

Paupoda of a secondary forest near the Tarumã Mirim River, Amazonas, Brazil (Myriapoda, Paupoda, Paupodidae)

by

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Abstract

A large collection of Paupoda from a secondary upland forest north of Manaus, Brazil, was investigated. A list of 26 species belonging to the family Paupodidae was compiled: 15 new species of *Allopaupopus* and two each of *Scleropaupopus*, *Hemipaupopus*, *Polypaupopus* and *Polypaupoides*.

Keywords: Paupoda, soil fauna, secondary forest, Amazonas, Neotropics, Brazil.

Resumo

Foi investigada uma grande coleção de Paupoda proveniente de uma floresta secundária de *terra firme* no norte de Manaus, Brasil. Uma lista de 26 espécies da família Paupodidae foi compilada. Todas elas, exceto 3 espécies, são novas para a ciência e são descritas: 15 espécies de *Allopaupopus* e duas espécies cada de *Scleropaupopus*, *Hemipaupopus*, *Polypaupopus* e *Polypaupoides*.

Introduction

Only a few papers have been written on the Pauropoda of Brazil. Five genera are known to occur there (REMY 1956e, 1962; HÜTHER 1968, 1985) but only four species had been identified. Those described below therefore represent a great augmentation of the pauropod fauna. More than 700 specimens were examined out of 6.800 collected by PD Dr. Joachim ADIS of the Tropical Ecology Working Group at the Max-Planck-Institute for Limnology, Plön, and José Maria GOMES RODRIGUES, M.Sc., of the Instituto Nacional de Pesquisas da Amazônia, Manaus. It is one of an outstanding series of zoology collections made during studies in central Amazonas led by Dr. ADIS.

Study area and methods

The collecting site is situated on the lower Rio Tarumã Mirím (03°02'S, 60°17'W), a tributary that flows into the Rio Negro about 20 km upstream from Manaus. The inundation forests of the Rio Tarumã Mirím represent an "upper seasonal igapó" described in detail by ADIS (1981, 1983) and IRMLER (1975, 1977). However, the Pauropoda accounted for here were collected in a neighbouring "terra firme" or non-flooded area, in which the forest had been cut but not burned. This kind of secondary upland forest is referred to as "capoeira". The pauropods were extracted from yellow laterite soil samples, taken with a split corer which was driven into the soil by a mallet. The animals were extracted according to the method of KEMPSON et al. (KEMPSON et al. 1963; ADIS 1987).

Pauropods collected were classified as adults, subadults and juveniles according to the number of pairs of legs, as described in the systematic part. The sex of the adults and subadults was determined.

The type specimens have been deposited in the Systematic Entomology collections of Instituto Nacional de Pesquisas da Amazônia (INPA), Manaus, Brazil.

Systematics with description of species

Notes

* Abbreviations: ad. . . . and subad. . . ., an adult or a subadult specimen with the number of pairs of legs indicated; juv. . . ., a juvenile specimen with the number of pairs of legs indicated.

** Length of body except antennae; range of variation in adult paratypes given in brackets.

Family Pauropodidae

Subfamily Pauropodinae

Genus *Allopaupopus* SILVESTRI, 1902

Subgenus *Allopaupopus* s. str.

1. *Allopaupopus* (*A.*) *ovalis* n. sp. (Figs. 1-11)

Type locality. - Brazil, Manaus, Rio Tarumã Mirím.

Type material. - ^{INPA 445} Holotype: ad.* 9 (♂), locality as above, KEMPSON soil extraction, 29.XII.1982, loc. K23TM, leg. ADIS and RODRIGUES. Holotype in the INPA collections.

Paratypes: Same data as holotype, 4 ad. 9 (2 ♂, 2 ♀), 1 juv. 6; ibidem, 1 ad. 9 (♀), ^{INPA 460} 29.XII.1982.

loc. K13TM; ibidem, 5 ad. 9 (3 ♂, 2 ♀), 1 juv. 6, 29.XII.1982, loc. K23TM; ibidem, 1 ad. 9 (♂),
29.XII.1982, loc. K31TM; ibidem, 2 ad. 9 (♂), 4 subad. 8 (2 ♂, 2 ♀), 3 juv. 6, 1 juv. 5, 29.XII.1982,
loc. K33TM; 2 ad. 9 (♀), 1 juv. 6, 30.I.1983, loc. K29TM, all leg. ADIS and RODRIGUES. Paratypes
in the INPA collections.

Description

Length. - 1.10(-1.48)** mm.

Head. - Tergal setae of medium length, cylindrical-subcylindrical, densely striate, a_3 of 2nd row and lateral group setae pointed, the others blunt. Relative lengths of setae, 1st row: $a_1 = 10$, $a_2 = (9-)$ 10(-11); 2nd row: $a_1 = (4-)$ 6, $a_2 = 9(-)$ 12, $a_3 = (11-)$ 12(-13); 3rd row: $a_1 = (5-)$ 6(-7), $a_2 = 6(-)$ 8; 4th row: $a_1 = (7-)$ 8(-9); $a_2 = (12-)$ 15, $a_3 = (25-)$ 27(-28), $a_4 = (11-)$ 14; lateral group: $l_1 = (20-)$ 27, $l_2 = (23-)$ 25(-29), $l_3 = (23-)$ 25(-28). The ratio a_i/a_{i-1} is in 1st row (1.1-) $1.2(-)$ 1.7, in 2nd row (0.3-) $0.4(-)$ 0.7, in 3rd row 0.7(-)0.9 and in 4th row (1.0-) $1.1(-)$ 1.3. Length of temporal organs 1.2(-)1.4 times their shortest distance apart; in hind part a large pistil with long posterior cylindrical stalk; pistil 3.3 times as long as its largest width, about 0.3 of the length of temporal organ. Head cuticle glabrous.

Antennae. - Segment 4 with 5 setae which are cylindrical, blunt, annulate; their relative lengths: $p = 100$, $p' = (59-)$ 64(-75), $p'' = (59-)$ 64(-83), $r = (54-)$ 55(-71). Tergal seta 0.8(-)0.9 of the length of tergal branch t . The latter (2.0-) $2.1(-)$ 2.3 times as long as its greatest diameter and 1.1(-)1.2 times as long as sternal branch s which is (1.5-) $1.6(-)$ 1.7 times as long as wide with anterodistal corner distinctly truncate. Seta q similar to r of 4th segment, about as long as (-)1.2 times as long as s . Relative lengths of flagella (base segments included) and base segments: $F_1 = 100$, $bs_1 = (6-)$ 7; $F_2 = 29(-)$ 33, $bs_2 = 3$; $F_3 = (78-)$ 87, $bs_3 = (5-)$ 6. The F_1 (4.1-) $4.2(-)$ 4.7 times as long as t , F_2 and F_3 1.4(-)1.6 and (3.8-) $4.2(-)$ 4.3 times as long as s respectively; distal calyces subhemispherical; distal part of flagellum axes not widened. Globulus g as long as (-)1.2 times as long as wide; 6(-)8 bracts, capsule bottom rounded; width of g 0.6(-)0.7 of the greatest diameter of t . Antennae glabrous.

Trunk. - Setae of collum segment simple, cylindrical, blunt, annulate; sublateral one (1.2-) $1.3(-)$ 1.4 times as long as submedian one; sternite process almost triangular, cleft anteriorly by a narrow incision; appendages wide, distally bipartite; process and basal segment of appendages with dense erect pubescence.

Setae of tergites as on the central part of head, decreasing in length posteriorly. There are 4+4 setae on tergite I, 6+6 on II-V, 4+2 on VI. Submedian posterior setae on VI at most 0.1 of their distance apart and about 0.5 of the length of pygidial a_1 .

Relative lengths of trichobothria: $T_1 = 100$, $T_2 = (100-)$ 109, $T_3 = (94-)$ 109, $T_4 = ?(94-)$ 96, $T_5 = (95-)$ 126(-133). They have simple, straight, very thin axes; pubescence hairs short, simple, oblique on T_5 and proximal 1/3 of T_1 - T_4 ; on the latter four increasing in length outwards, distal 2/3 having branched hairs arranged in whorls.

Penis subcylindrical with rounded tip, (1.6-) 1.7 times as long as their greatest diameter; distal seta 0.3 of the length of organ.

Legs. - Setae on coxa and trochanter of all the legs subsimilar, simple, cylindrical, densely striate; coxal setae of leg 2 in male not deviating. Tarsus of leg 9 tapering 3.1(-)3.2 times as long as its greatest diameter. Proximal seta curved, tapering, pointed, with short oblique pubescence; its length at most 0.2 of the length of tarsus and 0.7 of (- as long as) the length of distal seta. Cuticle of tarsus with very faint pubescence.

Pygidium. Tergum. - Posterior margin with a shallow indentation between a_1 . Relative lengths of setae: $a_1 = 10$, $a_2 = 15(-)$ 18, $a_3 = (74-)$ 80, $st = 10$. The first three straight, a_1 and a_2 spatulate, a_3 thin tapering pointed, st hook-like and consisting of a stalked bladder; a_2 diverging, a_3 somewhat curved inwards, st converging; pubescence oblique and distinct on a_1 and a_2 , oblique and short on a_3 , erect and short on st . Distance a_1 - $a_1 = 3-3.5$ times as long as a_1 ; distance a_1 - a_2 (1.5-) $2.2(-)$ 2.5 times as long as

distance a_2-a_3 ; distance $st-st$ 3.5-4 times as long as st and about as long as (-1.3 times as long as) distance a_1-a_1 . Cuticle with faint pubescence.

Sternum. - Posterior margin between b_1 with a deep indentation on each side of the anal plate. Relative lengths of setae ($a_1 = 10$): $b_1 = (45-)$ 49(-52), $b_2 = 23(-)$ 27), $b_3 = (9-)$ 11(-13). The b_1 and b_3 cylindrical and blunt, b_2 tapering; b_1 in distal part striate, b_2 and b_3 a little curved inwards and with short oblique pubescence. The b_1 about as long as their distance apart; b_2 0.6(-0.8) of distance b_1-b_2 ; b_3 0.2 of distance b_3-b_3 . Anal plate narrowest anteriorly and broadest in posterior part from where 5 appendages protrude backwards: 3 shorter ones of the same length, 2 of which are lateral, horn-like, curved inwards, one is median, linguiform with almost parallel lateral margins; and 2 thinner and longer appendages, one on each side of the linguiform one.

