REDESCRIPTIONS OF FOUR SPECIES OF THE FEATHER MITE GENUS
PTERODECTES ROBIN, 1877 (ACARI: PROCTOPHYLLOIDIDAE: PTEROLECTINAE) DESCRIBED BY HERBERT F. BERLA

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ABSTRACT: Four species of the feather mite genus Pterodectes Robin, 1877, originally described by H. F. Berla, an early Brazilian acarologist, from various South American passerines are re-described: Pterodectes bilineatus; P. nordestensis; P. turdinus and P. geothyris.

KEY WORDS: feather mite, Astigmata, Analgoidea, Proctophyllodidae, systematics, Brazil

INTRODUCTION

Herbert Franzoni Berla (1912–1985), the prominent Brazilian naturalist, was the pioneer in the study of feather mites of Brazilian birds. As a technician of the National Museum of Rio de Janeiro, he worked primarily with birds. Since 1940, after his expedition to the Espírito Santo State (Brazil), he started to accumulate feather mite samples from the skins in his ornithological collection (Pacheco and Parrini 1999). In 13 papers on feather mites, he described one new family, 13 new genera, and 42 new species. Unfortunately, at that time, Berla had neither high experience in acarology nor skillful colleagues to provide him any help. As a consequence, his morphological descriptions and some drawings were not sufficient for taxon diagnostics.

In the feather mite family Proctophyllodidae, Berla described new taxa in three subfamilies: in Proctophyllodinae he described a new genus and species, Hemipterodectes squalocauda Berla (1959b); in Ramphocaulinae he established a new genus, Allopectes Gaud and Berla (1963); in Pterodectinae he described six new Pterodectes species (Berla 1958, 1959a, b, 1960) and re-described Pterodectes gracilis Trouessart, 1885 (Berla 1959a).

The goal of the present paper is to redescribe four of H. F. Berla’s species of Pterodectes: P. bilineatus Berla, 1958; P. nordestensis Berla, 1958; P. turdinus Berla, 1959, and P. geothyris Berla, 1973. Two other species, known as members of this genus, Pterodectes ocelatus Berla, 1959 and P. minor (Berla 1960), are not re-described herein, because they do not belong to Pterodectes. In the revision of Pterodectinae, Park and Atyeo (1971) treated both as unassigned species of this subfamily. The latter species was originally described by Berla in the genus Proctophyllodes Robin, 1868 and later it has been transferred to Pterodectes by Atyeo and Braasch (1966).

MATERIAL AND METHODS

Holotypes and paratypes of Pterodectes species re-described in this paper are kept in the Collection of the National Museum of Rio de Janeiro (MNRJ), Rio de Janeiro, Brazil, with Berla’s original numbering. All drawings were made from type specimens.

We successfully remounted the slides of P. geothyris, because the specimens were in bad conditions. The material was cleared and mounted on slides according to the procedure of Flechtmann (1975); the missing setae from a holotype were figured from paratypes.

The idiosomal and leg chaetotaxy follow Griffiths et al. (1990) and Atyeo and Gaud (1966), respectively. Measurements are given in micrometers (µm), including scale-bars of the drawings. Distances between setae were measured on one side of the body. Body dimensions were measured as follows: idiosomal length (including the lobar apices), that of the female excluding the terminal appendages, width at the level of setae cp; prodorsal shield length along midline and width at the posterior margin; length of the male hysteronotal shield including the lobar apices, female anterior hysteronotal shield along midline, excluding the lobar shield, width at the level of setae cp; width of the lobar shield at the level of setae h2; distance between the prodorsal and hysteronotal shields was measured along midline; distance between the centers of the male paranal suckers; length of the lobar cleft from the anterior end to the lobar apices for both sexes.
Character states for several structures that had been omitted in the original descriptions (the presence of the prodorsal setae ve, the insertion of setae cp on/off the humeral shield and the presence of pale sclerotized areas on the dorsal shields) are reported in the text. Epimeral sclerites IIa (rEpIIa), occurring only in males, are weakly developed and difficult to observe in old specimens.


