

Review of the Species of *Rallicola* (Phthiraptera: Philopteridae) from the Antbirds, Ovenbirds, and Tapaculos (Passeriformes)

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ABSTRACT Fourteen species of chewing lice in the genus *Rallicola* are recognized and described from members of the passerine families Thamnophilidae, Furnariidae (subfamily Furnariinae), and Rhinocryptidae. These include 10 previously described species and four new ones: *R. mooreae* from *Premnoplex brunnescens* (Sclater), *R. leae* from *Thripadectes melanorhynchus* (Tschudi), *R. tompkinsi* from *Sclerurus caudacutus* (Vieillot), and *R. hambleri* from *Syndactyla rufosuperciliata* (Lafresnaye). New synonymies include *R. acutifrons subsimilis* (Carriker) and *R. a. chocoana* (Carriker), which are both junior synonyms of *R. acutifrons* (Carriker), and *R. mirandae* (Carriker), *R. punensis* (Carriker), *R. myrmeciza* (Carriker), and *R. hylactiphaga canae* (Carriker), which are, respectively, junior synonyms of *R. laticephalae* (Carriker), *R. titicacae* (Carriker), *R. heterocephala* (Carriker), and *R. hylactiphaga* (Carriker). A key is provided for identification of the species treated herein.

KEY WORDS *Furnaricola*, aves, neotropical

AT PRESENT, 32 species and subspecies of the chewing louse genus *Rallicola* Johnston & Harrison are recognized from birds in the Neotropical parvorders Thamnophilida and Furnariida (Passeriformes). All of these taxa, except four described by Price & Clayton (1993), were described by Carriker (1944; 1963a, b; 1966), who placed them in the genus *Furnaricola* Carriker. Price & Clayton (1993) reclassified these taxa as members of the genus *Rallicola* and reviewed the species of *Rallicola* known from the wood-creepers (Furnariidae: Dendrocolaptinae). They also made important precautionary remarks about the use of Carriker descriptions and material in general.

In this article, we treat all remaining *Rallicola* taxa collected from members of the parvorders Thamnophilida and Furnariida. These include 16 previously described taxa and four new species (Table 1). All of the new species are described from specimens collected by D.H.C. in Peru (Clayton et al. 1992).

Taxonomic Characters. We find the features listed below useful in characterizing the *Rallicola* found on antbirds (Thamnophilidae), ovenbirds (Furnariidae: Furnariinae), and tapaculos (Rhinocryptidae). Only deviations from these, along with dimensions and unique features, are discussed under individual species descriptions.

Sexual dimorphism limited to female being larger than male and to usual differences associated with terminalia and male genitalia (Figs. 1 and 2).

Head broadly triangular, with very shallow to slightly convex medioanterior margin. Dorsoposterior plate nearly square (Fig. 3), with "U" extending posteriad beyond center of plate. With two ocular setae on each side (Fig. 9; arrow), both short and similar in length, but one slightly thicker than other. Gular plate as in Fig. 4, with attenuate anterior projection.

Pronotum with only single seta near each lateroposterior corner. Each side of metanotum with cluster of four short to very long setae laterally and two long to very long setae grouped medially of these.

Abdomen with tergal plate II (first apparent tergum) medially constricted, either divided or with weak union; each side with two medioanterior sensilla. Remainder of tergal plates undivided, with those of male posterior segments much shorter than for female (Fig. 1 versus Fig. 2). With two median marginal setae of various lengths on terga II-VIII, these being either minute (length of seta on V < 0.005), short (length of seta on V between 0.030 and 0.085), or long (length of seta on V at least 0.100). Short lateral marginal seta on tergum VII variably medially to laterad of spiracle.

Without seta at lateral margin of abdominal segment II, with single short lateral seta on III, with two to three short to very long lateral setae on IV-VII, and with four on VIII. Internal pleu-

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Table 1. Host-parasite list

Host taxa ^a	<i>Rallicola</i> species ^b
Thamnophilidae (typical antbirds)	
<i>Gymnocichla nudiceps</i>	<i>heterocephala</i>
<i>Myrmeciza immaculata</i>	<i>heterocephala</i>
Fumariinae (ovenbirds)	
<i>Synallaxis albescens</i>	<i>acutifrons</i>
<i>Synallaxis cabanisi</i>	<i>titicacae</i>
<i>Synallaxis castanea</i>	<i>laticephala</i>
<i>Synallaxis erythrothorax</i>	<i>parvigenitalis</i>
<i>Crantioleuca subcristata</i>	<i>laticephala</i>
<i>Certhiaxis cinnamomea</i>	<i>acutifrons</i>
<i>Phleocryptes melanops</i>	<i>titicacae</i>
<i>Premnoplex brunnescens</i>	<i>mooreae</i> , n. sp.
<i>Margarornis squamiger</i>	<i>longifrons</i>
<i>Cichlocolaptes leucophrus</i>	<i>quadriceps</i>
<i>Syndactyla rufosuperciliata</i>	<i>hambleri</i> , n. sp.
<i>Anabacerthia striaticollis</i>	<i>anabacerthia</i>
<i>Philydor erythrocerus</i> ^c	<i>inexpectata</i>
<i>Thripadectes melanorhynchus</i>	<i>leeae</i> , n. sp.
<i>Sclerurus caudacutus</i>	<i>tompkinsi</i> , n. sp.
<i>Xenops minutus</i> ^c	<i>inexpectata</i>
Rhinocryptidae (tapaculos)	
<i>Scytalopus magellanicus</i>	<i>hylactiphaga</i>

^a Host names and sequence from Sibley & Monroe (1990).

