* superspecies. Sexes are combined. Bill is measured from the anterior nostril; wing is unflattened wing chord.

| Measurement | <i>M. fjeldsaai</i> | <i>M. h. haematonota</i> north of Amazon | <i>M. h. haematonota</i> south of Amazon | <i>M. h. pyrthonota</i> Venezuela & northern Brazil | <i>M. spodionota</i> |
|---------------|---------------------|---|---|---|----------------------|
| Bill Width | <i>n</i> = 7 | <i>n</i> = 6 | <i>n</i> = 8 | <i>n</i> = 10 | <i>n</i> = 10 |
| Range | 3.6–4.0 | 3.2–4.0 | 3.5–4.1 | 3.7–4.2 | 3.6–3.9 |
| Mean ± SD | 3.79 ± 0.14 | 3.58 ± 0.34 | 3.86 ± 0.18 | 4.05 ± 0.18 | 3.75 ± 0.13 |
| Bill Depth | <i>n</i> = 7 | <i>n</i> = 6 | <i>n</i> = 8 | <i>n</i> = 10 | <i>n</i> = 10 |
| Range | 3.6–3.9 | 3.6–4.2 | 3.8–4.4 | 3.6–4.4 | 3.8–4.3 |
| Mean ± SD | 3.72 ± 0.15 | 3.83 ± 0.22 | 4.04 ± 0.21 | 4.03 ± 0.23 | 4.09 ± 0.19 |
| Bill Length | <i>n</i> = 10 | <i>n</i> = 7 | <i>n</i> = 10 | <i>n</i> = 10 | <i>n</i> = 10 |
| Range | 8.4–9.5 | 8.3–8.9 | 8.4–9.6 | 8.8–9.7 | 8.2–9.4 |
| Mean ± SD | 8.97 ± 0.32 | 8.57 ± 0.30 | 9.07 ± 0.36 | 9.19 ± 0.31 | 8.81 ± 0.43 |
| Tarsus Length | <i>n</i> = 8 | <i>n</i> = 6 | <i>n</i> = 8 | <i>n</i> = 10 | <i>n</i> = 10 |
| Range | 15–16 | 16–17 | 15–17 | 16–17 | 16–18 |
| Mean ± SD | 15.7 ± 0.5 | 16.2 ± 0.4 | 15.9 ± 0.6 | 16.1 ± 0.3 | 16.8 ± 0.6 |
| Tail Length | <i>n</i> = 10 | <i>n</i> = 7 | <i>n</i> = 10 | <i>n</i> = 10 | <i>n</i> = 10 |
| Range | 33–39 | 34–37 | 34–39 | 34–38 | 37–40 |
| Mean ± SD | 35.8 ± 1.5 | 35.3 ± 1.1 | 35.1 ± 1.8 | 35.9 ± 1.3 | 38.4 ± 1.2 |
| Wing Chord | <i>n</i> = 10 | <i>n</i> = 7 | <i>n</i> = 10 | <i>n</i> = 10 | <i>n</i> = 10 |
| Range | 47–54 | 47–50 | 48–53 | 47–51 | 51–55 |
| Mean ± SD | 49.8 ± 1.9 | 48.1 ± 1.1 | 50.3 ± 1.6 | 49.2 ± 1.4 | 52.6 ± 1.4 |

similar to one proposed by Amadon (1949), comparing means of measurements plus or minus three standard deviations, differences between wing and tail measurements of *M. spodionota* compared with *M. h. haematonota* north of the Amazon again stand out. Another, larger set of measurements (mean followed by range) confirms this tendency: the wing (53.8 mm; 51–56) and tail (38.9 mm; 33–43) measurements of *M. spodionota* (*n* = 29) compares to wing (51.0 mm; 46–54) and tail (36.4; 33–41) for all populations of *M. h. pyrthonota* (*n* = 86) and wing (52.4 mm; 50–56) and tail (38.9 mm; 33–43) for all populations of *M. h. haematonota* (*n* = 40). Differences in bill among these larger samples were found to be insignificant.

Distribution.—South and west of the Río Napo in the lowlands of eastern Ecuador and extreme northern Peru. Geographic range extends from the type locality and from nearby “Sunka 1” in Napo, Ecuador, south to the central portion of the Río Tigre, a short distance upriver from Intuto, Loreto, Peru, approximately 360 km south-south-east of the type locality (Fig. 1). A sight record (Willis 1988) from Andoas, Loreto, may also be of this species.

