PROC. ENTOMOL. SOC. WASH.
97(4), 1995, pp. 839–844

A NEW GENUS AND THREE NEW SPECIES OF CHEWING LICE (PHTHIRAPTERA: PHILOPTERIDAE) FROM PERUVIAN OVENBIRDS (PASSERIFORMES: FURNARIIDAE)

ROGER D. PRICE AND DALE H. CLAYTON

(RDP) Department of Entomology, Oklahoma State University, Stillwater, Oklahoma 74078 (Current address) 4622 Kinkead Avenue, Fort Smith, Arkansas 72903; (DHC) Department of Zoology, University of Oxford, South Parks Road, Oxford OX1 3PS, England.

Abstract.—The new genus ***Furnariphilus*** is described to include three new species from Peruvian hosts within the passerine family Furnariidae, subfamily Furnariinae: ***F. pagei,*** the type species of the genus, from *Furnarius leucopus* Swainson; ***F. griffithsi*** from *Sclerurus mexicanus* Sclater; and ***F. parkeri*** from *Sclerurus caudacutus* (Vieillot).

Key Words: Ectoparasites, Peru, *Furnariphilus,* Furnariinae, Bird

Clayton et al. (1992) published a survey of chewing lice collected in 1985 from a wide array of Peruvian bird taxa. During this project, a number of undescribed louse taxa were collected from hosts in the parvorders Thamnophilida and Furnariida (Passeriformes). These taxa included a new species placed by Price and Clayton (1989) in a new genus of Menoponidae, *Kaysius,* and seven new species described by Price and Clayton (1993, 1994) in the existing philopterid genus *Rallicola* Johnston and Harrison. We have recently examined additional philopterid lice collected during the Peruvian project from members of the Thamnophilida and Furnariida. Lice from three species of ovenbirds (Furnariidae: Furnariinae) represent new species which are also members of an undescribed genus. The purpose of this paper is to name and characterize the new genus and to describe and illustrate the three new species that comprise it.

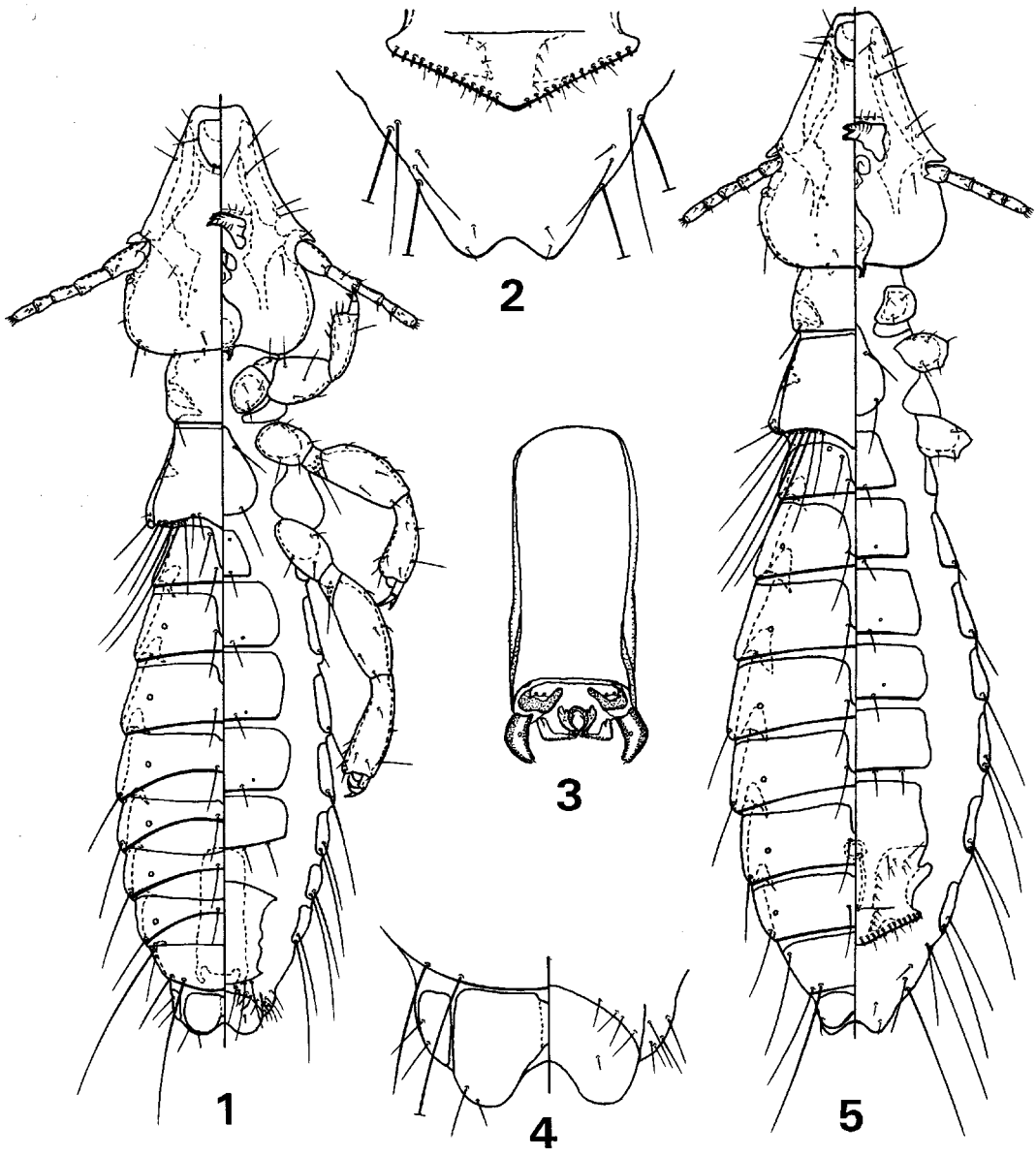
In the following descriptions, all measurements are in millimeters. Abbreviations for measured structures are explained the first time they are used. Host classification follows that of Sibley and Monroe (1990). Holotypes of the new species will be deposited in The Field Museum (Chicago) and paratypes, as numbers allow, will be located in the collections of that museum and those of the National Museum of Natural History (Washington, D.C.), Oklahoma State University (Stillwater), and the University of Minnesota (St. Paul).