^b n. sp., New species; all others described by Carriker.

^c New host association for previously named louse.

ral thickenings present but not darkly pigmented.

Sternal plates undivided, with plates on II (first apparent abdominal sternum) through V bearing two setae, VI with four, and male VII–VIII with two.

Female with large subgenital plate (fused sterna VII–VIII) marginally having row of 5–12 short spiniform setae on each side (Fig. 1) and total for both sides of 13–23 longer fine setae. With two prominent setae on large tubercle lateroposterior to subgenital plate; chaetotaxy of terminalia as in Fig. 1.

Male terminalia as shown in Fig. 2, with posterior margin flattened to slightly indented. Genitalia (Figs. 13–23) with well-developed slender parameres, each having terminal minute seta, single small sensillum about third of way from end, and with uniquely shaped process on median margin. With variably shaped mesosome and elongate, broad basal plate with rounded to flattened anterior margin.

Rallicola from the antbirds, ovenbirds, and tapaculos may be distinguished from woodcreeper *Rallicola* by the following features: medioanterior head margin flat to slightly convex, usually two ocular setae on each side, an attenuate gula, and often a prominent process on the median paramere margin of the male genitalia. The woodcreeper *Rallicola* all have a distinct medioanterior head concavity, a single ocular seta on each side, a relatively short broad gula, and male genitalia without a conspicuous process on the median paramere margin.

The following descriptions contain measurements given in millimeters, taken as illustrated in Clayton & Price (1984). Explanations for abbreviations are provided when first used. Illustrations for homologous structures are drawn to the same magnification. Under "Type Material," we have indicated parenthetically following the locality when louse collections are from more than one individual host. Host classification to species follows Sibley & Monroe (1990); that of subspecies follows Peters (1951).

Rallicola acutifrons (Carriker) (Figs. 7 and 13)

Furnaricola acutifrons Carriker 1944: 86. Type host: *Synallaxis albescens perpallida* Todd.

Furnaricola acutifrons subsimilis Carriker 1944: 87. Type host: *Certhiaxis cinnamomea fuscifrons* (Madarasz). New synonymy.

Furnaricola acutifrons chocoana Carriker 1966: 418. Type host: *Synallaxis albescens hypoleuca* Ridgway. New synonymy.

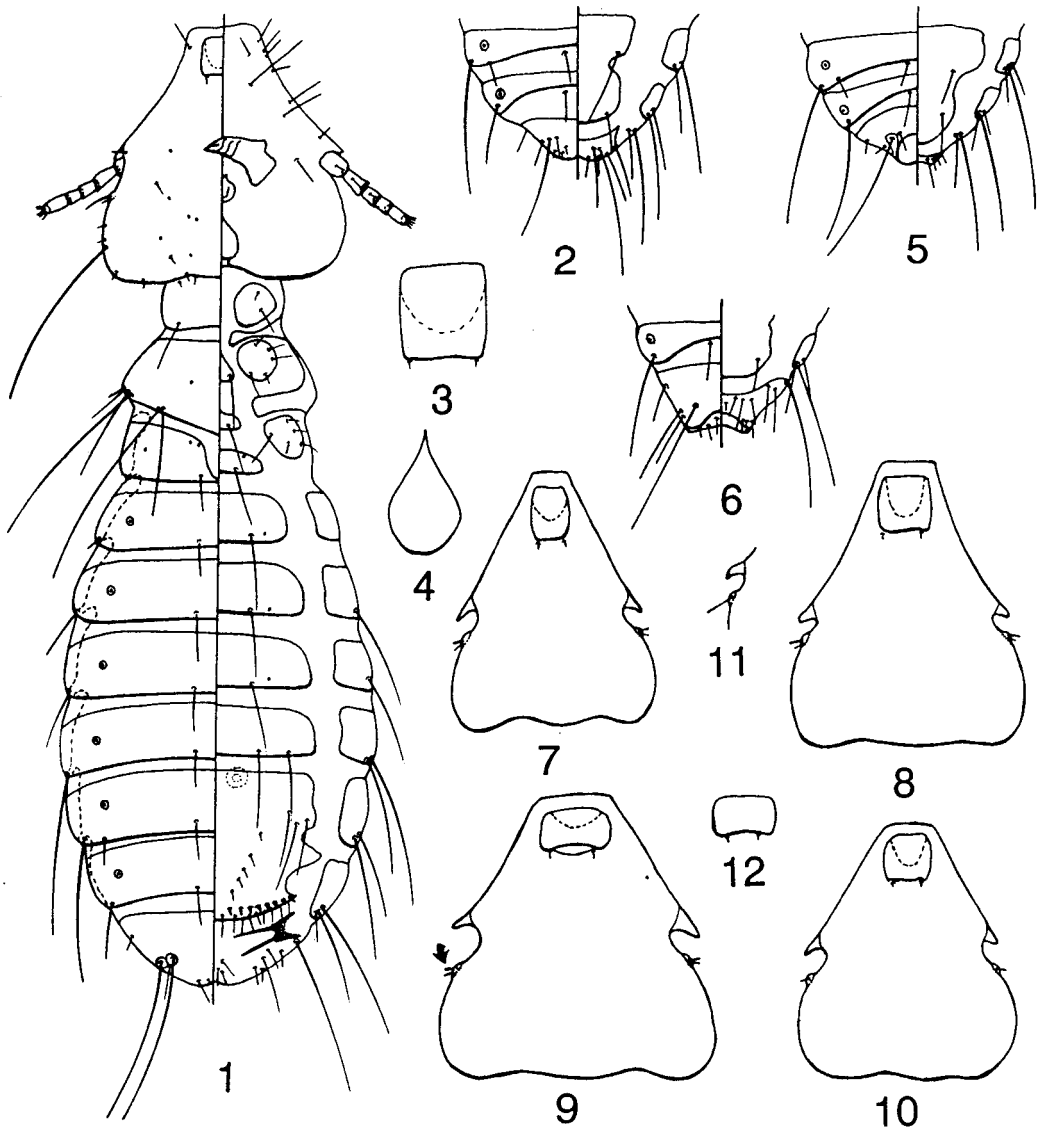
Description. Head (Fig. 7) narrowly tapered anteriorly, with dorsoanterior plate longer than wide. Abdominal terga II–IV partially to completely divided medially. With short tergal setae. Pleural thickenings darkly pigmented. Male genitalia (Fig. 13) with basally expanded and apically narrow, curved parameres; mesosome with closed rounded apex and three distinct basal projections.

