

Three New Species of *Psittacobrosus*¹ from Brazilian Parrots²

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ABSTRACT

Three new species of *Psittacobrosus* (Mallophaga: Menoponidae) are described and illustrated. They and their type-hosts are: *nandayi* from *Nandayus nanday*,

versicolori from *Brotogeris versicolurus*, and *dagleishi* from *Brotogeris tirica*.

Since the recent review of *Psittacobrosus* Carriker, 1954 (Mallophaga: Menoponidae), by Price and Beer (1968), I have obtained, through the kindness of Dr. L. R. Guimarães, São Paulo, Brazil, series of lice representing 3 new species of this genus. It is my purpose here to describe and illustrate these species.

The format for the following descriptions is essentially similar to those in Price and Beer (1968). The characters common to all known members of the genus will not be repeated here. The only suggested deviation from these characters is the apparent absence of a median dorsal terminal plate on the last segment of the abdomen of the female. However, I suspect that this plate may be present but not discernible on the specimens studied. The nomenclature of the hosts follows that of Peters (1937).

Psittacobrosus nandayi, n. sp. (Fig. 1, 2)

Type-host: *Nandayus nanday* (Vieillot).

MALE.—As in Fig. 1. Without longer prosternal setae. Mesosternal plate with 2-3 longer setae; metasternal plate with 4-7 setae. Margin of metanotum with 14-17 setae. Venter of femur III each with 3, less often 2, well-developed comb rows; posterior margin of femur III with only 2 setae. Marginal tergal setae: I, 19-21; II, 23-24; III, 19-22; IV, 15-16; V, 14-16; VI, 14-15; VII, 14; VIII, 12; total on I-VIII, 133-137. Anterior tergal setae: I, 0-1; II, 8-11; III, 8-17; IV, 4-12; V, 4-8; VI, 3-5; VII, 1-5; VIII, 0-1; those on II-VII distributed across tergites in single row. Postspiracular setae very long on I-VIII. Sternal setae: I, 5; II, 40-41; III, 26-30; IV, 45-48; V-VII, 35-40; VIII, 35-42. Sternite III usually with 3 well-developed comb rows on each side, less often only 2 rows on 1 side. Without well-developed internal pleural thickenings. Geni-

¹ Mallophaga: Menoponidae.

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talia essentially symmetrical, as in Fig. 2, with slender parameres extending well beyond flattened endomeral plate and with poorly defined penis and genital sclerites. Dimensions, in mm: preocular width, 0.36-0.39; temple width, 0.46-0.48; head length, 0.35-0.38; prothorax width, 0.37-0.38; metathorax width, 0.43-0.47; total length, 2.00-2.02; genitalia width 0.15-0.17, length 0.95-0.97.

FEMALE.—Head and thorax as for male. Abdominal tergites without any clear division, but with pale median areas indicating possible tripartite VI-VII and bipartite VIII-IX. Abdominal chaetotaxy, aside from ventral terminalia, qualitatively and quantitatively much as for male, except for having 24-30 marginal tergal setae on each of III-VII, and a total of 193-205 on I-VIII. Sternites VII-IX fused; ventral terminalia much as in Fig. 6, with flattened vulval margin having about 10 marginal setae; anus with 40-50 setae in each of ventral and dorsal fringes. With reticulate internal structure of genital chamber. Dimensions: as for male, except prothorax width 0.40-0.41, metathorax width 0.51-0.52, and total length, 2.32.

If an attempt is made to identify *P. nandayi* in the keys furnished by Price and Beer (1968), the female comes out to *P. patagoni* Price & Beer in couplet 3; the male agrees partially with *P. patagoni* in couplet 6, but the genitalia type carries it on to couplet 7, at which point the key to males becomes inoperable for this species because of the emphasis on genitalic features. The male genitalia, by the shape of the endomeral plate and the length of the parameres, clearly separate *P. nandayi* from all other known species of *Psittacobrosus*, including *P. patagoni*. The other features of *P. nandayi* and *P. patagoni* are in close agreement, except for possibly slightly fewer marginal tergal setae for the female of *P. patagoni* and slightly more for the male. These 2 species are the only species known within this genus showing such extensive possession of medioanterior tergal setae for both sexes.