Furnariphilus Price and Clayton, NEW GENUS
Figs. 1–10

Type species: *Furnariphilus pagei* Price and Clayton, new species.

Head (Figs. 1, 5) distinctly longer than wide, with preantennal region tapered to truncate hyaline margin; conus small; with single very short ocular seta; dorsoanterior head plate prominent, distinctly separated from remainder of head; male antenna with enlarged scape.

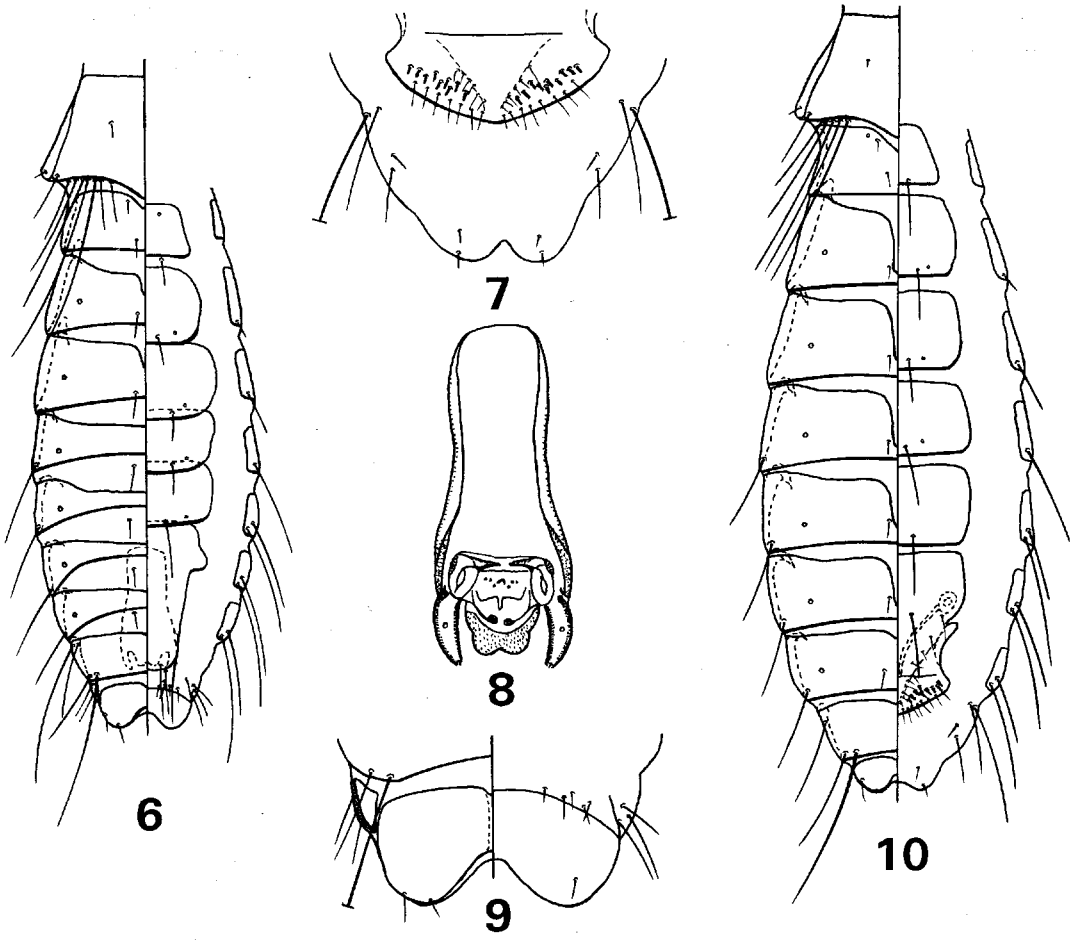
Prothorax (Figs. 1, 5) quadrangular, with single seta near each lateroposterior corner. Metathorax posteriorly broadened, each