Dimensions of Male. Temple width (TW), 0.320–0.350; head length (HL), 0.405–0.440; dorsoanterior plate length (DAPL), 0.080–0.090; dorsoanterior plate width (DAPW), 0.065–0.075; prothorax width (PW), 0.200–0.215; metathorax width (MW), 0.260–0.300; abdomen width at V (AWV), 0.365–0.435; total length (TL), 1.380–1.540; genitalia width (GW), 0.070–0.080; genitalia paramere length (GPL), 0.070–0.090; genitalia length (GL), 0.220–0.260.

Dimensions of Female. TW, 0.355–0.375; HL, 0.435–0.465; DAPL, 0.090–0.100; DAPW, 0.070–0.080; PW, 0.215–0.235; MW, 0.290–0.325; AWV, 0.425–0.480; TL, 1.540–1.770.

Type Material. HOLOTYPE: ♂, ALLOTYPE: ♀, 5 ♀ paratypes of *F. acutifrons*, ex *S. a. perpallida*, COLOMBIA: Magdalena: Riohacha. HOLOTYPE: ♂, ALLOTYPE: ♀, 4 ♂, 3 ♀ paratypes of *F. acutifrons subsimilis*, ex *C. c. fuscifrons*, COLOMBIA: Magdalena: Fundacion (two collections). HOLOTYPE: ♀, ALLOTYPE: ♂, 1 ♂ paratype of *F. acutifrons chocoana*, ex *S. a. hypoleuca*, COLOMBIA: Choco: Unguia.

Remarks. *Rallicola acutifrons* is distinguished by the extremely tapered preantennal region of the head, the dorsoanterior plate being much longer than wide, and the unique shape of the male genitalic parameres. We can find no char-



Figs. 1-12. *R. inexpectata*: (1) Female, (2) Male terminalia, (3) Dorsal view of male terminalia, (4) Gula. Male terminalia: (5) *R. parvigenitalis*, (6) *R. longifrons*. Head: (7) *R. acutifrons*, (8) *R. anabacertia*, (9) *R. mooreae*, (10) *R. hylactiphaga*. *R. longifrons*: (11) Ocular seta. *R. titicaca*: (12) Dorsal view of male terminalia.

acters distinguishing either *F. a. subsimilis* or *F. a. chocoana* from *R. acutifrons*; hence, we consider the first two taxa to be junior synonyms of *R. acutifrons*. In this regard, Carriker (1944) commented that "The differences between these two forms [*F. a. acutifrons* and *F. a. subsimilis*] hardly seem worthy of recognition, and to separate them savors somewhat of hair-splitting." We could not agree with him more!

***Rallicola parvigenitalis* (Carriker)**
(Figs. 5 and 16)

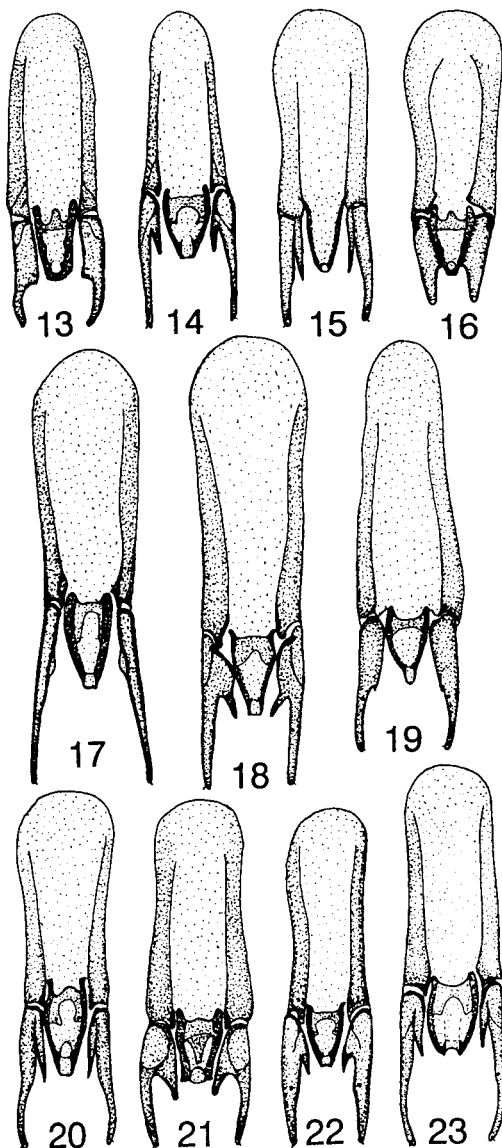
Furnaricola parvigenitalis Carriker 1944: 88.
Type host: *Synallaxis erythrothorax* Sclater.