Habitat.—At the type locality NK observed *M. fjeldsaai* in tangled, but fairly open under-

story to lower canopy in humid primary terra firma forest and into adjacent tongues of varzea forest. Near Sachacochoa in the middle Río Tigre, Loreto, Peru, BMW and JA found *M. fjeldsaai* in tall, closed canopy (except for scattered treefalls), terra firme forest with an abundance of palms in the understory. Known from about 150 to 300 m elevation.

Vocalizations.—The loudsongs (Isler et al. 1998) of nominate *M. haematonota*, *M. fjeldsaai*, and *M. spodionota* (Fig. 2) are similar, but easily distinguishable from those of *M. leucophthalma* (Isler, Isler, and Whitney, unpubl. data). We do not provide a detailed analysis of differences among the loudsongs illustrated in Fig. 2 because the sample size for *M. fjeldsaai* is inadequate. However, pace (notes per sec), an element that appears to vary among the loudsongs of *M. haematonota* complex, has been shown to be one of the most important characteristics distinguishing loudsongs of closely related and syntopic pairs of *Thamnophilidae* (Isler et al. 1998).

Behavior.—Foraging behavior (NK, BMW, JA, C. Canaday, G. Rivadaneira, and R. S. Ridgely, unpubl. data), of *M. fjeldsaai* appears to resemble the other dead leaf specialists in the group as described by Gradwohl and Greenberg (1984), Rosenberg (1990, 1993, 1997), and Whitney (1994).