**FAMILY PROCTOPHYLLODIDAE**  
Trouessart et Mégnin, 1884

**Subfamily Pterodectinae Park et Atyeo, 1971**

**Genus Pterodectes Robin, 1877**

**Pterodectes bilineatus Berla, 1958**

Figs. 1–3  

**Male holotype** (Figs. 1A–B, 3A–C). Length of idiosoma 407, width 187. Dorsal shields without pale sclerotized areas. Prodorsal shield: 128 in length, 139 in width, surface with sparsely disposed circular lacunae. Setae ve present. Scapular setae si and se arranged in transverse line. External scapular setae missing, their bases separated by 82; bases of si separated by 57. Setae c2 on striated tegument, setae c3 lanceolate, 30 in length and 8 in width. Setae cp situated on humeral shields. Distance between prodorsal and hysteronotal shields 3. Hysteronotal shield: length 267, width 131; surface with numerous circular lacunae, occupying mainly posterior 3/4 of this shield. A long and wide median groove extending from anterior margin of hysteronotal shield to terminal cleft, not reaching prodorsal shield. Terminal cleft U-shaped, 44 in length; supranal concavity distinct. Setae h3 separated by
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Epimerites I fused as narrow inverted $\pi$, posterior tips of epimerites connected with central part of epimerites II by thin transverse sclerotized bands. Rudimental epimeral sclerites ($rEpIIa$) present.

Coxal fields II and III open; lateral half of coxal field II heavily sclerotized. Epimerites IVa with long and narrow posterior projections. Aedeagus extending beyond anal discs, its tip approximately at midlevel of terminal cleft, 158 in length; genital arch 41 in width. Distance between ventral setae: $3a–4a38$, $4a–g54$, $g–ps382$, $ps3–ps3101$. Paranal suckers edentate, 16 in diameter, separated by 57.

Fig. 2. *Pterodectes bilineatus* Berla, 1958. Female: dorsal (A) and ventral (B) views.
Opisthoventral shields narrow, restricted to lateral borders of lobes, seta ps3 inserted on soft tegument, approximately at midlevel of anal discs. Solenidion $\sigma_1$ of genu I in shape of thin spine (Fig. 3A); seta $cG$ of genua I (27), II (41) thick dagger-like, on genu II this seta inserted apically (Fig. 3A, C). Tarsus IV 38 in length, modified setae d and e button-like (Fig. 3B). Solenidia $\varphi$ of tibiae broken in all legs, only basal fragments visible (Figs. 1, 3A, B).


Epimerites I fused as narrow inverted-π, with small postero-lateral extensions, median part of epimerites II with small projections toward epimerites I. Coxal fields I, II and III open, lateral half of coxal field II heavy sclerotized. Distance between ventral setae: 1a–3a 68–79, 3a–g 27–38, 4a–ps3 82–103, g–4a 122–136, ps2–ps3 38–46, ps2–ps2 75, ps3–ps3 32. Setae ps2 and ps3 piliform, their bases arranged in trapezum. Spermatheca and sperm ducts as in Fig. 3D. Legs I, II as in male; setae cG I 41–44, cG II 58–60. Pronounced rounded dorso-basal crests on genua IV (Figs. 2A–B). Legs IV extending by ambulacral disc at maximum to level of setae h1.

**Material examined.** Male holotype (MNRJ 44890, nº 1) from Yellow-green Grosbeak Caryothraustes canadensis (= C. c. brasiliensis Cabanis, 1851) (Cardinalidae), no data from host locality, Brazil, coll. H.F. Berla. Paratypes: 6 females MNRJ 44891 and 44892 (nº 2 and 3), same data.