Description. Female separable from that of *R. acutifrons* only by certain dimensional differences; male separable only by terminalia (Fig. 5) having sparser chaetotaxy and genitalia (Fig. 16) with different shaped parameres.

Dimensions of Male. TW, 0.335; HL, 0.405; DAPL, 0.075; DAPW, 0.060; PW, 0.205; MW, 0.280; AWV, 0.405; TL, 1.395; GW, 0.065; GPL, 0.065; GL, 0.230.

Dimensions of Female. TW, 0.345; HL, 0.425; DAPL, 0.085; DAPW, 0.065; PW, 0.215; MW, 0.295; AWV, 0.435; TL, 1.585.

Type Material. HOLOTYPE: ♂, ALLOTYPE: ♀, ex *S. erythrothorax*, MEXICO: Veracruz: Tres Zapotes.



Figs. 13-23. Male genitalia: (13) *R. acutifrons*, (14) *R. inexpectata*, (15) *R. laticephala* (Details missing, see text), (16) *R. parvigenitalis*, (17) *R. mooreae*, (18) *R. hambleri*, (19) *R. longifrons*, (20) *R. heterocephala*, (21) *R. titicacae*, (22) *R. tompkinsi*, (23) *R. leaeae*.

Remarks. The female of this species is separated from *R. acutifrons* in having a slightly smaller head and dorsoanterior plate. Males of the two species have different shaped genitalic parameres. Carriker (1944) noted the similarities of these species, but stressed the differences in male genitalia. Having seen only the single male holotype, we are concerned about the unique paramere shape; the abrupt termination with absence of an evident microseta makes us suspect possible breakage with absence of the terminal portion. However, the parameres are symmetri-

cal, and so, until further collections are available, we are hesitant to alter Carriker's treatment.

Rallicola laticephala (Carriker)
(Fig. 15)

Furnaricola laticephala Carriker 1944: 89. Type host: *Cranioleuca subcristata* (Sclater).

Furnaricola mirandae Carriker 1963b: 30. Type host: *Synallaxis castanea* Sclater. New synonymy.

Description. Head similar to Fig. 8. With long tergal setae. Male genitalia (Fig. 15) with long, slender inner process on parameres.

Dimensions of Male. TW, 0.330-0.350; HL, 0.355-0.385; DAPL, 0.075; DAPW, 0.065; PW, 0.190-0.195; MW, 0.275-0.300; AWV, 0.405-0.420; TL, 1.170-1.215; GW, 0.065-0.070; GPL, 0.080-0.085; GL, 0.235.

Dimensions of Female. TW, 0.350-0.390; HL, 0.415-0.445; DAPL, 0.085-0.090; DAPW, 0.075-0.085; PW, 0.210-0.225; MW, 0.315-0.335; AWV, 0.455-0.495; TL, 1.275-1.490.

Type Material. HOLOTYPE: ♂, ALLOTYPE: ♀, 1 ♂, 1 ♀ paratypes of *F. laticephala*, ex *C. subcristata*, VENEZUELA: Lagunita de Aroa. Holotype ♀ of *F. mirandae*, ex *S. castanea*, VENEZUELA: Miranda: San Esteban.

Remarks. This species is distinguished from the two preceding species by the combination of shorter head and shape of the dorsoanterior plate, the long marginal tergal setae, and the unique male genitalic paramere structure. Some details are missing from Fig. 15 in the area around the base of the mesosome and parameres, because of obstruction in the specimens. No importance should be attached to the absence of these structures.

Rallicola anabacerthia (Carriker)
(Fig. 8)

Furnaricola anabacerthia Carriker 1966: 417. Type host: *Anabacerthia striaticollis striaticollis* Lafresnaye.

Description. Male unknown. Head as in Fig. 8. With short abdominal tergal setae.

Dimensions of Female. TW, 0.415-0.420; HL, 0.480; DAPL, 0.090-0.095; DAPW, 0.100; PW, 0.245-0.265; MW, 0.365-0.385; AWV, 0.505-0.520; TL, 1.615-1.690.

Type Material. HOLOTYPE: ♀, 1 ♀ paratype, ex *A. s. striaticollis*, COLOMBIA: Santander: Virolin.

Remarks. This species is most similar to *R. laticephala*, but is distinguished from it in having shorter abdominal tergal setae and larger dimensions. Although the absence of a male specimen handicaps judgment, these characters are adequate to distinguish the two species. In dis-

cussing this species, Carriker (1966) recognized that "... the females are sometimes so closely related that their separation, without the male, is often difficult. ..." Yet, he described five taxa within the complex we are treating in this paper on the basis of females only. Although females do often show similar excellent features that characterize males, when the male genitalia become the critical separating factor and the taxon is based only on females, then recognition and treatment of this taxon become a serious dilemma.

Rallicola titicacae (Carriker)
(Figs. 12 and 21)

Furnaricola titicacae Carriker 1944: 91. Type host: *Phleocryptes melanops schoenobaenus* Cabanis & Heine.

Furnaricola punensis Carriker 1966: 419. Type host: *Synallaxis cabanisi* Berlepsch & Leverkuhn. New synonymy.

Description. Head as in Fig. 9, with dorsoanterior plate much wider than long (Fig. 12), but without small posterior separated portion (Fig. 9). Pleural thickenings moderately pigmented. With tergal setae on V over 0.140 long. Male genitalia (Fig. 21) with large, prominent median process on each slightly curved paramere and mesosome with wide apical portion.