Etymology. - From Latin *ovum* = egg (setae a_1 and a_2 of the pygidial tergum).

Affinities. - *A. ovalis* is a member of the rather homogenous *brevisetus*-group consisting of more than 20 species which differ from other *Allopaupopus*-species by 1. the shape of the anal plate, narrowest anteriorly and with 3 processi and 2 appendages all on posterior margin and directed backwards, and 2. the bladder-shaped hook-like styli on the pygidial tergum. The new species is easily distinguished from the other members of the group by the spatulate shape of the pygidial setae a_1 and a_2 .

2. *Allopaupopus (A.) rodriguessi* n.sp. (Figs. 12-23)

Type locality. - Brazil, Manaus, Rio Taramã Mirim. $03^{\circ}02'6''S$, $60^{\circ}17'W$

Type material. - Holotype: ad. 9 (♀), locality as above, KEMPSON soil extraction, 29.XII.1982, loc. K23TM, leg. ADIS and RODRIGUES. Holotype in the INPA collections.

Paratypes: Ibidem, 1 ad. 9 (♀), 29.XII.1982, loc. K18TM; ibidem, 2 ad. 9 (♀), 6 juv. 6, 1 juv. 3, 30.I.1983, loc. K29TM; ididem, 1 ad. 9 (♂), 27.VI.1983, loc. K29TM; ibidem, 1 ad. (♂), 30.I.1983, loc. K23TM, all leg. ADIS and RODRIGUES. Paratypes in the INPA collections.

Description

Length. - 1.32(-1.41) mm.

Head. - Most tergal setae of medium length, a few lateral ones rather long; submedian ones subcylindrical, lateral ones cylindrical; all annulate; they are also blunt except for a_3 of 2nd row and the lateral group setae. Relative lengths of setae, 1st row: $a_1 = 10$, $a_2 = 8(-)$ 10); 2nd row: $a_1 = (7-)$ 8, $a_2 = (12-)$ 14(-17), $a_3 = (10-)$ 13(-14); 3rd row: $a_1 = 8(-)$ 10), $a_2 = 8(-)$ 11); 4th row: $a_1 = 10(-)$ 14), $a_2 = (14-)$ 17, $a_3 = (20-)$ 24, $a_4 = (13-)$ 17(-20); lateral group: $l_1 = (23-)$ 28, $l_2 = (22-)$ 31, $l_3 = (23-)$ 30. The ratio a_1/a_1-a_1 is in 1st row 0.9(-1.0), in 2nd row 0.3(-0.4), in 3rd row 0.6(-0.8) and in 4th row 1.1(-1.3). Length of temporal organs (1.2-) $1.3(-)$ 1.5) times their shortest distance apart; in posterior half a large pistil, (1.6-) $1.9(-)$ 2.0) times as long as wide, almost 0.2 of the length of temporal organ. Head cuticle very faintly granular.

Antennae. - Segment 4 with 4 setae which are cylindrical, blunt, annulate; their relative lengths: $p = 100$, $p' = (45-)$ 57(-54), $p'' = (31-)$ 39, $r = (40-)$ 45(-48); p''' rudimentary. Tergal seta p (as long as -) 1.1(-1.3) times as long as tergal branch t . The latter (2.0-) 2.3 times as long as its greatest diameter and (1.2-) $1.3(-)$ 1.4) times as long as sternal branch s which is 1.5(-1.6) times as long as its greatest diameter and with its anterodistal corner truncate. Seta q a little thicker than tergal setae of 4th segment, subcylindrical, blunt, annulate, (0.9-) 1.2 times as long as s . Relative lengths of flagella (base segments included) and base segments: $F_1 = 100$, $bs_1 = (6-)$ 7; $F_2 = (28-)$ 33(-34), $bs_2 = 3$; $F_3 = (77-)$ 80(-85), $bs_3 = (5-)$ 6. The F_2 thinner than F_3 . The F_1 (4.2-) $4.5(-)$ 4.7) times as long as t , F_2 and F_3 (1.6-) $1.9(-)$ 2.0) and (4.1-) 4.7 times as long as s respectively; distal calyces helmet-shaped, those of F_2 smallest; distal part

of flagellum axes not at all or very little widened. Globulus *g* (1.1-1.2(-1.3) times as long as wide; 5(-6) bracts; width of *g* (0.4-)0.5 of the greatest diameter of *t*. Antennae glabrous.

Trunk. - Setae of collum segment simple, subcylindrical, blunt, annulate; sublateral one 1.4(-1.6) times as long as submedian one; sternite process broad, cleft anteriorly into two rounded lobes and covered with short erect pubescence; appendages wide with flat top, cuticle granular.

Setae on tergites as submedian setae on head, a little shorter on posterior tergites than on anterior ones. There are 4+4 setae on tergite I, 6+6 on II-V and 4+2 on VI. Submedian posterior setae on VI 0.1 of their distance apart and (0.3-)0.4 of the length of pygidial *a*₁.

Relative lengths of trichobothria: *T*₁ = 100, *T*₂ = (102-)112(-115), *T*₃ (lacking in holotype) = (100-112), *T*₄ = (105-)112, *T*₅ (lacking in holotype) = (151-162). They have simple straight axes, thin in *T*₃, very thin for the rest; on proximal 2/5 of *T*₁-*T*₄ simple oblique pubescence hairs which increase in length outwards, in distal 3/5 the hairs are longer, branched, arranged in whorls and more or less erect.

Penis (paratypes only) short, rounded, 1.3 times as long as their greatest diameter; distal seta 0.5 of the length of organ.

Legs. - Setae on coxa and trochanter of legs 1-9 similar in length, simple, cylindrical-subcylindrical, blunt, annulate. Tarsus of leg 9 tapering, (2.8-)3.2(-3.3) times as long as its greatest diameter. Proximal seta cylindrical, blunt, striate; its length 0.2 of the length of tarsus and 0.8(-0.9) of the length of distal seta; the latter subclavate, striate. Cuticle of tarsus almost glabrous.

Pygidium. Tergum. - Posterior margin between *a*₂ straight. Relative lengths of setae: *a*₁ = 100, *a*₂ = (107-)114(-121), *a*₃ = (343-)364(-398), *st* = (37-)38(-50). The first three cylindrical, tapering, with very short oblique pubescence; *a*₁ straight, diverging, pointed; *a*₂ and *a*₃ curved inwards; *st* broad, leaf-shaped, distal half turned forwards, stalk glabrous, for the rest with very short erect pubescence. Distance *a*₁-*a*₁ (1.5-)1.7(-1.8) times as long as *a*₁; distance *a*₁-*a*₂ (3.1-)3.3(-4.0) times as long as distance *a*₂-*a*₃; distance *st*-*st* at least 3 times longer than *st* and a little shorter than distance *a*₁-*a*₁. Cuticle almost glabrous.

Sternum. - Posterior margin between *b*₁ with a deep rounded indentation having a small median triangular process below the anal plate. Relative lengths of setae (*a*₁ = 100): *b*₁ = (137-)214(-250), *b*₂ = 93(-133), *b*₃ = (20-)29(-30). These setae are cylindrical, *b*₁ and *b*₃ striate, blunt, *b*₂ tapering and with short oblique pubescence, diverging. The *b*₁ about as long as their distance apart; *b*₂ reaching 0.7(-0.8) of distance *b*₁-*b*₂; *b*₃ 0.1 of distance *b*₃-*b*₃. Anal plate narrowest anteriorly with almost straight lateral margins; posterior margin with a deep broadly U-shaped indentation from the bottom of which three appendages protrude backwards: 1. two slender, straight submedian ones which are almost as long as plate, in distal half a little clavate and there covered with a short almost erect pubescence; 2. between them a shorter linguiform one with a very short triangular process above its sternal base.

Etymology. - Dedicated to one of the collectors, M.Sc. José Maria GOMES RODRIGUES, Manaus.

Affinities. - Like the preceding species *A. rodriguesi* belongs to the *brevisetus*-group. It seems to be most close to the following species and some of its relatives (see below under *A. uncinatus*) but all the trichobothria except *T*₅ have long branched pubescence hairs arranged in whorls and the pygidial setae *a*₁ and *a*₂ are subsimilar in length. It is close also to *brasiliensis* (REMY 1956e) from Paraná, Rondon, but the proximal halves of the *T*₃ are not fusiform and the pygidial setae *a*₁ are shorter than the *a*₂ (not longer than).

3. *Allopauropus* (*A.*) *uncinatus* n.sp. (Figs. 24-33)

Type locality. - Brazil, Manaus, Rio Taramã Mirim.

Type material. - ^{INPA 196} Holotype: ad. ♀, locality as above, KEMPSON soil extraction, 25.IV.1983, loc. K10TM, leg. ADIS and RODRIGUES. Holotype in the INPA collections.

INPA 191b

Paratypes: Same data as holotype, 2 ad. 9 (♀); ibidem, 1 ad. 9 (♂), 25.IV.1983, loc. K14TM: J
subad. 8 (♀), 25.IV.1983, loc. K31TM: all leg. ADIS and RODRIGUES. Paratypes in the INPA
collections. K10 INPA 1412 INPA 1413

Description

Length. - (1.28-)1.36 mm.

Head. - Setae thin, submedian ones of 2nd-4th rows very short; anterior and submedian setae cylindrical and blunt, anterior and lateral ones tapering and pointed. Relative lengths of setae, 1st row: $a_1 = 10$, $a_2 = 10(-11)$; 2nd row: $a_1 = 2(-3)$, $a_2 = (6-)7(-9)$, $a_3 = (5-)6$; 3rd row: $a_1 = 2-3$, $a_2 = ?(-?7)$; 4th row: $a_1 = 2(-3)$, $a_2 = 8(-15)$, $a_3 = 20(-26)$, $a_4 = 8(-12)$; lateral group setae: $l_1 = 21(-23)$, $l_2 = 19(-21)$, $l_3 = 14$ (≈ 22). The ratio a_i/a_1-a_i is in 1st row (0.7-)-0.8, in 2nd row 0.1(-0.2), in 3rd row 0.2(-0.3) and in 4th row (0.1-)-0.2. Length of temporal organs (0.9-) \approx 1.2 times their shortest distance apart; in posterior 1/3 a large pistil, twice longer than wide, (0.2-)-almost 0.3 of the length of temporal organ. Head cuticle glabrous.