Material Examined.—Holotype ♂, *Nandayus nanday*, Inst. Osw. Cruz no. 182; in collection of the Departamento de Zoologia, São Paulo. Paratypes: 1 ♂, same data as holotype; 1 ♂, *N. nanday*, Villa Mercedes Corumba, M. Grosso, Brazil, Feb. 1929, Inst. Osw. Cruz no. 181; 1 ♀, as for preceding ♂, but Inst. Osw. Cruz no. 183. Other specimens: 1 ♂, 1 ♀, *Aratinga jandaya* (Gmelin), Brazil; 1 ♂, *Ara araxana* (L.), Brazil; 1 ♂, *Anodorhynchus hyacinthinus* (Latham), Brazil.

Psittacobrosus versicolori, n. sp.

(Fig. 3-5)

Type-host: *Brotogeris versicolurus* (P. L. S. Müller).

MALE.—As in Fig. 4. With 1-3 longer prosternal setae. Mesosternal plate with 3-7 longer setae; metasternal plate with 4-10 setae. Margin of metanotum with 16-18 setae. Venter of femur III each with 3 comb rows; posterior margin of femur III with only 2 setae. Marginal tergal setae: I, 25-34; II-VI, 29-

41; VII, 24-37; VIII, 17-27; total on I-VIII, 225-287. Anterior tergal setae laterally located: I, 0-1; II-III, 3-9; IV, 1-4; V-VI, 0-3; VII, 0-1; VIII, 0. Postspiracular setae very long on I-VIII. Sternal setae: I, 3-9; II, 42-52; III, 34-38; IV, 51-54; V, 38-47; VI-VII, 33-44; VIII, 31-33. Each side of sternite III with 2-3 comb rows. Without well-developed internal pleural thickenings. Genitalia symmetrical, as in Fig. 5, with distal margin of endomeral plate medially rounded and projecting laterally; parameres extending as long as to slightly shorter than endomeral plate. Dimensions: preocular width 0.37-0.40; temple width 0.44-0.49; head length 0.36-0.38; prothorax width 0.37-0.42; metathorax width 0.48-0.52; total length 2.08-2.25; genitalia width 0.22-0.25, length 0.93-1.07.

FEMALE.—Head and thorax as for male. Abdomen as in Fig. 3. Tendency for more marginal abdominal tergal setae: I, 29-32; II-III, 28-39; IV-VII, 35-42; VIII, 23-29; total on I-VIII, 254-304. Anterior tergal and sternal setae on I-VII as for male. Tergite VIII distinctly bipartite, VII and IX at least partially divided at midline. Last tergite with 6-8 medium inner posterior setae. Vulval margin medially concave, with 17-22 setae. Anus with 31-47 setae in ventral fringe and 40-44 in dorsal fringe, in addition to 4-7 ventral and 1-3 dorsal setae slightly inside fringes. With reticulate internal structure of genital chamber. Dimensions essentially as for male.

As with *P. nandayi*, it is the highly distinctive male genitalia that set *P. versicolori* apart from all other known members of the genus; the shape of the endomeral plate is grossly different from all others. Aside from the male genitalia, the other features closely relate *P. versicolori* with *P. anduzei* (Staford). The female is identified as *P. anduzei* in couplet 5 of the key to females in Price and Beer (1968) and the male, because of the unique genitalia, cannot be taken past couplet 11 of the key to males. Both sexes of *P. versicolori* have the 5th and 7th pronotal marginal setae on each side significantly longer and thicker than for *P. anduzei*. Additionally, the female of *P. versicolori* has only 40-44 setae in the dorsal anal fringe instead of the 51-58 for *P. anduzei*, has only 6-8 inner posterior setae on the last tergite instead of 10-16, and has the midline area of fused sternites VII-IX without setae.

Material Examined.—Holotype ♂, *Tirica chiriri*, Batatais, Est. S. Paulo, Brazil, 11 Dec. 1943, Lima; in collection of the Departamento de Zoologia, São Paulo. Paratypes: 4 ♂, 2 ♀, same data as holotype; 2 ♂, *T. chiriri*, Cana Brava, Est. Goiás, Brazil, 23 Dec. 1932, Blaser; 1 ♀, *T. chiriri*, Campo Grande, Est. Mato Grosso, Brazil, July 1939, Lima.