Dimensions of Male. TW, 0.350–0.380; HL, 0.370–0.400; DAPL, 0.070–0.075; DAPW, 0.100; PW, 0.205–0.215; MW, 0.300–0.320; AWV, 0.450–0.490; TL, 1.380–1.540; GW, 0.070–0.075; GPL, 0.085–0.095; GL, 0.250–0.260.

Dimensions of Female. TW, 0.405; HL, 0.430; DAPL, 0.075–0.080; DAPW, 0.110–0.120; PW, 0.225; MW, 0.345–0.350; AWV, 0.555–0.565; TL, 1.820–1.880.

Type Material. HOLOTYPE: ♂, ALLOTYPE: ♀, 1 ♂, 1 ♀ paratypes of *F. titicacae*, ex *P. m. schoenobaenus*, PERU: Lake Titicaca: Desaguadero. Holotype ♂ of *F. punensis*, ex *S. cabanisi*, PERU: Bella Pampa.

Remarks. The very long abdominal tergal setae and the unique aspects of the parameres and mesosome of the male genitalia distinguish *R. titicacae* from all other known members of this group.

Rallicola mooreae Price & Clayton,
New Species
(Figs. 9 and 17)

Type Host. *Premnoplex brunnescens* (Sclater).

Description. Head as in Fig. 9, with dorsoanterior plate wider than long and with small medio-posterior partitioned area. Tergal setae on II–VIII minute, <0.005 long. Pleural thickenings darkly pigmented. Male genitalia (Fig. 17) large, with long, straight parameres bearing only slight

suggestion of median lobelike process and with relatively simple mesosome.

Dimensions of Male. TW, 0.415–0.445; HL, 0.430–0.460; DAPL, 0.085–0.090; DAPW, 0.115–0.120; PW, 0.245–0.255; MW, 0.375–0.390; AWV, 0.455–0.500; TL, 1.490–1.625; GW, 0.070–0.075; GPL, 0.125–0.135; GL, 0.315–0.335.

Dimensions of Female. TW, 0.460–0.470; HL, 0.465–0.480; DAPL, 0.095–0.100; DAPW, 0.120–0.125; PW, 0.255–0.275; MW, 0.415–0.430; AWV, 0.540–0.565; TL, 1.680–1.855.

Type Material. HOLOTYPE: ♂, ex *P. brunnescens*, PERU: Dept. Madre de Dios, Cerro de Pantiacolla (1,030 m), above Rio Palotoa, 24-VIII-1985, D. H. Clayton; in collection of Field Museum of Natural History (Chicago). PARATYPES: 1 ♀, same data as holotype; 11 ♂♂, 13 ♀♀, same except 26-VIII-1985, D. H. Clayton 85-263; 10 ♂♂, 1 ♀, same except 27-VIII-1985, D. H. Clayton 85-297; 2 ♂♂, 4 ♀♀, same except 2-IX-1985; 1 ♀, same except 1,350 m, 5-IX-1985; 1 ♀, PERU: Dept. Cuzco, 20 km NW of Pilcopata, 1-XII-1985, D. H. Clayton; 1 ♀, same except 820 m, 28-XI-1985. Paratypes deposited at Field Museum of Natural History, National Museum of Natural History (Washington, DC), The Natural History Museum (London), University of Minnesota (St. Paul), and Oklahoma State University (Stillwater).

Remarks. This species is readily separated from all other known species in having only minute median setae on abdominal terga II–VIII, by the unique dorsoanterior head plate and genitalic features, and by its large dimensions.

Etymology. This species is named for the junior author's friend and colleague, Janice Moore, Colorado State University, in recognition of her many contributions to the study of parasite ecology and evolution.

Rallicola quadraticeps (Carriker)

Furnaricola quadraticeps Carriker 1966: 416.

Type host: *Cichlocolaptes leucophrus* (Jardine & Selby).

Description. Male unknown. Head similar to Fig. 1, with one long, one short ocular setae on each side. With short tergal setae.

Dimensions of Female. TW, 0.410–0.455; HL, 0.445–0.510; DAPL, 0.080–0.090; DAPW, 0.080–0.095; PW, 0.245–0.275; MW, 0.355–0.400; AWV, 0.500–0.590; TL, 1.485–1.715.

Type Material. HOLOTYPE: ♀, 6 ♀ paratypes, ex *C. leucophrus*, BRAZIL: Edo. Rio de Janeiro: Serra do Augradas.

Remarks. The placement of this species presents a special problem because Carriker (1966) based the description solely on females. Females of taxa with a combination of long and short ocular setae are particularly difficult to separate. Thus, our decision to recognize *R. quadraticeps*

is mainly based on the fact that its host is taxonomically unique and geographically remote from all other host taxa in this article. This is flimsy evidence, at best, but is the most conservative stance pending the availability of male specimens.

***Rallicola leae* Price & Clayton, New Species**
(Fig. 23)

Type Host. *Thripadectes melanorhynchus* (Tschudi).

Description. Head similar to Fig. 1, with one long, one short ocular setae on each side. With short tergal setae. Male genitalia (Fig. 23) with slender, slightly curved parameres bearing elongate slender median process and mesosome with concave medioposterior margin.

Dimensions of Male. TW, 0.400–0.410; HL, 0.455–0.470; DAPL, 0.090–0.095; DAPW, 0.095; PW, 0.225–0.235; MW, 0.355–0.370; AWV, 0.465–0.515; TL, 1.460–1.535; GW, 0.075–0.080; GPL, 0.110–0.120; GL, 0.285–0.315.