**Additional material.** 1 female (MNRJ 44884, nº 4), from C. canadensis (= C. c. frontalis) (Hellmayr, 1905), Brazil, 23.01.1958, coll. H.F. Berla.

**Differential diagnosis.** Pterodectes bilineatus resembles P. storkani Černý (1974) by the blade-like setae cG on genua I and II, the shape of epimerites I, the longitudinal median groove on the

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![Fig. 3. Pterodectes bilineatus Berla, 1958. Dorsal view of male legs I (A) and IV (B). Dorsal view of male genu II (C). Female spermatheca (D): pd — primary duct; sd — secondary ducts; hs — head of spermatheca.](image-url)
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male hysteronotal shield, and the shape of the female terminal region. In the latter species setae $cG$ of genu I are at least 1.5 times longer than the segment, whereas in *P. bilineatus* that setae are approximately as long as the segment. Furthermore, the median groove extends from the level of setae $c3$ and not reaching the anterior margin of hysteronotal shield as in *P. bilineatus*. *Pterodectes fissuratus* Hernandes et Valim, 2005 also has a median groove on hysteronotal shield, but it can be easily distinguished from both species by the U-shaped epimerites I which are not connected to epimerites II, the shorter length of aedeagus, reaching only the anterior margin of anal discs, and the female setae $ps2–ps3$ (button-shaped) and $h2$ (with terminal filament). In the latter species the median groove is also present in both sexes but reaches the posterior 1/3 of the prodorsal shield.

Fig. 4. *Pterodectes nordestensis* Berla, 1958. Male: dorsal (A) and ventral (B) views.
**Pterodectes nordestensis Berla, 1958**

Figs. 4–6

Berla, 1958: 4–6, fig. 5–6; Park, Atyeo, 1971: 56.

**Male holotype** (Figs. 4A–B, 6A–B) (measurements of 2 paratypes are in parenthesis). Length of idiosoma 363 (341–347), width 154 (149–154).

Prodorsal shield: 117 (112–112) in length, 116 (110–125) in width, surface with small circular lacunae which distributed uniformly. Setae ve present, difficult to see. Scapular setae si and se arranged in transverse line. External scapular setae missing in all male specimens, their bases separated.

Fig. 5. *Pterodectes nordestensis* Berla, 1958. Female: dorsal (A) and ventral (B) views.
by 65 (65); si separated by 49 (49–52). Setae c2 on striated tegument, setae c3 lanceolate, 27 in length and 8 in width (24–27 × 8). Setae cp set on humeral shield. Distance between prodorsal and hysteronotal shields 3 (1–3). Hysteronotal shield: length 234 (228–231), width 114 (106–117); surface with circular lacunae distribute uniformly, pale sclerotized areas on posterolateral margins of this shield, sometimes difficult to see. Terminal cleft U-shaped, 44 (38–46), and supranal concavity distinct. Setae h3 separated by 35 (30–38). Length of setae: ps1 12 (11), h3 52 (54), h2 190 (177–204), ps2 95 (128), f2 11 (12), ps3 33 (27–33). Distance between dorsal setae: si–cl 54 (46–49), c1–c2 37 (33–38), c1–d1 54 (49–41), d1–d2 41 (44–46), d1–e1 93 (83–91), d2–e1 46 (53–54), e1–e2 30 (26–32), e1–h1 46 (49), e2–h1 52 (45), h1–f2 22 (16–22).

Epimerites I fused as narrow inverted-π with small posterolateral extensions. Epimerites II with small angular projections toward epimerites I. Scapular setae rEpIa absent. Coxal fields I, II, and III open. Distance between ventral setae: 1a–3a 54–60, 3a–g 19, 4a–ps3 92–94, 4a–g 105–120, 5a–ps2 38, ps2–ps3 28, ps2–ps3 38, ps3–ps3 21. Setae ps2 and ps3 piliform, their bases arranged in trapezium. Spermapheca and sperm ducts as in Fig. 6C. Legs I, II as in male; distinct pronounced rounded dorso-basal crests on genua IV present (Fig. 5A). Legs IV extending by ambulacral disc to level of setae h2.