Psittacobrosus dalgleishi, n. sp.

(Fig. 6-8)

Type-host: *Brotogeris tirica* (Gmelin).

MALE.—As in Fig. 7. With 2-3 longer prosternal setae. Mesosternal plate with 4-5 longer setae; metasternal plate with 8-10 setae. Venter of femur III

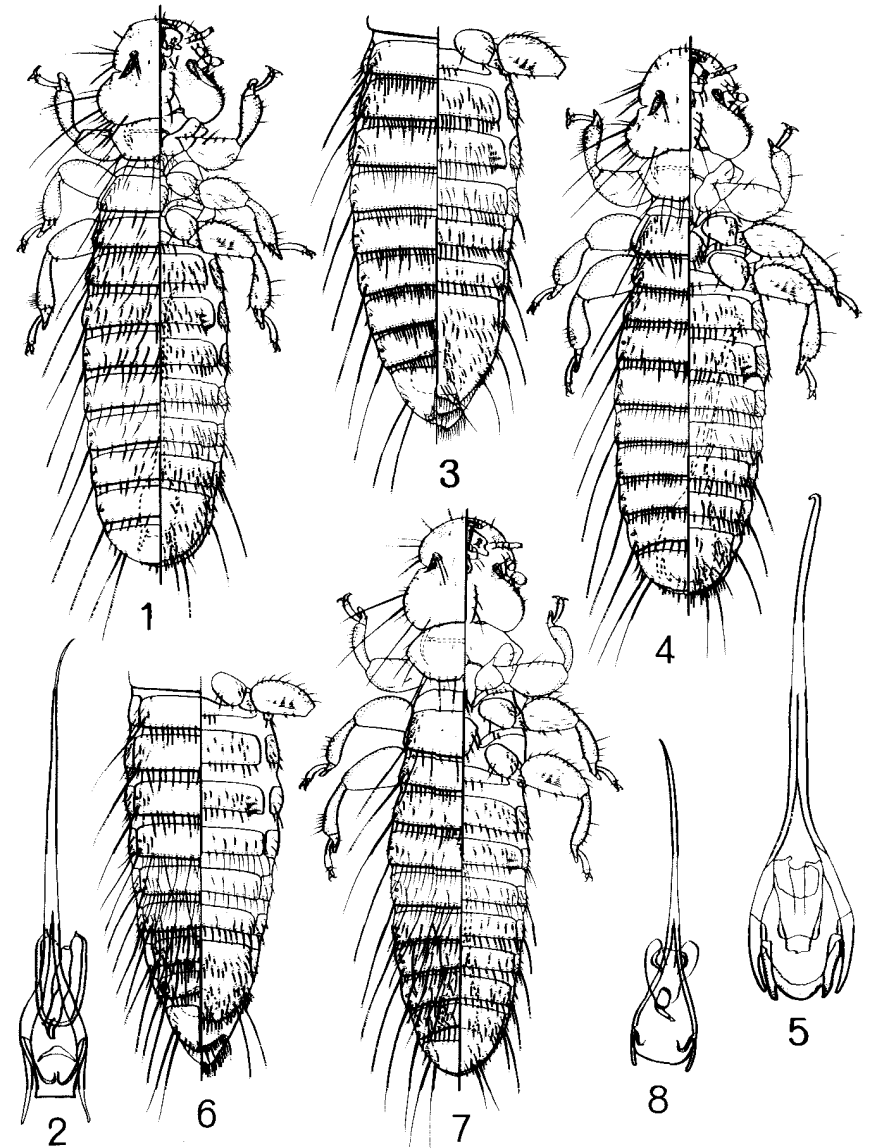


FIG. 1, 2.—*Psittacobrosus nandayi*. 1, male; 2, male genitalia. FIG. 3-5.—*P. versicolori*. 3, female abdomen; 4, male; 5, male genitalia. FIG. 6-8.—*P. dalgleishi*. 6, female abdomen; 7, male; 8, male genitalia.