Dimensions of Female. TW, 0.430–0.440; HL, 0.470–0.495; DAPL, 0.095–0.105; DAPW, 0.100–0.105; PW, 0.235–0.265; MW, 0.385–0.400; AWV, 0.515–0.575; TL, 1.600–1.805.

Type Material. HOLOTYPE: ♂, ex *T. melanorhynchus*, PERU: Dept. Madre de Dios, Cerro de Pantiacolla (1,030 m); above Rio Palotoa, 2-IX-1985, D. H. Clayton; in collection of Field Museum of Natural History (Chicago). PARATYPES: 8 ♂♂, 18 ♀♀, same data as holotype; 10 ♂♂, 8 ♀♀, same except 26-VIII-1985; 4 ♂♂, 3 ♀♀, same except 27-VIII-1985, D. H. Clayton 85-292. Paratypes distributed as for *R. mooreae*.

Remarks. The female of *R. leae* is inseparable from that of *R. quadriceps*. The male, which is unknown for the latter, is best recognized by the presence of the long and short ocular setae in conjunction with the paramere and mesosome structures of the male genitalia noted in the description.

Etymology. This species is named for the junior author's student, Patricia Lee, University of Oxford, in recognition of her impending contributions to the study of host-parasite coevolution.

***Rallicola inexpectata* (Carriker)**
(Figs. 1–4, 14)

***Furnaricola inexpectata* Carriker 1966: 421.**
Type host: *Pipra caeruleocapilla* Tschudi—error.

Description. Similar to *R. leae*, except male genitalia (Fig. 14) with straight, relatively narrow parameres bearing shorter process not extending to tip of mesosome and mesosome with flat medioposterior margin.

Dimensions of Male. TW, 0.350–0.380; HL, 0.390–0.410; DAPL, 0.075–0.085; DAPW, 0.075–

0.085; PW, 0.195–0.220; MW, 0.295–0.340; AWV, 0.410–0.485; TL, 1.295–1.370; GW, 0.070–0.075; GPL, 0.095–0.105; GL, 0.245–0.280.

Dimensions of Female. TW, 0.385–0.425; HL, 0.405–0.450; DAPL, 0.080–0.090; DAPW, 0.080–0.095; PW, 0.220–0.240; MW, 0.335–0.380; AWV, 0.510–0.570; TL, 1.530–1.695.

Type Material. HOLOTYPE: ♀, ex *P. caeruleocapilla*—error, PERU: La Pampa. 21 ♂♂, 28 ♀♀, ex *Xenops minutus* (Sparman), PERU: Dept. Madre de Dios, Cerro de Pantiacolla (680 m) (two collections). 3 ♂♂, ex *Philydor erythrocerus* (Pelzeln), PERU: Dept. Madre de Dios, Cerro de Pantiacolla (1,030 m).

Remarks. In many respects similar to the preceding two species, *R. inexpectata* is distinguished by its smaller dimensions and the male genitalia with different paramere and mesosome details as mentioned above.

As pointed out by Price & Clayton (1993), it is extremely unlikely that *Rallicola* occurs on hosts in the Pipridae. Although Carriker (1966) described two species from piprid hosts, he had misgivings about these actually being from the named type hosts. He was correct in questioning this, because we have concluded that one of them is from a woodcreeper (see Price & Clayton [1993]) and that the other one is *R. inexpectata* from an ovenbird. Both cases probably represent contamination or straggling. Our application of *R. inexpectata* to the series of lice from *X. minutus* and *P. erythrocerus*, even in the absence of males for the Carriker name, is an informed guess on our part. To do otherwise, leaving *R. inexpectata* as a nomen dubium and describing our Peruvian lice as a new species, would unnecessarily complicate the literature. Although it is doubtful that we will ever know for sure which species Carriker's single female of *R. inexpectata* represents, our action seems prudent.

***Rallicola tompkinsi* Price & Clayton,**
New Species
(Fig. 22)

Type Host. *Sclerurus caudacutus* (Vieillot).

Description. Head, dorsoanterior plate, and ocular setae as in Fig. 1. With short tergal setae. Male genitalia (Fig. 22) with basally broadened parameres each bearing relatively short pointed process extending beyond end of mesosome; mesosome with flattened medioposterior margin.

Dimensions of Male. TW, 0.355–0.360; HL, 0.405–0.415; DAPL, 0.085–0.090; DAPW, 0.095–0.100; PW, 0.210–0.220; MW, 0.310–0.325; AWV, 0.405–0.440; TL, 1.270–1.315; GW, 0.070–0.075; GPL, 0.100–0.110; GL, 0.250–0.275.

Dimensions of Female. TW, 0.380–0.385; HL, 0.420–0.430; DAPL, 0.090–0.095; DAPW, 0.100–0.105; PW, 0.225–0.245; MW, 0.335–0.355; AWV, 0.495; TL, 1.480–1.515.

Type Material. HOLOTYPE: ♂, ex *S. caudatus*, PERU: Dept. Madre de Dios, Cerro de Pantiacolla (680 m), 10-XI-1985, D. H. Clayton; in collection of Field Museum of Natural History (Chicago). PARATYPES: 2 ♂♂, 2 ♀♀, same data as holotype. Paratypes in Field Museum of Natural History and National Museum of Natural History (Washington, DC).

Remarks. This species is morphologically similar to *R. inexpectata*, but is distinguished by the structure of the male genitalic parameres.