Antennae. - Segment 4 with 4 thin pointed setae; their relative lengths: $p = 100$, $p' = (39-)41(-42)$, $p'' = (28-)29(-36)$, $r = (33-)38(-42)$. Neither p''' nor u . Tergal seta p 0.9(-1.0) of the length of tergal branch t . The latter somewhat fusiform (2.0-)-2.1(-2.2) times as long as its greatest diameter with its anterodistal corner deeply truncate. Seta q a little thicker than tergal setae of 4th segment, cylindrical, blunt, annulate, (0.8-)-0.9 of the length of s . Relative lengths of flagella (base segments included) and base segments: $F_1 = 100$, $bs_1 = 5$; $F_2 = (21-)24$, $bs_2 = 2$; $F_3 = 76(-80)$, $bs_3 = (4-)5$. The F_1 4.4(-4.7) times as long as t , F_2 and F_3 1.2(-1.3) and (3.9-)-4.5(-4.6) times as long as s respectively; distal calyces flattened; distal part of flagellum axes with somewhat obliquely conical shape. Globulus g (1.1-)-1.2 times as long as wide; 8-9 bracts; capsule subspherical with somewhat flattened bottom; diameter of g 0.4(-0.5) of the greatest diameter of t . Antennae glabrous.

Trunk. - Setae of collum segment thin, subcylindrical, blunt, annulate; sublateral one (1.3-)-1.5 times as long as submedian one; sternite process with small anterior U-shaped incision; appendages with wide flattened tip; process and appendage bases with short erect pubescence.

Setae on tergites as anterior setae of head, shorter on posterior tergites than on anterior ones. There are 4+4 setae on tergite I, 6+6 on II-V and 4+2 on VI. Submedian posterior setae on VI very short, <0.1 of their distance apart and <0.1 the length of pygidial a_1 .

Relative lengths of trichobothria: $T_1 = 100$, $T_2 = (94-)109(-116)$, $T_3 = (107-)118$, $T_4 = (94-)116(-118)$, $T_5 = (136-)137-143(-150)$. They have simple straight axes, thin in T_3 , very thin for the rest. Pubescence hairs simple, more or less oblique, very short in T_5 , a little longer in T_1 , T_2 and T_4 , longest in T_3 .

Penis (paratype only) with strongly rounded outer sides, inner ones in distal 2/3 concave; they are 1.6 times as long as their greatest diameter; distal seta 0.5 of the length of organ.

Legs. - Setae on coxa and trochanter of legs 1-9 subsimilar, simple, cylindrical, annulate. Coxal setae of leg 2 in males not deviating. Tarsus of leg 9 with convex tergal side, (2.7-)-2.8(-3.0) times as long as its greatest diameter. Proximal seta short, somewhat curved, tapering, with short oblique pubescence, it is 0.1 of the length of tarsus and 0.6(-0.7) of the length of distal seta; the latter cylindrical, annulate, blunt. Cuticle shortly pubescent.

Pygidium. Tergum. - Posterior margin between a_1 straight. Relative lengths of setae: $a_1 = 100$, $a_2 = 23(-28)$, $a_3 = (136-)157(-168)$, $st = (14-)17(-20)$. The first three tapering, pointed, with very short pubescence, almost straight and a little diverging. The st hook-like, bladder-shaped with short stalk, converging, curved inwards. Distance a_1-a_1 (0.6-)-0.8(-0.9) of the length of a_1 ; distance a_1-a_2 1.6(-2.0) times as long as distance a_2-a_3 ; distance $st-st$ (3.6-)-3.8 times as long as st and 0.8(-0.9) of the distance a_1-a_1 . Cuticle almost glabrous.

Sternum. - Posterior margin between b_1 with a rounded indentation having a median triangular process. Relative lengths of setae ($a_1 = 100$); $b_1 = 100(-104)$, $b_2 = (53-55)(-60)$, $b_3 = 17-23$. These setae are tapering, pointed, shortly pubescent; b_2 curved inwards. The b_1 (as long as -) 1.2 times as long as their distance apart; b_2 (a little shorter than -) 1.2 times as long as distance b_1-b_2 ; b_3 0.2 of distance b_3-b_2 . Anal plate narrowest anteriorly with straight lateral margins; posterior margin with 5 posteriorly directed appendages: a short median linguiform one, 0.3 of the length of plate; two longer cylindrical submedian ones, 0.8(-0.9) of the length of plate; two very short posterolateral ones; the latter and the median one are glabrous, the submedian ones shortly pubescent.

Etymology. - From Latin *uncus* = hook (hook-shaped styli).

Affinities. - There are several species in the genus with similar anal plates with 5 posterior appendages and bladder-shaped hook-like styli, the *brevisetus*-group. Like the new species some of them also have the pygidial setae a_2 distinctly shorter than the a_1 and a_3 . Since the main part of these species are incompletely described, particularly as to the characters of the head, the affinities are difficult to bring out clearly but the new species may be most close to *sakalavus*, *ambiguus*, *insidiosus*, *magnus* and *mahafalus* from Madagascar (REMY 1956c), *pseudomahafalus* from Madagascar too (REMY & ROLLET 1960), *macrocanus* from Morocco (REMY & MOYNE 1960) and Sri Lanka (SCHELLER 1970) and *snideri* from the USA (SCHELLER 1988). However, in *sakalavus* the antennal globuli g are proportionately much larger, the T_3 have branched pubescence hairs (not simple), the pygidial a_2 are cylindrical (not tapering), the proportion a_1/a_2 is ≈ 1.8 (not 3.6-4.2) and the distance a_1-a_2 is twice longer than a_1 (not 0.8 of that length); in *ambiguus* e.g. the sternal antennal branch is proportionately longer, the pygidial a_2 cylindrical (not pointed) and the proportion a_1/a_2 2.6 (not 3.6-4.2); in *insidiosus* the antennal globuli g are proportionally much larger, the distal calyces of the antennal flagella conical (not flattened), the proximal seta on the tarsus of the last pair of legs reaches 0.3 of the length of the tarsus (not 0.1) and is almost twice longer than the distal seta (not 0.6-0.7 of that length), the proportion a_1/a_2 is 3.5 (not 3.6-4.2) and the a_2 are cylindrical, blunt (not tapering, pointed); in *magnus* is e.g. the proximal seta on the tarsus of the last pair of legs 0.25 of the length of the tarsus (not 0.1), the pygidial setae b_1 have a distal swelling (not very thin in distal part) and the b_2 are shorter than the distance b_1-b_2 (not 1.0-1.2 times as long as that distance); in *mahafalus* the pygidial setae a_2 are not only cylindrical but have also, like the b_1 , distal swellings, moreover the chaetotaxy of the head setae is not the same and the proportion of the pygidial setae a_1/a_3 is dissimilar; in *pseudomahafalus* and *maroccanus* there are good separating characters in the chaetotaxy of the tergal side of the head and the tarsus of the last pair of legs and in the shape of the T_3 and the pygidial setae a_2 (T_3 with segmented axes and simple pubescence hairs in *pseudomahafalus* and *maroccanus*, with smooth axes and branched pubescence hairs in *rodriguesi*, a_2 cylindrical in *pseudomahafalus* and *maroccanus* but tapering in *rodriguesi*); and in *snideri* the antennal globulus has a distinct oblique stalk (not very short straight), the appendages of the collum segment are globular and glabrous (not cylindrical and pubescent), the p setae of the 4th antennal segment are cylindrical (not tapering pointed) and the T_3 have distinctly thickened axis (not thin).

4. *Allopauropus* (A.) *bicorniculus* n.sp. (Figs. 34-45)

Type locality. - Brazil, Manaus, Rio Tarumã Mirim.

Type material. - Holotype: ad. ♀, locality as above, KEMPSON soil extraction, 30.I.1983, loc. K15TM, leg. ADIS and RODRIGUES. Holotype in the INPA collections.

Paratypes: Ibidem, 1 ad. ♂, 1 juv. ♀, 1 juv. ♂, 3 juv. ♀, 29.XII.1982, loc. K23TM; ibidem, 1 ad. ♂, 30.I.1983, loc. K15TM; ibidem, 2 ad. ♀, 30.I.1983, loc. K29TM; 1 ad. ♀, 25.IV.1983, loc. K31TM, all leg. ADIS and RODRIGUES. Paratypes in the INPA collections.

Description

Length. - (1.13-)1.26(-1.30) mm.

Head. - Tergal setae rather long, subcylindrical-cylindrical, blunt, striate. Relative lengths of setae, 1st row: $a_1 = 10$, $a_2 = 10(-12)$; 2nd row: $a_1 = (13-)15(-16)$, $a_2 = (16-)19(-21)$, $a_3 = (14-)16(-18)$; 3rd row: $a_1 = 8(-11)$, $a_2 = (9-)10$; 4th row: $a_1 = (14-)15(-17)$, $a_2 = (23-)27(-29)$, $a_3 = (19-)23(-28)$, $a_4 = 15(-21)$; lateral group setae: $l_1 = 18(-20)$, $l_2 = (17-)19$, $l_3 = (17-)18(-19)$. The ratio a_i/a_1-a_i is in 1st row (0.8-)1.1(-1.3), in 2nd row (0.8-)0.9, in 3rd row (0.9-)1.0(-1.2) and in 4th row (1.8-)1.9(-2.2). Length of temporal organs (1.4-)2.1 times their shortest distance apart; no pistil. Head cuticle glabrous.

Antennae. - Segment 4 with 6 setae which are cylindrical, blunt, annulate; their relative lengths: $p = 100$, $p' = (40-)45(-49)$, $p'' = (30-)33(-37)$, $p''' =$ (rudimentary -) 3, $r = (23-)30(-31)$, $u = (11-)12(-15)$. Tergal seta p (1.2-)1.3(-1.6) times as long as tergal branch t . The latter (3.1-)3.5 times as long as its greatest diameter and (as long as -)1.1(-1.2) times as long as sternal branch s which is (2.1-)2.4(-2.5) times as long as wide with its anterodistal corner distinctly truncate. Seta q similar to p of 4th segment, (as long as -)1.1(-1.2) times as long as s . Relative lengths of flagella (base segments included) and base segments: $F_1 = 100$, $bs_1 = (8-)10(-11)$; $F_2 = (39-)43(-45)$, $bs_2 = (6-)8$; $F_3 = (76-)90(-99)$, $bs_3 = (8-)10$. The F_1 (3.4-)3.6(-4.3) times as long as t , F_2 and F_3 (1.6-)1.7(-2.0) and (3.4-)3.5(-4.3) times as long as s respectively; distal calyces with sparse short erect pubescence, those of F_1 and F_3 helmet-shaped, of F_2 more pointed; distal part of flagellum axes not at all or very little widened. Globulus g (1.1-)1.2(-1.3) times as long as wide; (9-)10 bracts; capsule bottom flattened; width of g (0.5-)0.6 of the greatest diameter of t . Antennae glabrous.