Material examined. Male holotype (MNRI 44888, n° 5) from Caryothraustes canadensis (= C. c. frontalis (Hellmayr, 1905)) (Cardinalidae), no data from host locality, Brazil, 23.01.1958, coll. H.F. Berla. Paratypes: 2 males MNRI 44887 and 44889 (n° 7 and 6) and 2 females, 44885, and 44886 (n° 10, and 8), the same data.

Differential diagnosis. Pterodectes nordestensis resembles P. atyeoi O’Connor, Foufoupolos et Lipton, 2005 and P. geothylypis by the small lateral

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**Fig. 6. Pterodectes nordestensis Berla, 1958. Dorsal view of male legs I (A) and IV (B). Female spermatheca (C).**
projections of epimerites I which are extending towards epimerites II. Unlike the two species, *P. nordestensis* lacks the rudimentary epimeral sclerites IIa (rEpIIa) in the male and setae *cp* is situated on the humeral shield in both sexes. In contrast to *P. atyeoi*, the lobar cleft of female is an inverted U rather than an inverted V, and supraanal concavity is distinct. Furthermore, *P. nordestensis* has two pairs of pale sclerotized areas on posterolateral margins of hysteronotal shield (absent in *P. atyeoi* and *P. geothlypis*).

**Pterodectes turdinus** Berla, 1959

Figs. 7–9

Berla, 1959a: 11–14, fig. 18–22; Park, Atyeo, 1971: 58.

**Male holotype** (Figs. 7A–B, 9A–B) (measurement of 6 paratypes are in parenthesis). Length of idiosoma 374 (352–374), width 165 (143–154). Prodorsal shield: 114 (112–114) in length, 122 (114–122) in width; surface with numerous distinct circular lacunae which distributed uniformly; pale sclerotized areas absent. Setae *ve* present, some-
times difficult to see. Scapular setae $si$ and $se$ arranged in transverse line. External scapular setae 136 in length, their bases separated by 68 (68–71); $si$ separated by 49 (49–52). Setae $c2$ on striated tegument, setae $c3$ lanceolate, 24 in length and 8 in width (24–27 × 7–8). Setae $cp$ situated outside humeral shield. Distance between prodorsal and hysteronotal shields 11 (3–7). Hysteronotal shield: length 250 (245–256), width 117 (112–120); surface with same pattern of lacunae as on prodorsal shield; with 3 pairs of pale sclerotized areas on posterolateral margins of hysteronotal shield. Terminal cleft U-shaped, 24 (19–27), and with distinct supranal concavity. Setae $h3$ separated by 33 (27–

Fig. 8. *Pterodectes turdinus* Berla, 1959. Female: dorsal (A) and ventral (B) views.
Fig. 9. Pterodectes turdinus Berla, 1959. Ventral view of male legs I (A) and IV (B). Female spermatheca (C).

Length of setae: ps1 8 (5–8), h3 54 (49–54), h2 185 (163–185), ps2 92 (92–122), f2 8 (5–8), ps3 27 (27–33). Distance between dorsal setae: si–c1 57 (49–54), c1–c2 46 (41–46), c1–d1 54 (41–57), d1–d2 38 (38–52), d1–e1 103 (103–112), d2–e2 68 (63–71), e1–e2 30 (24–33), e1–h1 46 (44–46), e2–h1 27 (22–33), h1–f2 24 (22–24).