Etymology. This species is named for the junior author's student, Daniel Tompkins, University of Oxford, in recognition of his impending contributions to the study of host-parasite coevolution.

***Rallicola hambleri* Price & Clayton,
New Species
(Fig. 18)**

Type Host. *Syndactyla rufosuperciliata* (Lafresnaye).

Description. Head as in Fig. 1. With short tergal setae. Male genitalia (Fig. 18) with straight, basally expanded parameres each bearing prominent inwardly directed process; mesosome 0.070 long, apically tapered with flat margin, with relatively straight sides.

Dimensions of Male. TW, 0.360; HL, 0.405; DAPL, 0.085; DAPW, 0.080; PW, 0.210; MW, 0.325; AWV, 0.460; TL, 1.265; GW, 0.075; GPL, 0.120; GL, 0.320.

Dimensions of Female. TW, 0.380–0.400; HL, 0.435–0.450; DAPL, 0.085–0.090; DAPW, 0.085–0.090; PW, 0.220–0.230; MW, 0.325–0.355; AWV, 0.475–0.495; TL, 1.475–1.590.

Type Material. HOLOTYPE: ♂, ex *S. rufosuperciliata*, PERU: Dept. Madre de Dios, Cerro de Pantiacolla (1,030 m), above Rio Palotoa, 3-IX-1985, D. H. Clayton; in collection of Field Museum of Natural History (Chicago). PARATYPES: 4 ♀♀, same data as holotype; in Field Museum of Natural History and National Museum of Natural History (Washington, DC).

Remarks. This species is the last of the group of lice having a combination of long and short ocular setae and occurring on hosts within the Furnariidae. The principal distinguishing feature for recognition of *R. hambleri* is the male genitalic detail, including the shape of the parameres and of the mesosome.

Etymology. This species is named for the junior author's friend and colleague, Clive Hambler, University of Oxford, in recognition of his contributions to ecological research and teaching.

***Rallicola heterocephala* (Carriker)
(Fig. 20)**

***Furnaricola heterocephala* Carriker 1944: 95.**
Type host: *Gymnocichla nudiceps chiroleuca* Sclater & Salvin.

***Furnaricola myrmeciza* Carriker 1966: 420.**

Type host: *Myrmeciza immaculata immaculata* (Lafresnaye). New synonymy.

Description. Head as in Fig. 1. With short abdominal tergal setae. Pleural thickenings moderately pigmented. Male genitalia (Fig. 20) with apically curved parameres bearing elongate slender process basally; mesosome as shown, with flat apical margin.

Dimensions of Male. TW, 0.355–0.390; HL, 0.425–0.450; DAPL, 0.085–0.090; DAPW, 0.085–0.090; PW, 0.225–0.235; MW, 0.330–0.350; AWV, 0.405–0.470; TL, 1.300–1.380; GW, 0.070–0.075; GPL, 0.085–0.100; GL, 0.250–0.270.

Dimensions of Female. TW, 0.360–0.400; HL, 0.430–0.465; DAPL, 0.085–0.100; DAPW, 0.090; PW, 0.230–0.235; MW, 0.330–0.355; AWV, 0.470–0.495; TL, 1.415–1.525.

Type Material. HOLOTYPE: ♂, ALLOTYPE: ♀, 2 ♂♂, 6 ♀♀ paratypes of *F. heterocephala*, ex *G. n. chiroleuca*, COSTA RICA: Jimenez; 1 ♂, 1 ♀ paratypes, same except El Hogar. ♀ Holotype, ♂ allotype, 1 ♂, 1 ♀ paratypes of *F. myrmeciza*, ex *M. i. immaculata*, COLOMBIA: Santander, Hcda. Santana.

Remarks. This species is recognized by its dimensions and the male genitalia with the paramere and mesosome structure as shown. This represents the only species known on hosts within the Thamnophilidae. The separation from other taxa with the long and short ocular setae is tenuous. However, given the unique host taxon, we have chosen to recognize this species of louse pending collection of additional specimens.

***Rallicola longifrons* (Carriker)
(Figs. 6, 11 and 19)**

***Furnaricola longifrons* Carriker 1966: 417.** Type host: *Margarornis squamiger perlatus* (Lesson).

Description. Head similar to Fig. 8, but with only single long ocular seta (Fig. 11). Female terga II–VIII medially divided. With short tergal setae. With three to six sternal setae on each of III–VI. Male terminalia as in Fig. 6; male genitalia (Fig. 19) with basally swollen, slightly curved parameres each bearing very small median projection; mesosome with evenly rounded apical protrusion.

Dimensions of Male. TW, 0.375; HL, 0.480; DAPL, 0.100; DAPW, 0.100; PW, 0.235; MW, 0.320; AWV, 0.415; TL, 1.445; GW, 0.085; GPL, 0.110; GL, 0.300.

Dimensions of Female. TW, 0.380–0.395; HL, 0.485–0.500; DAPL, 0.100–0.105; DAPW, 0.100; PW, 0.240–0.245; MW, 0.335–0.340; AWV, 0.455–0.490; TL, 1.575–1.660.

Type Material. HOLOTYPE: ♀, ALLOTYPE: ♂, 2 ♀♀ paratypes, ex *M. s. perlatus*, COLOMBIA: Santander Norte, La Palmita.

Remarks. This species is distinguished from all others by its combination of a single long ocular seta, the median division of female terga II–VIII, the larger number of setae on sterna III–VI, the dimensions, and the unique male genitalia. Even though this taxon is clearly separated from those discussed previously by several outstanding character differences, Carriker (1966) omitted comparison with other species.