Trunk. - Setae of collum segment simple, with rudimentary glabrous secondary branches, cylindrical, annulate; sublateral one as long as (-1.2 times as long as) submedian one; sternite process broad, cleft anteriorly into two rounded lobes, like basal part of appendages with dense short erect pubescence.

Setae on tergites cylindrical, annulate; they are of medium length and blunt on anterior tergites, posteriorly increasing in length, tapering and pointed, on tergite VI 3-5 times longer than on I. There are 4+4 setae on I, 6+6 on II-IV (6+7 in holotype, one posterior seta doubled), 6+4 on V and 4+2 on VI. On tergum VI the submedian posterior setae are (1.5-)1.6 times as long as their distance apart and 5.8(-6.7) times as long as pygidial a_1 .

Relative lengths of trichobothria: $T_1 = 100$, $T_2 = (91-)111(-116)$, $T_3 = (99-)121(-122)$, $T_4 = (122-)149(-159)$, $T_5 = (172-)188(-206)$. They have simple straight axes, all very thin except in T_3 ; the axes of the latter thickest in proximal 2/3; T_4 and T_5 with short simple oblique pubescence hairs, on proximal part of T_1 and T_3 similar but stronger, on proximal half of T_2 similar but erect; distal half of T_1 and distal 1/3 of T_2 and T_3 with branched hairs, longest in T_1 .

Penis (paratype only) rounded, 1.7 times as long as their greatest diameter; distal seta 0.3 of the largest length of organ.

Legs. - Setae on coxa and trochanter of leg 9 simple, cylindrical, blunt, densely annulate; seta on trochanter a little longer than coxal seta. More anteriorly these setae are simple too but thinner and with rudimentary glabrous secondary branches. Coxal setae of leg 2 in males not deviating. Tarsus of leg 9 strongly tapering, slender, (3.4-)3.5(-4.1) times as long as its greatest diameter. Proximal seta tapering, pointed, with oblique pubescence; its length 0.5 of the length of tarsus and (2.6-)3.3 times as long as distal seta; the latter slightly clavate with short oblique pubescence. Cuticle of tarsus with short dense pubescence.

Pygidium. Tergum. - Posterior margin rounded but with a median bulge having a shallow incision. Relative lengths of setae: $a_1 = 10$, $a_2 = (61-)63(-68)$, $a_3 = (83-)84(-99)$, $st = 4(-5)$. The first three tapering, pointed, with short oblique pubescence, a_1 curved outwards and diverging, a_2 and a_3 straight; st bladder-shaped with short erect pubescence. Distance a_1-a_1 1.5(-1.8) times as long as a_1 ; distance a_1-a_2 (1.9-)2.7(-3.0) times as long as distance a_2-a_3 ; distance $st-st$ (3.1-)3.3(-3.5) times as long as st and 0.8(-0.9) of distance a_1-a_1 . Cuticle glabrous.

Sternum. - Posterior margin between b_1 with a broad rounded indentation. Relative lengths of setae ($a_1 = 100$): $b_1 = (208-233(-253))$, $b_2 = 173(-225)$, $b_3 = (40-47(-50))$. These setae are cylindrical, curved, with oblique pubescence; b_1 and b_3 blunt, b_2 tapering, pointed, also curved inwards. The b_1 (0.8-1.1) of their distance apart; b_2 (1.1-1.2) times as long as distance b_1-b_2 ; b_3 0.3 of their distance apart. Anal plate narrowest anteriorly and with blunt, posterolaterally directed, lateral, horn-like processes; posteriorly a median rounded bulge with two cylindrical, blunt, shortly pubescent, diverging appendages protruding from sternal side; length of appendages 0.4(-0.5) of the length of plate.

Etymology. - From Latin *bi* = two and *corniculum* = small horn (lateral appendages of the anal plate).

Affinities. - *A. (A.) bicorniculus* belongs to a small group of species within its subgenus with very long lateral setae of the pygidial tergum combined with large often bladder-shaped styli and an anal plate very narrow anteriorly and with distinct posterolateral corners and two proportionately short posterior appendages. Most akin are three species described from the Ivory Coast by REMY (1948a) viz. *vouauxi*, *liticen* and *bucinator*. However, in the first two the T_1 , T_2 and T_4 are branched (not with simple axes), the pygidial setae a_1 and a_2 are subequal in length (not the former 0.1 of the length of the latter) and the posteromedian bulge of the anal plate is very unimportant in the former and is lacking in the latter. The third species is more distant with much larger styli, thin and long a_1 and lanceolate posterior appendages on the anal plate. To a lesser degree there are connections with *jeanneli* REMY (1935) from Mount Elgon in Kenya and *congolanus* REMY (1954a) from Zaire.

5. *Allopauropus (A.) dundoensis* REMY, 1955

Material. - Manaus, Rio Taramã Mirim, 8 ad. 9 (♀), loc. K19TM, 2 ad. 9 (♀), loc. K25TM and 2 subad. 8 (♀), loc. K31TM, 25.IV.1983, leg. ADIS and RODRIGUES.

General distribution. - This is the first record of the species from South America. It was previously known from Africa only viz. 24 specimens from Angola (REMY 1955) and 33 specimens from Zaire (REMY 1956b; SCHELLER 1975).

Taxonomical remarks. - *A. dundoensis* is a rather small species with short legs. The Amazonian specimens does not deviate from the African material in any significant characters. The median incision of the posterior margin of the pygidial tergum is not so deep, the styli are a little larger in proportion to the anal plate and the tarsus of the last pair of legs is about 2.5 times as long as its greatest diameter (not 3.0).

Subgenus *Decapauropus* REMY, 1957a

6. *Allopauropus (D.) adisi* n.sp. (Figs. 46-55)

Type locality. - Brazil, Manaus, Rio Taramã Mirim. $03^{\circ}02'S, 60^{\circ}47'W$

Type material. - ^{INPA 071} Holotype: ad. 9 (♂), locality as above, KEMPSON soil extraction, 30.I.1983, loc. K27TM, leg. ADIS and RODRIGUES. Holotype in the INPA collections.

^{INPA 072} Paratypes: ^{INPA 071} ibidem, 5 ad. 9 (4 ♂, 1 ♀), 1 juv. 5, 29.XII.1982, loc. K23TM, leg. ADIS and RODRIGUES. Paratypes in the INPA collections.

Description

Length. - (0.78-)0.84 mm.

Head. - Tergal setae of medium length, blunt, annulate, median ones subclavate, for the rest

subcylindrical. Relative lengths of setae, 1st row: $a_1 = 10$, $a_2 = (10-)$ 11; 2nd row: $a_1 = 10$, $a_2 = 16(-)$ 18, $a_3 = 14(-)$ 15; 3rd row: $a_1 = (9-)$ 11, $a_2 = ?(10)$; 4th row: $a_1 = ?(4)$, $a_2 = 15(-)$ 17, $a_3 = ?(19)$, $a_4 = (10-)$ 12; lateral group setae (holotype only): $l_1 = 21$, $l_2 = 19$, $l_3 = 25$. The ratio a_i/a_1-a_i is (holotype only) in 1st row 1.2, 2nd row 0.9, 3rd row 1.5 and 4th row 0.4. Length of temporal organs (2.3-) $2.4(-)$ 2.5 times their shortest distance apart; no pistil. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae, all cylindrical, blunt, annulate. Neither p''' nor u . Relative lengths of setae: $p = 100$, $p' = (52-)$ 61, $p'' = (32-)$ 38(-)40, $r = (35-)$ 43. Tergal branch t somewhat fusiform, 2.7(-) 3.3 times as long as wide and 1.1(-)1.2 times as long as sternal branch s which is (1.9-) $2.0(-)$ 2.1 times as long as wide and with its anterodistal corner distinctly truncate. Seta q similar to setae of 4th segment, (0.7-) 0.8 of the length of s . Relative lengths of flagella (base segments included) and base segments: $F_1 = 100$, $bs_1 = 6$; $F_2 = (40-)$ 46, $bs_2 = (4-)$ 5; $F_3 = (83-)$ 92, $bs_3 = 5(-)$ 6. The F_1 (3.9-) $4.0(-)$ 4.1 times as long as t , F_2 and F_3 (1.8-) $1.9(-)$ 2.0 and (3.8-) 3.9 times as long as s respectively; distal calyces of F_2 and F_3 very small, distal part of flagellum axes fusiform. Globulus g (1.1-) 1.2 times as long as wide with short thin stalk; (12-) $14-15$ bracts; capsule a little flattened; width of g 0.8(-)1.0 of the greatest diameter of t . Antennae glabrous.

Trunk. - Setae of collum segment with rudimentary secondary branches, fusiform (- slightly clavate), annulate; lateral ones (1.5-) 1.7 times as long as submedian ones; sternite process digitiform, blunt; posterior part of process and basal part of appendages with short erect pubescence.

Setae on tergites as on head, cylindrical-subcylindrical. There are 4+4 setae on tergite I, 6+6 on II-IV, 6+4 on V and 4+2 on VI. Submedian posterior setae on VI (0.4-) 0.5 of their distance apart and a little shorter than pygidial a_1 .

Relative lengths of trichobothria: $T_1 = 100$, $T_2 = (111-)$ 113(-)123, $T_3 = (101-)$ 110(-)121, $T_4 = (115-)$ 116(-)127, $T_5 = (187-)$ 233. They have thin axes with short simple pubescence hairs which are oblique, erect only most distally. Axes of T_3 thickest.

Penis subconical, (2.0-) 2.1 times as long as greatest diameter; distal seta 0.4(-)0.5 of the length of penis.