Epimerites I fused as narrow inverted-π, posterior end connected with central part of epimerites II by thin transverse sclerotized bands. Sclerites rEpIIa present, difficult to see in some paratypes. Coxal fields II and III open. Aedeagus reaches level of anterior edge of anal discs, 98 in length (84–103); genital arch 44 in width (41–46). Distance between ventral setae: 3a–4a 38 (37–46), 4a–g 54 (49–57), g–ps3 60 (57–63), ps3–ps3 65 (61–65). Paranal suckers edentate, 14 (14–16) in diameter, separated by 24 (22–27). Opisthovenital shields occupying lateral margin of opisthosoma and distal half of lobes, with angular inner projection situated at level of posterior margin of anal discs and bearing seta ps3.

Solenidion σ1 of genu I spiniform, seta cG of genu I, II filiform (Fig. 9A). Tarsus IV 30 (30–33) in length, modified setae d and e button-shaped (Fig. 9B). Tibia IV with longitudinal dorsal crest.

Female (Figs. 8A–B, 9C) (n=3). Length of idiosoma 440–462, width 154–165. Prodorsal shield: 117–120 in length, 122–128 in width, pattern of lacunae as in male. Setae ve present, sometimes difficult to see. Scapular setae si and se arranged in a transverse line. Setae se 131–133 in length, their bases separated by 73; pair si separated by 41–52. Setae c2 on striated tegument; setae c3 lanceolate, 30 in length and 8 in width. Setae cp situated outside humeral shield.

Distance between prodorsal and hysteronotal shields 8–9. Anterior hysteronotal shield: length 231–245, width 114–122; with numerous well pronounced circular lacunae distributed uniformly and with four pairs of pale-sclerotized areas in posterolateral portion, in some paratypes difficult to see. Lobar cleft as inverted U, 44–49. Length of lobar region 82–84, width 82–84, with distinct supranal concavity flanked by two large circular lacunae. Setae h2 blade-like with terminal filament, 57 in length, 8 in width. Setae h1 inserted on anterior third of lobar shield. Bases of setae h1 and f2 arranged in trapezium. Distance between dorsal setae: si–c1 57–60, c1–c2 49–52, c1–d1 60, d1–d2 41–52, d1–e1 114–117, d2–e1 68–73, e1–e2 33–35, e1–h1 73–79, e2–h1 44–46, f1–f2 16, f2–h2 19.

Epimerites I fused as narrow inverted-π, posterior end with small lateral extensions. Coxal fields I, II, and III open. Distance between ventral setae: 1a–3a 60–63, 3a–g 14, 4a–ps3 82–84, g–4a 103–109, ps2–ps3 38–41, ps2–ps2 38, ps3–ps3 21. Setae ps2 and ps3 filiform, their bases arranged in trapezium. Spermatheca and sperm ducts as in Fig. 9C. Legs I and II as in male, with well-developed rounded dorso-basal crests on genua IV (Figs. 8A–B). Legs IV extending by ambulacral disc to level of setae h2.

Material examined. Male holotype (MNRJ 44906, nº 47) from Rufous-bellied Thrush Turdus rufiventris Vieillot, 1818 (Turdidae), Fazenda Rubião, Mangaratiba, Rio de Janeiro, Brazil, 5.04.1958, coll. H.F. Berla. Paratypes: 6 males MNRJ 44895, nº 139, 44897, nº 138 and 3 females MNRJ 44896, nº 144 and 44901, nº 137, the same data.

Differential diagnosis. As in P. bilineatus, P. gracilis and P. storkani, the males of P. turdinus have epimerites I as an inverted-π, connected with epimerites II by a transverse bar. The latter species, however, unlike P. bilineatus and P. storkani, lacks a median groove on the hysteronotal shield, and setae cG of genua I and II are spindle-shaped rather than dagger-like. It can be distinguished from P. gracilis by the shorter length of aedeagus, only
Re redescriptions of four species of the feather mite reaching the anterior level of paranal suckers (reaches the level of ps2 in P. gracilis). Among these species, P. turdinus is the only one with female setae h2 ending in a long terminal filament, rather than dagger-like as in most species of the genus Pterodectes. It can also be distinguished by the greater size of lacunae on the dorsal shields.