Rallicola hylactiphaga (Carriker)
(Fig. 10)

Furnaricola hylactiphaga Carriker 1966: 422.
Type host: *Scytalopus magellanicus affinis* Zimmer.

Furnaricola hylactiphaga canae Carriker 1966: 422. Type host: *Scytalopus magellanicus canus* Chapman. New synonymy.

Description. Male unknown. Head as in Fig. 10, with single short ocular seta on each side. Abdominal terga II–VII medially divided. With long tergal setae. Sterna II–VI each with four to seven setae.

Dimensions of Female. TW, 0.360–0.385; HL, 0.415–0.455; DAPL, 0.085–0.090; DAPW, 0.080–0.090; PW, 0.205–0.225; MW, 0.290–0.320; AWV, 0.415–0.510; TL, 1.400–1.590.

Type Material. HOLOTYPE: ♀, 1 ♀ paratype of *F. hylactiphaga*, ex *S. m. affinis*, PERU: Huascarán: Yanac. HOLOTYPE: ♀, 1 ♀ paratype of *F. h. canae*, ex *S. m. canus*, COLOMBIA: Antioquia, Frontino, Heda. Potrerros.

Remarks. The combination of single ocular seta, divided abdominal terga, and larger number of sternal setae allies this species with *R. longifrons* and thereby separates it from others of this group. The short ocular seta, larger number of sternal setae on II, and certain dimensional differences for *R. hylactiphaga* separate it from *R. longifrons*, even with the absence of males. Carriker did not recognize that the female of *R. longifrons* also has divided terga; the poor condition of his specimens undoubtedly led to this oversight. This close morphological similarity between *R. longifrons*, whose type host is in the Furnariidae, and *R. hylactiphaga*, whose type host is in the Rhinocryptidae, is interesting. The latter is the only known species of *Rallicola* from the Rhinocryptidae.

**Key to the *Rallicola* of the Antbirds,
Ovenbirds, and Tapaculos**

1. Each eye with single seta; each of abdominal sterna III–V with at least 3 setae. Female abdominal terga III–VII medially divided 2
- Each eye with 2 setae; each of abdominal sterna III–V with only 2 setae. Female abdominal terga III–VII not divided . . . 3
2. Ocular seta long (Fig. 11); head shaped as in Fig. 8; with HL >0.470
. *longifrons* (Carriker)
- Ocular seta short; head shaped as in Fig. 10; with HL <0.470
. *hylactiphaga* (Carriker)
3. Each of abdominal terga II–VIII with minute median setae; head (Fig. 9) with dorsoanterior plate wider than long, bearing small partitioned area posteriorly. Male genitalia with long, straight, slender parameres with poorly developed median process (Fig. 17)
. *mooreae* Price & Clayton, n. sp.
- Abdominal terga with conspicuous median setae; head with anterior plate otherwise. Male genitalia not as above 4
4. Dorsoanterior head plate distinctly wider than long (Fig. 12); median setae on abdominal tergum V >0.140 long. Male genitalia as in Fig. 21 *titicacae* (Carriker)
- Dorsoanterior head plate and male genitalia not as above; median setae on abdominal tergum V <0.130 long 5
5. Both setae on each eye short (Figs. 7–9) . 6
- Each eye with 1 seta much longer than other (Fig. 1) 9
6. Head with preantennal portion tapered, narrow (Fig. 7); dorsoanterior plate distinctly longer than wide. Male genitalia as in Fig. 13 or 16 7
- Head with broader preantennal portion and dorsoanterior plate (Fig. 8). Male either unknown or genitalia as in Fig. 15 8
7. Male genitalia as in Fig. 16. Female TW <0.350, HL <0.430
. *parvigenitalis* (Carriker)
- Male genitalia as in Fig. 13. Female TW at least 0.350, HL >0.430
. *acutifrons* (Carriker)
8. Median setae on abdominal tergum V >0.090 long. Male TW <0.360, HL >0.400; genitalia as in Fig. 15. Female TW <0.400, HL <0.450
. *laticephala* (Carriker)
- Median setae on abdominal tergum V <0.080 long. Male unknown. Female TW >0.400, HL >0.450
. *anabacerthia* (Carriker)
9. Male unknown. From eastern Brazil ex *Cichlocolaptes leucophrus*
. *quadriceps* (Carriker)
- Distribution and host otherwise 10
10. Male TW at least 0.400, HL >0.450; genitalia as in Fig. 23. Female TW at least 0.430, HL at least 0.470
. *leeae* Price & Clayton, n. sp.
- Male TW <0.400, HL not >0.450; genitalia otherwise. Female TW <0.430, HL <0.470 11
11. Male HL at least 0.420; genitalia as in Fig. 20. Ex Thamnophilidae in Costa Rica and

- Colombia *heterocephala* (Carriker)
 Male HL <0.420; genitalia otherwise. Ex
 Furnariidae in Peru 12
12. Male genitalia large (Fig. 18), paramere
 0.120 long with basally slender process
 directed mediad; mesosome 0.070 long.
 Female inseparable
 *hambleri* Price & Clayton, n. sp.
 Male genitalia smaller (Fig. 14 or 22),
 paramere not >0.110 long with basally
 broader process directed more posterior-
 ly; mesosome not >0.060 long 13
13. Male genitalia (Fig. 14) with straight, slender
 parameres, median process usually
 not extending to tip of mesosome
 *inexpectata* (Carriker)
 Male genitalia (Fig. 22) with broader
 parameres, median process extending be-
 yond tip of mesosome.
 *tompkinsi* Price & Clayton, n. sp.

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