Legs. - Setae on coxa and trochanter of leg 9 furcate, blunt, densely annulate, branches subequal in length, subcylindrical-subclavate. More anteriorly these setae are simple with rudimentary secondary branches; coxal setae clavate, those of trochanter subcylindrical; coxal setae of leg 2 in males not deviating. Tarsus of leg 9 tapering, slender, (4.8-) $5.2(-)$ 5.8 times as long as its greatest diameter. Proximal seta tapering, with oblique pubescence, its length 0.4(-)0.5 of the length of tarsus and 2.7(-) 3.5 times as long as distal seta; the latter subcylindrical, striate. Cuticle of tarsus glabrous.

Pygidium. Tergum. - Posterior margin with a broad shallow indentation between st . Relative lengths of setae: $a_1 = 100$, $a_2 = 108(-)$ 130, $a_3 = (114-)$ 138(-)154, $st = 92(-)$ 136. All these setae cylindrical, with short pubescence; a_1 , a_2 and a_3 tapering and with oblique pubescence hairs; a_1 somewhat curved outwards, a little diverging, a_2 and a_3 somewhat curved inwards, converging; st almost straight, blunt, converging, with erect pubescence hairs. Distance a_1-a_1 about as long as a_1 ; distance a_1-a_2 as long as distance a_2-a_3 ; distance $st-st$ (1.4-) 1.5 times as long as st and 1.6(-)1.7 times as long as distance a_1-a_1 . Cuticle glabrous.

Sternum. - Posterior margin between b_1 with a broad indentation with almost straight bottom. Relative lengths of setae ($a_1 = 100$): $b_1 = (357-)$ 438(-)454, $b_2 = (96-)$ 104(-)112. The b_1 cylindrical, blunt, striate, strongly curved; b_2 as a_2 and a_3 of pygidial sternum. The b_1 (1.3-) 1.6 times as long as their distance apart; b_2 (0.7-) 0.8 of distance b_1-b_2 . Anal plate trapezoid, broadest anteriorly, with concave lateral margins and two posterior rounded lobes separated by a broadly V-shaped incision; there are two long posterior appendages which are cylindrical, blunt, straight, diverging and covered with a short oblique pubescence.

Etymology. - Dedicated to PD Dr. Joachim ADIS, Plön, who is one of the collectors and the initiator of this study.

Affinities. - The new species belongs to the *furcula* group three species of which have been described from the Americas: *bulbifer* REMY (1950b) from Colombia, *bohnsacki* REMY (1957a) from the USA and *caribicus* SCHELLER (1989) from the Virgin Islands. Like other members of the group they have very long posterior appendages on the anal plate separated by a median V-shaped indentation but there are good distinguishing characters to them all. *A. furcula* has a proportionately longer antennal globulus *g*, the T_3 with proximal halves thick fusiform and the styli are clavate; *bulbifer* has a triangular process on the posterior part of the pygidial tergum, the styli curved outwards (not inwards) and unusually long curved posterior appendages which also are thickened in the proximal half (straight and cylindrical in *adisi*). Distinguishing characters in relation to *bohnsacki* are the shape of the anal plate (posterior part of anal plate prolonged into the appendages without forming lobes in *bohnsacki*, with distinct rounded lobes from which the appendages are protruding posteriorly in *adisi*), the size of the temporal organs (1.1 times as long as their shortest distance apart in *bohnsacki*, 2.3-2.5 in *adisi*) and the shape of the antennal globulus *g* (stalk short and wide in *bohnsacki*, distinct and thin in *adisi*). The Caribbean species *caribicus* is more distant with good distinguishing characters e.g. in the shape of the tergal antennal branch *t*, the antennal globulus *g*, the processus and appendages of the collum segment and the posterior margin of the pygidial tergum.

7. *Allopaupopus (D.) bicornutus* n.sp. (Figs. 56-67)

Type locality. - Brazil, Manaus, Rio Tarumã Mirim.

Type material. - Holotype: ad. ♀, locality as above, KEMPSON soil extraction, 30.I.1983, loc. K15TM, leg. ADIS and RODRIGUES. Holotype in the INPA collections.

Paratypes: Same data as holotype, 1 ad. ♂ (♂); ibidem, 2 ad. ♀, loc. K29TM and 1 ad. ♀ (♀), loc. K29TM and 1 ad. ♀ (♀), loc. K31TM, 29.XII.1982; 1 ad. ♀ (♀), 25.VI.1983, loc. K32TM, leg. ADIS and RODRIGUES. Paratypes in the INPA collections.

Description

Length. - (0.67-)0.79(-0.83) mm.

Head. - Tergal setae of medium length, subcylindrical-cylindrical, blunt, densely striate. Relative lengths of setae, 1st row: $a_1 = 10$, $a_2 = 10(-11)$; 2nd row: $a_1 = (9-)11(-12)$, $a_2 = (17-)18$, $a_3 = (15-)23$; 3rd row: $a_1 = (9-)10$, $a_2 = ?(11)$; 4th row: $a_1 = (11-)12(-13)$, $a_2 = 16(-22)$, $a_3 = ?(13-17)$, $a_4 = 9(-11)$; lateral group setae: $l_1 = (11-)12$, $l_2 = (12-)14$, $l_3 = (17-)25(-26)$. The ratio l/a_1-a_1 is in 1st row (0.9-)1.0(-1.1), 2nd row (0.9-)1.3, 3rd row (0.7-)0.9 and in 4th row (0.9-)1.1. Length of temporal organs as long as (- 1.2 times as long as) their shortest distance apart; no pistil. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae which are cylindrical, blunt, striate-annulate; their relative lengths: $p = 100$, $p' = (62-)68(-86)$, $p'' = (43-)50$, $r = (29-)32(-40)$. The p''' a rudimentary knob only; no *u*. Tergal seta *p* as long as (-1.2 times as long as) tergal branch *t*. The *t* (3.0-)3.4 times as long as its greatest diameter and (as long as -) 1.3 times as long as sternal branch *s* which is 2.0 (-2.3) times as long as wide with its anterodistal corner distinctly truncate. Seta *q* similar to *p* of 4th segment, 0.7(-0.8) of the length of *s*. Relative lengths of flagella (base segments included) and base segments: $F_1 = 100$, $bs_1 = 6$; $F_2 = (25-)32(-38)$, $bs_2 = (5-)7$; $F_3 = (70-)72(-85)$, $bs_3 = 7(-8)$. The F_1 2.9(-3.5) times as long as *t*, F_2 and F_3 (1.3-)2.9(-3.0) and (2.4-)2.7(-3.5) times as long as *s* respectively; distal calyces conical with rounded apex, glabrous, those of F_2 very small; distal part of flagellum axes only a little widened in F_1 and F_3 , distinctly fusiform in F_2 . Globulus *g* 1.3(-1.4) times as long as wide; 12-13 bracts; capsule bottom flattened; width of *g* as wide as (- 1.1 times as wide as) the greatest diameter of *t*. Antennae almost glabrous.

Trunk. - Setae of collum segment cylindrical and densely annulate, simple but with rudimentary

glabrous secondary branches; sublateral one 1.8(-2.6) times as long as submedian one; sternite process narrow, a little incised anteriorly, faintly granular like basal part of appendages; the latter widest at base, distinctly narrowing below distal cap which is glabrous and partially two-parted.

Setae on tergites of medium length, cylindrical, annulate, on tergites I-IV blunt, on VI tapering and pointed. There are 4+4 setae on I, 6+6 on II-V, 4+2 on VI. Submedian posterior setae on VI 0.5(-0.6) of their distance apart and (0.6-)0.8(-0.9) of the length of pygidial a_1 .

Relative lengths of trichobothria: $T_1 = 100$, $T_2 = (100-)114(-120)$, $T_3 = (104-)129(-137)$, $T_4 = (114-)141(-143)$, $T_5 = (177-)235$ and 237. They have simple straight axes, very thin in T_1 , T_2 and T_4 and distal 1/3 of T_3 , they are thin in T_5 but thickened in proximal 2/3 of T_3 ; pubescence short straight and oblique on proximal halves of T_1 , T_2 and T_4 as well as on whole T_5 and the thickened part of T_3 ; on distal half of T_1 , T_2 and T_4 and on distal 1/3 of T_3 it consists of longer branched hairs.

Penis (paratypes only) 1.8-2.1 times as long as their greatest diameter, distinctly narrowing in distal 1/4; apical seta 0.3(-0.6) of the length of organ.

Legs. - Setae on coxa and trochanter of leg 9 subsimilar, furcate, subcylindrical, blunt, densely annulate, those of trochanter a little longer than those of coxae. More anteriorly these setae are simple with rudiments only of secondary branches, coxal setae there a little thicker than those on trochanter. Coxal setae in leg 2 in males not deviating. Tarsus of leg 9 tapering, slender, (1.4-)4.8 times as long as its greatest diameter. Proximal seta tapering, pointed, with short oblique pubescence; its length (0.4-)0.5(-0.6) of the length of tarsus and (2.8-)4.0(-4.3) times as long as distal seta; the latter subcylindrical, blunt, densely striate. Cuticle of tarsus very faintly granular.

Pygidium. Tergum. - Posterior margin between st with a shallow indentation having a small median incision. Relative lengths of setae: $a_1 = 100$, $a_2 = (85-)100(-104)$, $a_3 = (130-)169$, $st = (73-)107$. The first three tapering, pointed, with short oblique pubescence, st cylindrical, blunt, densely striate, a_1 and st straight, a_2 and a_3 somewhat curved inwards, a_1 a little diverging, a_2 , a_3 and st converging. Distance a_1-a_1 (0.7-)0.8(-0.9) of the length of a_1 ; distance a_1-a_2 (2.3-)3.0 times as long as distance a_2-a_3 ; distance $st-st$ (1.5-)1.6(-1.8) times as long as st and 1.7(-1.9) times as long as distance a_1-a_1 . Cuticle glabrous.

Sternum. - Posterior margin between b_1 with a broad rounded indentation. Relative lengths of setae ($a_1 = 100$): $b_1 = (313-)385(-396)$, $b_2 = (77-)115$. The b_1 subcylindrical, blunt, in distal halves densely striate, in proximal halves densely set with short oblique pubescence hairs; b_2 as a_2 and a_3 of pygidial tergum. The b_1 1.4(-1.8) times as long as their distance apart; b_2 about as long as distance b_1-b_2 . Anal plate longish, broadest at base and with two somewhat diverging, cylindrical, blunt, shortly pubescent branches the length of which are (0.6-)0.8(-0.9) of the length of plate.