Note. The structures lateral to genital apparatus mentioned by Berla (1959a: 12) as “lacunas halteróides” and figured as ampoule-like structures most probably is a mounting artifact.

\[\text{Figs. 10–12} \]

\[\text{Male holotype (Figs. 10A–B, 12A–B) (measurements of 1 paratype are in parenthesis). Length of idiosoma 363 (352), width 138 (132). Prodorsal shield: 114 (101) in length, 101 (95) in width, surface with small, uniformly distributed, circular lacunae. Paratype male with dorsal shields smooth, without lacunae. Setae ve present. Scapular setae si and se arranged in transverse line. External scapular setae missing in holotype (136), their bases separated by 57 (48); si separated by 41 (34). Setae c2 on striated tegument, setae c3 lanceolate, 24 in length and 7 in width (22 × 7). Setae cp situated outside humeral shield. Distance between prodorsal and hysteronotal shields 5 (8).} \]
Hysteronotal shield: length 226 (231), width 103 (97); surface with small, uniformly distributed, circular lacunae. Terminal cleft U-shaped, 33 (27), with distinct supranal concavity. Setae $h^3$ separated by 35 (35). Length of setae: $ps^1$ 8 (8), $h^3$ missing (35), $h^2$ missing (109), $ps^2$ missing (63), $f^2$ 8 (8), $ps^3$ 35 (33). Distance between dorsal setae: $si$–$c^1$ 67 (58), $c^1$–$c^2$ 33 (33), $c^1$–$d^1$ 57 (60), $d^1$–$d^2$ 41 (35), $d^1$–$e^1$ 92 (84), $d^2$–$e^1$ 52 (54), $e^1$–$e^2$ 27 (33), $e^1$–$h^1$ 44 (46), $e^2$–$h^1$ 22 (16), $h^1$–$f^2$ 33 (27).

Epimerites I fused as a V, their posterior end with small posterolateral extensions; epimerites II with short angular projections toward epimerites I. Epimerites I and II with narrow sclerotized areas. Sclerite rEpIIa present. Coxal fields I, II, and III open. Aedeagus reaches level of anterior edge of anal discs, 90 in length (90); genital arch...
38 in width (44). Distance between ventral setae: 3a–4a 41 (38), 4a–g 38 (39), g–ps3 63 (57), ps3–ps3 61 (57). Paranal suckers edentate, 14 (16) in diameter, separated by 24 (24). Opisthoventral shields occupy lateral part of opisthosoma and lobes, with bluntly-angular inner projection situated at level of posterior margin of anal discs and bearing seta ps3.

Solenidion σ1 of genu I spiniform (Fig. 12A), seta cG of genera I, II filiform. Tarsus IV 35 (33) in length, modified setae d and e button-shaped (Fig. 12B).


Distance between prodorsal and hysteronotal shields 8–10. Anterior hysteronotal shield: length 250–277, width 117–131; surface evenly punctured, with few small circular lacunae mainly on posterior portion, near setae el and e2, and three pairs of pale-sclerotized areas near lateral margins, the posterior pair more conspicuous. Lobar cleft as inverted V, 54–64. Length of lobar region 87–98, width 84–98. Supranal concavity distinct. Setae h2 dagger-like, without terminal filament, 46–49 in length, 8–8 in width. Setae h1 inserted on anterior third of lobar shield. Setae h1 and f2 arranged in transverse line. Distance between dorsal setae: si–


Epimerites I fused as short V, coxal fields I, II, and III open. Distance between ventral setae: 1a–3a 63–73, 3a–g 22–27, 4a–ps3 90–109, g–4a 109–125, ps2–ps3 24–27, ps2–ps2 38–49, ps3–ps3 14–23. Setae ps2 and ps3 filiform, their bases arranged in trapezium. Spermatheca and sperm ducts as on Fig. 12C. Legs I and II as in the male; dorso-basal crests present on genua IV, although less developed than in previous species (Figs. 11A–B). Legs IV extending by ambulacral disc to level of setae h2.