each usually with only 2 comb rows, less often 3 on 1 side; posterior margin of femur III with only 2 setae. Marginal tergal setae: I, 25-27; II-III, 31-33; IV-VI, 31-37; VII, 26-33; VIII, 19-21; total on I-VIII, 233-245. Anterior tergal setae: I, 1-2; II-III, 8-15; IV, 7-12; V-VI, 5-9; VII, 5-11; VIII, 8-11; those on II-VIII distributed across tergites in single row. Postspiracular setae very long on I-VIII. Last segment with 2 very long setae on each side, a total of 4-7 setae lateroanterior to these, and 2 short inner posterior setae. Sternal setae: I, 6; II, 32-39; III, 23-29; IV, 37-38; V-VIII, 27-32. Sternite III with only 2 comb rows on each side. With internal pleural thickenings developed on II-VIII. Genitalia as in Fig. 8, with symmetrical rounded endomeral plate, slender parameres extending slightly beyond this plate, and with unbarbed penis sharply deflected to the side. Dimensions: preocular width 0.32-0.34; temple width 0.35-0.39; head length 0.32-0.34; prothorax width 0.32-0.36; metathorax width 0.40-0.42; total length 1.75-1.82; genitalia width 0.14-0.15, length 0.67-0.69.

FEMALE.—Head and thorax as for male, except with 1-2, less often 0, longer prosternal setae and 6-10 metasternal plate setae. Abdomen as in Fig. 6. Tergites VIII-IX bipartite, V-VII pale to weakly divided at midline. Marginal tergal setae: I, 25-30; II, 29-32; III, 32-36; IV-VI, 33-38; VII, 28-33; VIII, 19-22; total on I-VIII, 237-266. Anterior tergal setae: I, 0; II-VII, 2-6; VIII, 4-7; these mostly lateral in position. Postspiracular setae very long on I-VIII. Last segment with 2 very long setae on each side, a total of 5-6 setae lateroanterior to these, and 8-12 medium setae between very long ones. Sternal setae: I, 5-6; II, 36-44; III, 25-30; IV, 38-42; V-VII, 29-34. Sternite III typically with 2 comb rows on each side, less often single side with 3 rows. Sternites VII-IX fused. Vulval margin flatly rounded, with 13-14 setae. Anal fringes of 34-44 setae ventrally, 47-63 dorsally, with an additional 5-7 inner setae close to each of these fringes. With reticulate internal structure of genital chamber. Dimensions: preocular width 0.34; temple width

0.40-0.43; head length 0.34-0.36; prothorax width 0.37-0.39; metathorax width 0.47-0.49; total length 2.16-2.24.

In couplet 7 of the key given by Price and Beer (1968) for male *Psittacobrosus*, *P. dalgleishi*, by having anterior setae evenly distributed across tergites V-VIII, would go incorrectly to couplet 8 and into species of the *burmeisteri*-group instead of to couplet 11 and into members of the *anduzei*-group to which it belongs. If one proceeds to couplet 11, *P. dalgleishi* appears closest to *P. brotogerisi* Price & Beer and *P. pyrhruræ* Price & Beer. In the key to female *Psittacobrosus*, all specimens of *P. dalgleishi* with the longer prosternal setae come out as *P. brotogerisi* in couplet 5, the single specimen lacking such prosternal setae comes out as *P. pyrhruræ*.

The anterior setae across the tergites of the male separate *P. dalgleishi* from all other known members of the *anduzei*-group, except *P. patagoni* and possibly *P. nandayi*, whose group affinities are uncertain. Various details, including conspicuously different genitalia, separate these 3 species. A number of features, along with the longer marginal tergal setae of both sexes, indicate *P. dalgleishi* to be closest to *P. brotogerisi*, but the male genitalia are more like those of *P. pyrhruræ* and quite different from those of *P. brotogerisi*. The female of *P. dalgleishi* differs from the female of *P. brotogerisi* by having only 8-12 setae between the very long setae on the dorsum of the last segment and somewhat fewer total marginal tergal setae on I-VIII.

Material Examined.—Holotype ♂, *Tirica tirica*, Juguia, Est. S. Paulo, Brazil, Apr. 1940, Lane and Travassos; in collection of the Departamento de Zoologia, São Paulo. Paratypes: 2 ♂, 4 ♀, same data as holotype; 1 ♂, 1 ♀, *T. tirica*, Ilha do Cardoso, Est. S. Paulo, Brazil, Oct. 1934, Camargo.

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