Etymology. - From Latin *bi* = two and *cornu* = horn (appendages of the anal plate).

Affinities. - *A. bicornutus* is a rather small but long-legged species the relationships of which is difficult to trace. It may be a relative of *A. presbyteri* REMY (1947) from Algeria but it has e.g. proportionately longer tergal antennal setae p (twice longer than the tergal branch, not $p = t$), the t only 1.7 (not 3.0-3.4) times as long as its greatest diameter, the tergal antennal branch is shorter than the sternal one (not longer than), the T_3 are clavate (not fusiform with distal half with very thin axes) and the styli are curved inwards and clavate (not straight and cylindrical).

8. *Allopauropus* (*D.*) *irmgardae* n.sp. (Figs. 68-77)

Type locality. - Brazil, Manaus, Rio Tatumã Mirim.

Type material. - ^{INPA 087} Holotype: ad. 9 (♀), locality as above, KEMPSON soil extraction, 25.IV.1983, loc. K16TM, leg. ADIS and GOMES RODRIGUES. Holotype in the INPA collections.

^{INPA 088} Paratypes: Ibidem, 2 ad. 9 (♂, ♀), 25.IV.1983, loc. K10TM, leg. ADIS and RODRIGUES. Paratypes in the INPA collections.

Description

Length. - (0.70-)0.86 mm.

Head. - Tergal setae of medium lengths - rather long, most anterior ones very little clavate, for the rest cylindrical, blunt, densely annulate. Relative lengths of setae, 1st row: $a_1 = 10$, $a_2 = 9(-10)$; 2nd row: $a_1 = 9$, $a_2 = (16-)$ 20, $a_3 = 21$; 3rd row: $a_1 = ?(-12)$, $a_2 = 10(-12)$, 4th row: $a_1 = ?(-12)$, $a_2 = 16(-17)$, $a_3 = 21$, $a_4 = ?(-13)$; lateral group setae: $l_1 = 22(-24)$, $l_2 = (17-)$ 21, $l_3 = 19$. The ratio a_i/a_{i-1} is in 1st row 1.1(-1.2), in 2nd row 0.6(0.7), in 3rd and 4th rows 0.9. Length of temporal organs (3.0-)4.7 times their shortest distance apart; small posterior pistil. Tergal margin with a semicircular posterior lobe behind the setae a_1 of 4th row. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae, all blunt and annulate, cylindrical. Neither p''' nor u . Relative lengths: $p = 100$, $p' = 55(-73)$, $p'' = 50$, $r = (58-)$ 61. Neither p''' nor u . Tergal seta p (as long as -) 1.4 times as long as tergal branch t . The t 1.8(-2.5) times as long as its greatest diameter and as long as sternal branch s which is 1.5(-2.2) times as long as wide with its anterodistal corner truncate. Seta q similar to p of 4th segment, (1.1-)1.2(-1.3) times as long as s . Relative lengths of flagella (base segments included) and base segments: $F_1 = 100$, $bs_1 = 6$; $F_2 = (36-)$ 38(-40), $bs_2 = 4$; $F_3 = (87-)$ 92, $bs_3 = 7$. The F_1 (3.8-)4.8(-5.2) times as long as t , F_2 and F_3 (1.4-)1.8 and 4.3 times as long as s respectively; distal calyces very small, glabrous; distal part of flagellum axes strongly widened particularly in F_1 and F_3 , distinctly fusiform in F_2 ; discs of flagella partly irregularly oblique below fusiform part of flagellum axes. Globulus g as long as (- 1.2 times as long as) wide; (12-)13 bracts; capsule bottom somewhat flattened; width of g 0.8 of the greatest diameter of t . Antennae glabrous.

Trunk. - Setae of collum segment simple, blunt, annulate; submedian ones subclavate with an extremely short pointed rudiment of the secondary branch, sublateral ones subcylindrical; the latter 1.9 times as long as submedian setae; sternite process small, narrow anteriorly with a small apical incision; basal part of appendages a little granular, cap with apical incision.

Setae on tergites subcylindrical, blunt, annulate. There are 4+4 setae on tergite I, 6+6 on II-V, 4+2 on VI. Submedian posterior setae on VI 0.3 of their distance apart and (0.6-)0.7 of the length of pygidial a_1 .

Relative lengths of trichobothria (paratypes only): $T_1 = (100)$, $T_2 = (111-)$ 119, $T_3 = (94-)$ 106, $T_4 = (104-)$ 137, $T_5 = (149-)$ 210. All but T_3 have thin simple axes with exceedingly short straight simple pubescence hairs. In T_3 axes grow thicker outwards and have blunt ends; pubescence conspicuous consisting of simple almost straight oblique hairs which are most distinct in distal 2/3.

Penis with rounded tip, 1.4 times as long as their greatest diameter; distal seta 0.6 of the length of organ.

Legs. - Setae on coxa and trochanter of leg 9 subsimilar, furcate, subcylindrical, blunt, densely annulate; branches subequal in length. More anteriorly these setae are simple subclavate with rudiments only of secondary branches. Coxal setae in leg 2 in males not deviating. Tarsus of leg 9 tapering, slender, 4.2(-4.5) times as long as its greatest diameter. Proximal seta tapering, pointed, with very short oblique pubescence; its length 0.3 of the length of tarsus and (1.2-)1.4 times as long as distal seta; the latter subcylindrical, blunt, densely striate. Cuticle of tarsus very shortly pubescent.

Pygidium. Tergum. - Posterior margin between st straight. Relative lengths of setae: $a_1 = 100$, $a_2 = 80(-)$ 105, $a_3 = (=80-)$ 104(-128), $st = (64-)$ 90(-91). They are almost straight with short oblique pubescence, the first three subcylindrical tapering, st cylindrical blunt; a_1 curved a little outwards, a_2 and a_3 a little inwards; a_2 and a_3 somewhat converging, st considerably so. Distance a_1-a_1 about as long as a_1 and distance a_1-a_2 about as long as distance a_2-a_3 ; distance $st-st$ (2.0-)2.1(-2.4) times as long as st and (1.5-)1.9 times as long as distance a_1-a_1 . Cuticle glabrous.

Sternum. - Posterior margin between b_1 with a broad and deep rounded indentation. Relative lengths of setae ($a_1 = 100$): $b_1 = (363-)$ 371(-420), $b_2 = (86-)$ 124. The b_1 is cylindrical densely striate and blunt, b_2 as a_2 and a_3 of pygidial tergum. The b_1 1.3(-1.7) times as long as their distance apart; b_2 0.8(-1.0)

of distance b_1 - b_2 . Anal plate broadest anteriorly, with convex lateral margins, distal margin indented between the two long and a little diverging cylindrical and blunt appendages; plate longer than broad and appendages longer than plate.

Etymology. - Dedicated to Mrs. Irmgard ADIS for her kind help and caring support.

Affinities. - This species has broad connections to the following one. However, the dissimilarities are distinct: not only have the distal parts of the antennal flagellae some oblique discs but the posterior margin of the head has a large rounded bulge (not straight), the distal part of the antennal flagellae is narrowly fusiform (not strongly widened), the secondary branch of the collum setae is exceedingly short (not distinct cylindrical), the T_3 have thickened axes (not thin), the tarsus of the last pair of legs is slender, almost straight (not shorter, curved) and the anal plate is broadest anteriorly and has postero-distal corners (not narrowest anteriorly with the lateral margin straightly continuing into the appendages).

9. *Allopaupopus (D.) neotropicus* n.sp. (Figs. 78-89)

Type locality. - Brazil, Manaus, Rio Tarumã Mirim.

03° 02' S, 60° 17' W

Type material. - ^{T. PA 023} Holotype ad. ♀, locality as above, KEMPSON soil extraction, 28.II.1983, loc. K29TM, leg. ADIS and RODRIGUES. Holotype in the INPA collections.

Paratypes. ^{T. PA 044} Ibidem, 1 ad. ♂, 27.VI.1983, loc. K19TM; 1 ad. ♂, 20.XII.1982, loc. K24TM, leg. ADIS and RODRIGUES. Paratypes in the INPA collections.

IN PA 045

Description

Length. - 0.59(-87) mm.

Head. - Tergal setae rather short, cylindrical, blunt, densely striate. Relative lengths of them, 1st row (holotype only): $a_1 = a_2 = 10$; 2nd row: $a_1 = 9, a_2 = 21, a_3 = 17$; 3rd row: $a_1 = 12, a_2 = 8$; 4th row: $a_1 = 12, a_2 = 9, a_3 = ?, a_4 = ?15$; lateral group setae: $l_1 = 17, l_2 = 18, l_3 = ?$. The ratio a_i/a_1 is in 1st row 0.9, in 2nd row 0.4, in 3rd row 0.7 and 4th row ?. Length of temporal organs a little longer than their shortest distance apart; no pistil. Tergal margin of head straight. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae; p and p' cylindrical, annulate, blunt, p'' and r tapering and almost glabrous. Neither p''' nor u . Relative lengths of setae: $p = 100, p' = 87, p'' \approx 13, r = 42(-770)$. Tergal seta p (0.9)1.2 times as long as tergal branch t . The t 2.2(-2.3) times as long as its greatest diameter and about as long as sternal branch s which is 1.5 times as long as wide with its anterodistal corner distinctly truncate. Seta q similar to p' of 4th segment, 0.8 of the length of s . Relative lengths of flagella (base segments included) and base segments: $F_1 = 100, bs_1 = 8; F_2 = 32, bs_2 = 6; F_3 = 84, bs_3 = 8$. The F_1 6.2 times as long as t , F_2 and F_3 1.2 and 3.1 times as long as s respectively; distal calyces very small, glabrous; distal part of flagellum axes strongly widened particularly in F_1 and F_3 , distinctly fusiform in F_2 . Globulus g 1.1 times as long as wide; 9(-10) bracts; capsule bottom somewhat flattened; width of g (0.7-)-0.8 of the greatest diameter of t . Antennae glabrous.

Trunk. - Setae of collum segment furcate, subcylindrical, blunt, annulate; secondary branches rudimentary, cylindrical, blunt, glabrous; sublateral setae 1.9 times as long as submedian ones; sternite process very small, anteriorly narrow, blunt; basal part of appendages a little granular, cap 3-parted.