Figs. 1–5. *Furnariphilus pagei*. 1, Male. 2, Female ventral terminalia. 3, Male genitalia. 4, Male terminal segment. 5, Female.

side with row of medium to very long marginal setae; prominent large rounded sternal plate with 4 setae.

Abdomen (Figs. 1, 5, 6, 10) slender, with distinct partial median division of terga II(first apparent tergum)–VII for female, II–IV for male. Male terga V–VIII much shorter than terga II–IV. Terga II with 4 median setae, III–VIII each with 2, IX without median setae. Only terga V–IX with lateral corner setae. Without pleural seta on II, with single short seta on III, medium seta on IV, long seta on V, and pair of long to very long setae on each of VI–VIII. Sterna II–VI prominent, undivided, each of II–V with medioposterior pair of setae, VI with



Figs. 6–10. *Furnariphilus griffithsi.* 6, Male metanotum and abdomen. 7, Female ventral terminalia. 8, Male genitalia. 9, Male terminal segment. 10, Female metanotum and abdomen.

2 or 4 posterior setae. Subgenital plate of female posteriorly with regular to irregular row of short, stout spiniform setae along with finer setae posterior to them (Figs. 2, 7). Both sexes with prominent tergum IX followed by smaller sclerites associated with distinctly indented posterior margin; male with small accessory sclerite on each side of last tergal portion (Figs. 4, 9).

Male genitalia (Figs. 3, 8) distinctive, with very short, stout widely-separated parameres each bearing median sensillum and terminal minute seta, complex mesomeral structures, and broad relatively short basal apodeme.

Discussion.—This genus is easily recognized by the combination of head shape, the sexually dimorphic antenna, the large thoracic sternal plate, the anterior abdominal terga partially divided medially, the median indentation of the terminal abdominal segment, the male with a small accessory piece on each side of the last segment, the unique male genitalia with the short broad parameres and complex mesomeral structures, and the female lacking any evidence of a prominent seta-bearing tubercle lateroposterior to the subgenital plate.

Of the philopterid lice associated with birds of these two host parvorders (Table 1), *Rallicola,* the most widely distributed genus with 30 species currently recognized,

Table 1. Classification of the parvorders Thamnophilida and Furnariida with their associated philopterid lice.

Host	Lice (No. of Species)
Parvorder Thamnophilida	
Family Thamnophilidae (typical antbirds)	*Formicaphagus* (12)
	Rallicola (1)
Parvorder Furnariida	
Superfamily Furnarioidea	
Family Furnariidae	
Subfamily Furnariinae (ovenbirds)	*Rallicola* (12)
	Furnariphilus (3)
	Picicola (3)
	Brueelia (2)
Subfamily Dendrocolaptinae (woodcreepers)	*Rallicola* (16)
Superfamily Formicarioidea	
Family Formicariidae (ground antbirds)	*Formicaphagus* (3)
	Formicaricola (8)
Family Conopophagidae (gnateaters)	*Formicaphagus* sp.
Family Rhinocryptidae (tapaculos)	*Rallicola* (1)

shows certain affinities with the new genus described here. However, *Rallicola* females are characterized by the prominent seta-bearing tubercle posterior to each side of the subgenital plate, the males have genitalia with long slender parameres and relatively simple mesomeral structures, and both sexes lack the marked medial indentation of the terminal abdominal portion. Additional lesser differences further support the distinction between these two genera. The only other known philopterids from hosts within the superfamily Furnarioidea are three species of *Picicola* Clay and Meinertzhagen and two species of *Brueelia* Keler (Table 1), all of which are quite different from *Furnariphilus* in gross head shape, genitalic features of both sexes, and other differences associated with structure and chaetotaxy.