Material examined. Male (holotype) (MN RJ 44907, nº 1066) from Masked Yellowthroat Geothlypis aequinoctialis (Gmelin, 1789) (=G. a. velata (Vieillot, 1807)) (Parulidae), Manguinhos, Rio de Janeiro, Brazil, 17.08.1970. Coll. H.F. Berla. Para types: 1 males (same slide of holotype, MN RJ 44907, nº 1066) and 4 females MN RJ 44908 (nº 1064) and 44909 (nº 1065), the same data. Slides were re-mounted by M.P. Valim (12.01.2006).

Differential diagnosis. As in P. havliki Černý, male epimerites I of P. geothlypis are terminally connected in an inverted-π, not connected with epimerites II, and setae ps3 are inserted on a weak lateral portion of the opisthoventral shield. The males of the latter species have a relative shorter size (352–363 × 132–138 versus 419 × 146 in P. havliki). Females of both species share similarities in the shape of the lobar region (both with large dorsal lacunae on the anterior portion); in the posterolateral region of anterior hysteronotal shield (with paired pale sclerotized areas), and setae h1

Fig. 12. P terodectes geothlypis Berla, 1973. Dorsal view of male legs I (A) and IV (B). Female spermatheca (C).
and \(f_2\) arranged in a transverse line in both these species. Unlike \(P. \text{ havliky}\), the female of \(P. \text{ geothylypis}\) has a distinctive supranal concavity.

**DISCUSSION**

Although the species treated herein had been described by Berla quite superficially and incompletely, the classification of these species as members of the genus *Pterodectes* has been retained in the subfamilial revision made by Park and Atyeo (1971). In the 1950s, there was no well-defined nomenclature for chaetotaxy and other morphological structures of feather mites (Atyeo and Gaud 1966; Griffths et al. 1990). As a result, many pterodectine species were described as members of the genus *Pterodectes* (e.g., Gaud and Mouchet 1957). Thus, describing a new species, Berla (1958, 1959, 1973) often compared it with quite distant species from other genera, such as *Montesauria* Oudemans, 1905 and *Proterothyrix* Gaud, 1968. In other words, he considered mostly generic rather than specific differences. Currently the following characters are used for species diagnostics in *Pterodectes*: the shape of epimerites I and II, the pattern of lacunae and pale sclerotized areas on dorsal shields, the presence of the rudimental epimeral sclerites (rEpIIa) in males, leg chaetotaxy, insertion of setae \(cp\), and the shape of the lobes and the opisthoventral shields. In Berla’s descriptions, however, many of these important features were omitted; some were wrongly figured (e.g. epimerites I of female of *P. turdinus*, originally figured free rather than connected), some were misinterpreted (e.g. the “lacunas halteróides” of males of *P. turdinus*), and others were mixed up in ventral and dorsal aspects in the same figure (e.g. *P. bilineatus*) (Berla 1958: 3; 1959a: 12).

Park and Atyeo (1971) proposed two main species groups in the genus *Pterodectes*. In the first, the *rutilus* group, both sexes have setae \(c2\) inserted on the hysteronotal shield, and in females setae \(h2\) setae are almost filiform with a long terminal filament. In contrast, the *gracilis* group comprises all species in which setae \(c2\) are off the hysteronotal shield and setae \(h2\) are lanceolate or spindle-shaped, without a terminal filament in the female. At least one species that was described before the proposal of the subdivision has a mixture of these characteristics (*P. turdinus*, which clearly has a terminal filament in female seta \(h2\) and seta \(c2\) off the anterior hysteronotal shield). This species and two additional recently described species (Hernandes and Valim 2005, 2006) reveal that the separation of this genus into two groups (Park and Atyeo 1971) is not justified.

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Redescriptions of four species of the feather mite