Setae on tergites short, cylindrical, blunt, annulate. There are 4+4 setae on tergite I, 6+6 on II-IV, 6+4 on V, 4+2 on VI. Submedian posterior setae on VI not studied in detail.

Relative lengths of trichobothria: $T_1 = 100, T_2 = 109, T_3 = 91, T_4 = 136, T_5 = 158$. All have thin simple axes, thickest in T_3 and T_5 ; pubescence consisting of straight, simple, oblique hairs.

Penis conical, 1.4 times as long as their greatest diameter, glabrous; distal seta 0.6 of the length of organ.

Legs. - Setae on coxa and trochanter of leg 9 subsimilar, furcate, cylindrical, blunt, densely annulate; branches subequal in length. More anteriorly these setae are simple subclavate. Coxal setae in leg 2 in males not deviating. Tarsus of leg 9 tapering, 3 times longer than its greatest diameter. Proximal seta tapering, pointed, with very short oblique pubescence; its length 1/4 of the length of tarsus and as long as distal seta; the latter subcylindrical, blunt, densely striate. Cuticle of tarsus glabrous.

Pygidium. Tergum. - Posterior margin between st evenly rounded. Relative lengths of setae: $a_1 = 100$, $a_2 = 63(-100)$, $a_3 = 95(-140)$, $st = 74$. They are cylindrical, blunt, very indistinctly striate, a_1 and st straight, a_2 and a_3 curved a little inwards, a_1 diverging, the other converging. Distance a_1-a_1 about as long as a_1 and distance a_1-a_2 1.7 times as long as distance a_2-a_3 ; distance st-st 1.9 times as long as st and 1.7 times as long as distance a_1-a_1 . Cuticle glabrous.

Sternum. - Posterior margin between b_1 with a broad and shallow indentation. Relative lengths of setae ($a_1 = 100$): $b_1 = 242$, $b_2 = 79$. The b_1 cylindrical tapering in distal part densely striate, b_2 as setae a_1 of pygidial tergum. The b_1 2.4 times as long as their distance apart; b_2 0.9 of distance b_1-b_2 . Anal plate narrowest anteriorly, with straight lateral margins, distal margin indented between the two long, a little diverging, posterolateral, cylindrical, blunt appendages; plate about as long as broad, appendages much longer than plate.

Etymology. - From Greek *neo* = new and *tropicus* = tropic (inhabiting the Neotropical region).

Affinities. - The species is very close to the preceding one, *irmgardae*, but is easily distinguished from it (see above). Moreover, *A. neotropicus* may be close to my own *A. caribicus* from the Virgin Islands but there are numerous differences e.g. in the shape of the antenna (the distal part of the flagella, the tergal branch), the collum segment (both the process and appendages), the tarsus of the last pair of legs (the shape and the length of the proximal seta) and the pygidium (the shape of the posterior margin of the tergum and of the anal plate).

10. *Allopaupopus (D.) brachypodus* n.sp. (Figs. 90-101)

Type locality. - Brazil, Manaus, Rio Tarumã Mirim.

Type material. - Holotype: ad. 9(♀), locality as above, KEMPSON soil extraction, 30.I.1983, loc. K15TM, leg. ADIS and RODRIGUES. Holotype in the INPA collections.

Paratypes: Ibidem, 1 ad. 9(♀), 29.XII.1982, loc. K13TM; 2 ad. 9(♀), 1 juv. 6, 30.I.1983, loc. K29TM, leg. ADIS and RODRIGUES. Paratypes in the INPA collections.

Description

Length. - (0.51-)0.54(-0.66) mm.

Head. - Tergal setae short, cylindrical, blunt, annulate. Relative lengths of setae, 1st row: $a_1 = 10$, $a_2 = 9(-11)$; 2nd row: $a_1 = 10(-11)$, $a_2 = 14(-19)$, $a_3 = ?$; 3rd row: $a_1 = 10(-11)$, $a_2 = (14-)15(-16)$, $a_3 = 13(-16)$, $a_4 = (14-)19$; lateral group setae: $l_1 = (26-)31(-35)$, $l_2 = 21(-27)$, $l_3 = (16-)18$. The ratio a_1/a_1-a_1 is in 1st row (0.8-)1.0, 2nd row 0.5, 3rd row (0.7-)0.8 and 4th row 0.4(-0.6). Length of temporal organs 1.5(-1.9) times their shortest distance apart; no pistil. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae, all blunt and annulate, p subcylindrical, p' , p'' and r cylindrical. Neither p''' nor u . Relative lengths of setae: $p = 100$, $p' = (38-)40(-55)$, $p'' = 30(-40)$, $r = 40(-48)$. Tergal seta p (1.3-)1.8 times as long as tergal branch t . The latter narrowest at base, (1.3-)1.4(-1.5) times as long as wide and about as long as sternal branch s which is (1.1-)1.2(-1.3) times as long as wide and with its anterodistal corner roundedly truncate. Seta q cylindrical, densely striate, (1.1-)1.3 times as long as s . Relative lengths of flagella (base segments included) and base segments: $F_1 = 100$, $bs_1 = (6-)9$; $F_2 = (25-)30(-32)$, $bs_2 = 3(-5)$; $F_3 = 28(-35)$, $bs_3 = (7-)9$. The F_1 (5.0-)6.4(-6.7) times as

long as t , F_2 and F_3 (1.6-)1.9 and (4.3-)5.1 times as long as s respectively; distal calyces very small, distal part of flagellum axes invertedly conical. Globulus g proportionately large, 1.1(-1.3) times as long as wide with very short thin stalk; (9-)12 bracts; capsule flattened; width of g about as long as largest diameter of t . Antennae glabrous.

Trunk. - Setae of collum segment simple, subcylindrical, blunt, annulate; submedian ones very short; lateral setae (2.9-)4.3(-4.5) times as long as submedian ones; sternite process very small, narrow, with small anterior incision; process and appendages glabrous.

Setae on tergites as on head, cylindrical, annulate. There are 4+4 setae on tergite I, 6+6 on II-V, 4+2 on VI. Submedian posterior setae on VI (0.3-)0.5 of their distance apart and (0.7-)0.8 of the length of pygidial a_1 .

Relative lengths of trichobothria: $T_1 = 100$, $T_2 = 90(-105)$, $T_3 = 88(-110)$, $T_4 = 88(-105)$, $T_5 = (139-)163$. All have thin axes, T_1 - T_4 many-branched, T_5 simple; pubescence hairs on T_1 - T_4 short, simple, almost erect, on proximal part of T_5 similar but oblique and increasing in length outwards and almost erect and branched on distal part. The T_3 with distal ovoid endswelling covered with a short erect pubescence; length of endswelling at least 0.1 of the length of trichobothrium.

Legs. - Setae on coxa and trochanter of legs 1-9 simple, cylindrical, blunt, annulate. Tarsus of leg 9 tapering, (2.3-)2.8(-2.9) times as long as its largest diameter; setae cylindrical, annulate, blunt, proximal one simple, distal one furcate with subequal branches, the former (0.1-)0.2 of the length of tarsus and (0.3-)0.5 of the length of distal seta. Cuticle of tarsus faintly granular.

Pygidium. Tergum. - Posterior margin with low rounded bulge between st . Relative lengths of setae: $a_1 = 100$, $a_2 = 54$ and $61 (-95)$, $a_3 = 90(-117)$, $st = 79(-115)$. All these setae cylindrical, blunt, annulate, curved somewhat inwards; a_1 and a_3 diverging, a_2 and st converging. Distance a_1 - a_1 as long as (-1.3) times as long as a_1 ; distance a_1 - a_2 2.0(-2.4) times as long as distance a_2 - a_3 ; distance st - st 2.0(-2.4) times as long as st and (1.4-)1.8 times as long as distance a_1 - a_1 . Cuticle glabrous.

Sternum. - Posterior margin between b_1 broadly indented but with a low bulge at the base of anal plate. Relative lengths of setae ($a_1 = 100$): $b_1 = 382(-467)$, $b_2 = (130-)135(-182)$. They are cylindrical and blunt; distal part of b_1 striate, on that of b_2 short oblique pubescence. The b_1 (1.2-)1.5(-1.6) times as long as their distance apart; b_2 0.8(-1.0) of distance b_1 - b_2 . Anal plate narrowest anteriorly, linguiform, (1.1-)1.5 times as long as broad, with two appendages which are posterolateral, diverging, cylindrical, annulate, blunt, (0.3-)0.4(-0.5) of the length of plate.

Etymology. - From Greek *brachy* = short and *podus* = -footed.

Affinities. - *A. brachypodus* is a small thin and short-legged species close to *bouini*. The latter was described from Zaire by REMY (1955) and has been reported once more from there (SCHELLER 1975) but is known also from Florida (REMY 1958) and Canada (SCHELLER 1983). Among the differences between the Brazilian species and *bouini* the following can be used as distinguishing characters: the length/width ratio the tergal antennal branch (1.3-1.5 in *brachypodus*, 1.6 in *bouini*), the number of branches in the T_3 (8, not 3 or 4), the length of the proximal seta of the tarsus of the last pair of legs (about 0.3-0.5 of the length of the distal one, not somewhat shorter than that length) and the shape of the styli (distinctly annulate, not insignificantly).

11. *Allopaupopus (D.) proximus* REMY, 1948b

Material. - Manaus, Rio Tarumã Mirim, 9 ad. 9(♀), 3 juv. 6, 1 juv. 5, 30.I.1983, loc. K12TM; 3 ad. 9(1 ♂, 2 ♀), 1 juv. 6, 28.II.1983, loc. K16TM and 1 ad. 9(♀), 30.I.1983, loc. K29TM; 1 ad. 9(♂), 25.IV.1983, leg. ADIS and RODRIGUES.

General distribution. - *A. proximus* is widely and discontinuously distributed in the tropics and subtropics of the Americas, Africa and southern Asia. Its range in the Nearctic-Neogaea region includes

the eastern USA, Jamaica, Surinam and Argentina.

12. *Allopauropus (D.) manausensis* n.sp. (Figs. 102-112)

Type locality...- Brazil, Manaus, Rio Tarumã Mirim.

Type material. - Holotype: ad. 9(♂), locality as above, KEMPSON soil extraction, 30.I.1983, loc. K12TM, leg. ADIS and RODRIGUES. Holotype in the INPA collections.