Two other philopterid genera, *Formicaricola* Carriker and *Formicaphagus* Carriker, are found on hosts within the superfamily Formicarioidea and the parvorder Thamnophilida (Table 1). The former currently has eight recognized species and is restricted to hosts in the family Formicariidae, with seven known only from the genus *Formicarius*. These lice are also of the *Rallicola*-type, but lack the prominent seta-bearing tubercles posterior to the female subgenital plate. However, they differ from *Furnariphilus* in having both sexes with a distinct complete median division of abdominal terga II–VIII and without dimorphic antennae; the males with genitalia of a grossly different type having ovoid parameres, and with a rounded posterior abdomen; and the females lacking a delineated terminal portion posterior to IX. The 15 recognized species of *Formicaphagus* are in both parvorders, with two additional unnamed series in our collection from the Conopophagidae (Table 1); these lice differ from *Furnariphilus* in having characteristic male genitalia similar to those of *Formicaricola* and both sexes with a distinctly broader head and abdomen, in addition to other differences.

Furnariphilus pagei Price and Clayton, New Species

Figs. 1–5

Type host.—*Furnarius leucopus* Swainson.

Male.—As in Fig. 1. Preantennal head width (PAW), 0.30–0.33; temple width (TW), 0.38–0.39; head length (HL), 0.48–0.50. Prothorax width (PW), 0.26–0.28. Metanotum with 6–8 (usually 7) medium to

long setae posteriorly on each side; metathorax width (MW), 0.36–0.38. Abdominal terga with medium setae medially; sternal setae shorter, with 4 on sternum VI. Abdomen width at V (AWV), 0.42–0.45. Lateroposterior corner of IX with 2 medium to very long setae on each side. Terminal portion with proportionately large accessory piece on each side (Fig. 4). Genitalia (Fig. 3) with slightly curved parameres and complex of mesomeral structures as shown; genitalia width (GW), 0.10–0.11; genitalia length (GL), 0.23–0.25; genitalic paramere length (GPL), 0.04–0.05. Total body length (TL), 1.80–1.87.

Female.—As in Fig. 5. Head (except for smaller antennal scape), thorax, and much of abdomen as for male. PAW, 0.34–0.36; TW, 0.41–0.43; HL, 0.53–0.55. PW, 0.29–0.31; MW, 0.41–0.44. Differences from male associated primarily with posterior abdominal segments. With medium and very long lateroposterior ventral setae on each side of IX; AWV, 0.54–0.59. Subgenital plate (Fig. 2) posteriorly bearing submarginal row of 10–13 short spiniform setae on each side as well as total of 9–12 fine setae posterior to them; subgenital plate width (SPW), 0.29–0.31. TL, 2.14–2.27.

Discussion.—This species is readily distinguished from others of the genus by having the male terminalia as in Fig. 4, the male genitalia with features as in Fig. 3, the female with two medium to very long setae on each ventral lateroposterior corner of IX, the configuration of the setae of the female subgenital plate much as in Fig. 2, and the abdomen of both sexes with generally longer median tergal and shorter sternal setae.

Material examined.—Holotype male, ex *F. leucopus,* Peru: Dept. Cuzco: 20 km NW Pilcopata near Rio Tono, 750 m, 25.xi.1985, D. H. Clayton #1157. Paratypes: 17 males, 15 females, same data as holotype.

Etymology.—This species is named for Roderic D. M. Page, University of Oxford, in recognition of his deep interest in and contributions to the study of host-parasite cospeciation.

Furnariphilus griffithsi Price and Clayton, New Species

Figs. 6–10

Type host.—*Sclerurus mexicanus* Sclater.

Male.—Head and thorax much as for *F. pagei* (Fig. 1). PAW, 0.33; TW, 0.40–0.41; HL, 0.52–0.54. PW, 0.27–0.29; metanotum medially with short pair of setae (Fig. 6) and with 7–8 (usually 8) medium to very long posterior marginal setae on each side; MW, 0.40. Abdomen as in Fig. 6. With short median tergal setae; sternum VI with only single seta on each side. AWV, 0.46–0.49. Terminal segment with short accessory piece on each side (Fig. 9). Genitalia (Fig. 8) with mesomeral posterior boundary bilobed and extending near end of parameres; remainder of mesomeral structures as shown; GW, 0.10–0.11; GL, 0.23–0.24; GPL, 0.05. TL, 1.99–2.10.