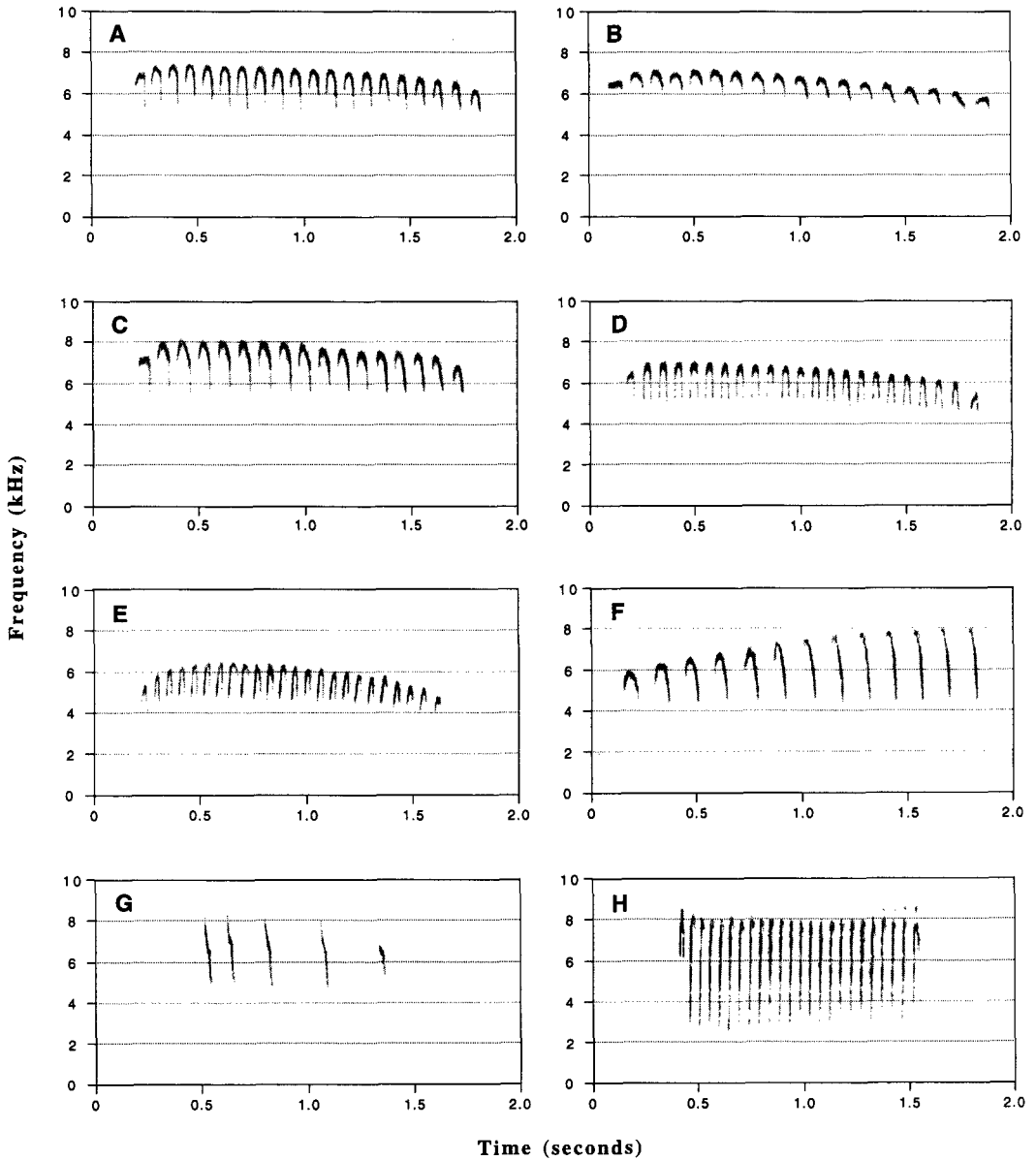


FIG. 2. Vocalizations of *Myrmotherula fjeldsaai* and loudsongs representative of neighboring populations of other taxa in the *M. [haematonota]* superspecies. A. *Myrmotherula fjeldsaai* loudsong from the type locality (recorded by N. Krabbe; LNS 65998). B. *Myrmotherula fjeldsaai* loudsong from Sachacocha, Loreto, Peru (B. M. Whitney; to be archived at LNS). C. *Myrmotherula h. pyrrhonota* loudsong from Quebrada Sucusari, Loreto, Peru (T. A. Parker, III; LNS 33798). D. *Myrmotherula h. haematonota* loudsong from Lores, Loreto, Peru (B. M. Whitney; to be archived at LNS). E. *Myrmotherula s. spodionota* loudsong from 30 km west of Loreto, Napo, Ecuador (B. M. Whitney; to be archived at LNS). F, G, and H. *Myrmotherula fjeldsaai* calls and rattle from the type locality (N. Krabbe; LNS 65998)—compare with the rattle of *M. spodionota* presented by Whitney (1994, fig. 1).

Taxonomic rank.—The possibility that *M. fjeldsaai* and *M. haematonota* occasionally hybridize is raised by the Río Tigre specimen described by Hellmayr (1910). However, the fact that the two maintain their integrity, despite being in contact in an area with extensive floodplain dynamics, makes it most probable that they are correctly ranked as full species.

Speciation.—In addition to being parapatric with *M. h. haematonota*, *M. fjeldsaai* might meet with *M. h. pyrrhonota* and *M. spodionota*, but there is no evidence of intergradation. To the southeast (Fig. 1) the ranges of *M. fjeldsaai* and *M. h. pyrrhonota* appear to be separated by the middle Río Napo, but both may occur farther upstream where the rivers Napo and Aguarico are narrow enough for them to cross. To the west, the ranges of *M. fjeldsaai* and *M. spodionota* appear to be separated altitudinally, with a narrow elevational band that neither species occupies. Neither was among the 505 species recorded at Jatun-sacha, at 450 m during 26 months of field work (B. Bocham, unpubl. data). Nor has BMW found either between 400–600 m during extensive field work around the village of Loreto, Napo, Ecuador. Additionally, neither was among the six species of *Myrmotherula* recorded by NK during 12 days of field work at Canelos, Pastaza, 500–700 m. Because the forest is continuous between their elevational limits, further field work might show the two species' ranges to be in contact.

Conservation.—The known range of *Myrmotherula fjeldsaai* encompasses the Yasuni National Park (7281 km²) in Ecuador (whence comes the type). Given that this huge area remains effectively protected, *M. fjeldsaai* appears not to be at risk at present.

Etymology.—We take the pleasure of naming this species in honor of Prof. Jon Fjeldså of the Zoological Museum, University of Copenhagen. Through his countless publications, most based on results obtained during field trips to the most hostile of environments, he has inspired a large number of biologists to leave their desks and get into the field. Among his achievements should also be mentioned his most recent work (with C. Rahbek) in delimiting areas of top priority for conservation in South America and Africa, work that could eventually save a number of species from ex-

inction. Apart from his impressive professional knowledge and self discipline, his many achievements were possible only through his great understanding of human nature, his generosity and helpfulness, and his unflinching habit of treating everybody as an equal, legendary from the jungles of South America to Africa. The English name refers to the distinctive color of the back.

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