Female.—Head and thorax much as for *F. pagei* (Fig. 5). PAW, 0.35–0.38; TW, 0.44–0.47; HL, 0.55–0.59. PW, 0.29–0.31; metanotum medially with pair of minute setae (Fig. 10) and marginally each side with 5–7 (usually 6) medium to very long setae; MW, 0.42–0.49. Abdomen as in Fig. 10. With only short medial setae on terga II–VIII; sternal setae on II–VI longer, with those on III–IV 0.06–0.09 long and extending well over following sternum. AWV, 0.56–0.66. Lateroposterior corner of IX each with only single medium ventral seta. Subgenital plate (Fig. 7) with highly irregular row of 7–12 short submarginal spiniform setae on each side, along with total of 14–17 fine setae posterior to them; SPW, 0.28–0.30. TL, 2.38–2.59.

Discussion.—This species is readily separated from *F. pagei* by the male with different genitalic parameral and mesomeral structures and the smaller accessory lateral portion of the terminal abdominal segment; the female with an irregular alignment of the submarginal short spiniform setae on the subgenital plate, only a single medium

ventral seta on each side of abdominal segment IX, and longer sternal setae on II–VI; and both sexes with a pair of median metanotal setae and markedly shorter median abdominal tergal setae.

Material examined.—Holotype male, ex *S. mexicanus,* Peru: Dept. Madre de Dios: Cerro de Pantiacolla, 20.viii.1985, D. H. Clayton. Paratypes: 2 males, 3 females, same data as holotype.

Etymology.—This species is named for Richard Griffiths, University of Oxford, in recognition of his work on the molecular phylogenetics of lice and their hosts.

Furnariphilus parkeri Price and Clayton, New Species

Type host.—*Sclerurus caudacutus* (Vieillot).

Male.—Much as for *F. griffithsi,* except for consistently smaller body dimensions. PAW, 0.29; TW, 0.36; HL, 0.49. PW, 0.25; MW, 0.36. AWV, 0.41. TL, 1.90.

Female.—Much as for *F. griffithsi,* except for consistently smaller body dimensions and shorter setae on sterna III–IV. PAW, 0.33; TW, 0.41–0.42; HL, 0.53–0.54. PW, 0.27–0.28; MW, 0.40–0.41. Sterna III–IV with each seta only 0.03–0.04 long, at most extending only slightly over following sternal plate. AWV, 0.50–0.52. SPW, 0.24–0.25. TL, 2.28–2.31.

Discussion.—The non-overlapping dimensional differences between the smaller *F. parkeri* and the larger *F. griffithsi,* coupled with the shorter sternal setae on III–IV for females of the former, enable ready separation of these two species. Admittedly, these differences are not as profound as we would prefer, indicating that these series from two different host taxa within the same genus are indeed closely related, but we believe them sufficient to justify recognition of two distinct species.

Material examined.—Holotype female, ex *S. caudacutus,* Peru: Dept. Madre de Dios: Cerro de Pantiacolla, 1030 m, above Rio Palotoa, 31.viii.1985, D. H. Clayton. Paratypes: 1 male, 1 female, same data as holotype.

Etymology.—This species is named in honor of Theodore (Ted) Parker, the world's most gifted field ornithologist, tragically killed during a 1993 field trip in Ecuador.

Acknowledgments

Funds were provided to the junior author by The Field Museum, the Latin American Studies Center of the University of Chicago, and NSF grant BSR-8508361 to J. W. Fitzpatrick for Peruvian faunal inventory work. This manuscript has been approved for publication by the Director, Oklahoma Agricultural Experiment Station, Stillwater.

Literature Cited

Clayton, D. H., R. D. Gregory, and R. D. Price. 1992. Comparative ecology of Neotropical bird lice (Insecta: Phthiraptera). Journal of Animal Ecology 61: 781–795.

Price, R. D. and D. H. Clayton. 1989. *Kaysius emersoni* (Mallophaga: Menoponidae), a new genus and new species of louse from the wedge-billed woodcreeper (Passeriformes: Dendrocolaptidae) of Peru. Annals of the Entomological Society of America 82: 29–31.

———. 1993. Review of the species of *Rallicola* (Phthiraptera: Philopteridae) from the woodcreepers (Passeriformes: Dendrocolaptinae). Journal of Medical Entomology 30: 35–46.

———. 1994. Review of the species of *Rallicola* (Phthiraptera: Philopteridae) from the antbirds, ovenbirds, and tapaculos (Passeriformes). Journal of Medical Entomology 31: 649–657.

Sibley, C. G. and B. L. Monroe, Jr. 1990. Distribution and taxonomy of birds of the world. Yale University Press, New Haven, CT. xxiv + 1111 pp.