Paratypes: Same data as holotype, 1 ad. 9(♂), 3 juv. 5; ibidem, 1 ad. 9(♀), 28.II.1983, loc. K19TM; 2 ad. 9(♂, ♀), 30.I.1983, loc. K27TM, leg. ADIS and RODRIGUES. Paratypes in the INPA collections.

Description

Length. - (0.82-)1.06(-1.08) mm.

Head. - Tergal setae of medium length, somewhat clavate, blunt, annulate; lateral ones rather long, cylindrical or tapering, densely annulate-striate. Relative lengths of setae (holotype only), 1st row: $a_1 = 10$, $a_2 = 12$; 2nd row: $a_1 = 10$, $a_2 = 14$, $a_3 = 18$; 3rd row: $a_1 = 10$, $a_2 = 11$; 4th row: $a_1 = 11$, $a_2 = ?$, $a_3 = 17$, $a_4 = 19$; lateral group setae: $l_1 = 30$, $l_2 = ?1$, $l_3 = 23$. The ratio $a_1/a_1 - a_1$ is in 1st row 0.9, 2nd row 0.5, 3rd and 4th rows 0.8. Length of temporal organs 2.1(-2.7) times their shortest distance apart; small posterior pistil. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae, all cylindrical blunt annulate. Neither p''' nor u . Relative lengths of setae: $p = 100$, $p' = (55-)/69$, $p'' = (29-)/42$, $r = (41-)/53$. Tergal seta p as long as tergal branch t which is fusiform, (3.1-)3.3(-3.7) times as long as its greatest diameter and (1.2-)1.4(-1.8) times as long as sternal branch s which is 1.6(-2.1) times as long as its greatest diameter and with its anterodistal corner evenly truncate. Seta q as p and p' of 4th segment, about as long as s . Relative lengths of flagella (base segments included) and base segments: $F_1 = 100$, $bs_1 = (5-)/6$; $F_2 = (34-)/38(-41)$, $bs_2 = (3-)/4$; $F_3 = (71-)/75(-81)$, $bs_3 = (5-)/6$. The F_1 (3.4-)3.9(-4.2) times as long as t , F_2 and F_3 (1.4-)2.0(-2.1) and (3.9-)4.0(-5.0) times as long as s respectively; distal calyces hemispherical, distal part of flagellum axes fusiform. Globulus g proportionately large, about as long as (-1.1 times as long as) wide with very short thin stalk; (\approx 14-)16(-18) bracts; capsule bottom flattened; width of g about as long as largest diameter of t . Antennae glabrous.

Trunk. - Setae of collum segment subcylindrical to a little clavate, blunt, annulate; secondary branches rudimentary, cylindrical, blunt, glabrous; submedian setae 2.1(-2.3) times as long as submedian ones; sternite process triangular, anteriorly narrow; basal part of appendages conical, cap 2-parted. Cuticle glabrous.

Setae on tergites subcylindrical, blunt, annulate. There are 4+4 setae on tergite I, 6+6 on II-IV, 6+4 on V, 4+2 on VI. Setae increase a little in length posteriorly. Submedian posterior setae on VI (0.8-)0.9 of their distance apart and (0.6-)0.7(-0.8) of the length of pygidial a_1 .

Relative lengths of trichobothria: $T_1 = 100$, $T_2 = (98-)/123(-132)$, $T_3 = 120(-129)$, $T_4 = (142-)/147$, $T_5 = 274-276(-304)$. Axes straight and simple, thickest in T_3 and T_5 ; pubescence hairs, simple, short and almost erect on T_1 , T_2 and T_4 , on T_3 stronger and oblique, on T_5 very long consisting of sparsely inserted oblique spine-like hairs which are longest in the middle, longest hairs not quite 0.1 of the length of T_5 .

Penis rounded, 1.6 times as long as their greatest diameter, glabrous; distal seta 0.2 of the length of organ.

Legs. - Setae on coxa and trochanter of leg 9 subsimilar, furcate, cylindrical, blunt, densely annulate; secondary branch about half of the length of primary one. More anteriorly these setae have rudimentary secondary branches, on most anterior legs even no at all. Coxal setae in leg 2 in males

short, claviform, annulate. Tarsus of leg 9 slender, tapering, (5.0-)5.4(7.0) times as long as its greatest diameter. Proximal seta tapering, pointed, with oblique pubescence; its length 0.3 of the length of tarsus and (1.8-)2.2 times as long as distal seta; the latter subcylindrical, blunt, densely striate. Cuticle of tarsus glabrous (- sparsely pubescent).

Pygidium. Tergum. - Posterior margin straight but with a median linguiform appendage just above the *st*. Relative lengths of setae: $a_1 = 100$, $a_2 = (80-)$ 89(-100), $a_3 = (56-)$ 71(-89), *st* = (40-)44(-50). They are tapering, pointed, almost glabrous (- with short oblique pubescence), a_1 and *st* straight, a_2 and a_3 curved a little inwards, the latter also diverging. Distance a_1 - a_1 about 0.4 of the length of a_1 and distance a_1 - a_2 (1.9-)2.8 times as long as distance a_2 - a_3 ; distance *st*-*st* (0.7-)0.9 of the length of *st* and (0.7-)0.8(-0.9) of distance a_1 - a_1 . Cuticle glabrous.

Sternum. - Posterior margin between b_1 with a broad and shallow indentation. Relative lengths of setae ($a_1 = 100$): $b_1 = 122$ (-185), $b_2 = (49-)$ 62. The b_1 cylindrical, blunt, densely annulate, b_2 cylindrical, blunt, distal part striate. The b_1 1.8(-2.2) times as long as their distance apart; b_2 about as long as distance b_1 - b_2 . Anal plate broadest anteriorly, with concave lateral margins and posterior margin with two small triangular submedian projections between two long posterolateral appendages which are a little diverging, cylindrical, blunt, densely striate; plate about as long as broad (-1.3 times as long as broad), appendages longer than plate.

Etymology. - A latinization of Manaus.

Affinities. - Among the species of the Tarumã Mirim area the new species is most close to *A. (D.) neotropicus* but clearly delimited from it by the following combination of characters: the tarsus of the last pair of legs is long slender, 5-7 (not 3) times longer than its greatest diameter; the posterior margin of the pygidial tergum has a very distinct median projection (not in *manausensis*) and the T_5 have very long straight and stiff pubescence hairs (not very short). Other relatives are my own *caribicus* (SCHELLER 1989) from the Virgin Islands and *bulbifer* REMY (1950b) from Colombia. However, the former has a more slender sternal antennal branch with a proportionately larger globulus, much shorter pubescence on the T_3 , the proximal seta on the tarsus of the last pair of legs proportionately much shorter and a triangular posteromedian projection on the pygidial tergum, not linguiform. The best separating characters in relation to *bulbifer* are the shape of the posteromedian projection of the pygidial tergum (broadly triangular with pointed tip in *bulbifer*, linguiform and blunt in *manausensis*) and the shape of the anal plate (with posterodistal corners and proximally widened appendages in *bulbifer*, without such corners and with evenly cylindrical appendages in *manausensis*).

13. *Allopauropus (D.) tenuilobatus* n.sp. (Figs. 113-119)

Type locality. - Brazil, Manaus, Rio Tarumã Mirim.

Type material. - Holotype: ad. ♀, locality as above, KEMPSON soil extraction, 28.II.1983, loc. K13TM, leg. ADIS and GOMES RODRIGUES. Holotype in the INPA collections.

Description

Length. - 0.54 mm.

Head. - Tergal and lateral sides of head not available for study.

Antennae. - Setae incompletely studied. The *p* blunt and annulate, 2.3 times as long as tergal branch *t* which is 1.4 times as long as wide and as long as sternal branch *s* which is almost 1.2 times as long as wide with its anterodistal corner distinctly truncate. Relative lengths of flagella (base segments included) and base segments: $F_1 = 100$, $bs_1 = 8$; $F_2 = 36$, $bs_2 = 5$; $F_3 = 71$, $bs_3 = 8$. The F_1 6 times longer than *t*, F_2 and F_3 2.1 and 4.3 times as long as *s* respectively. Distal part of flagellum axes strongly widened, those of F_1 and F_2 most conspicuously; distal calyces very small. Antennae

glabrous.

Trunk. - Collum segment and setae of tergites not available for study.

Relative lengths of trichobothria: $T_1 = 100$, $T_2 = 113$, $T_3 = 103$ and 105 , $T_4 \approx 138$, $T_5 = 150$. All but distal part of T_3 with thin axes; T_1 , T_2 and T_4 3 times dichotomously divided into 4 branches which all are curved inwards, T_3 twice so into 3 branches, the middle one clavate; T_5 have simple straight axes; all trichobothria with short erect pubescence.

Legs. - Legs very short. Seta on trochanter of leg 9 simple, cylindrical, blunt, striate; seta on coxa not studied. Tarsus of leg 9 thick, tapering, 5.3 times as long as its greatest diameter. Proximal seta, short, thin, cylindrical, glabrous; its length 0.2 of the length of tarsus and 0.5 of the length of distal seta; the latter subcylindrical, blunt, striate. Cuticle of tarsus glabrous.

Pygidium. Tergum. - Posterior margin evenly rounded. Relative lengths of setae: $a_1 = 100$, $a_2 = 89$, $a_3 = 156$, $st = 111$. All these setae cylindrical and blunt, the first three striate, st faintly pubescent; a_1 straight, a_2 , a_3 and st curved inwards; a_2 and st converging, a_3 diverging. Distance a_1 - a_1 1.6 times as long as a_1 ; distance a_1 - a_2 twice longer than distance a_2 - a_3 ; distance st - st 1.4 times as long as st and about as long as distance a_1 - a_1 . Cuticle glabrous.

Sternum. - Posterior margin between b_1 with a shallow indentation. Relative lengths of setae ($a_1 = 100$): $b_1 = 533$, $b_2 = 189$. The b_1 cylindrical, blunt, annulate; b_2 tapering, pointed, with short oblique pubescence; the former 1.4 times as long as their distance apart; b_2 a little shorter than distance b_1 - b_2 . Anal plate linguiform with somewhat indented lateral margins; it is glabrous and has two posterolateral submedian diverging appendages which are subcylindrical, blunt, annulate, a little longer than the length of plate.

Etymology. - From Latin *tenuis* = thin and *lobus* = lobe (trichobothrium T_3).

Affinities. - *A. tenuilobatus* shows striking resemblances to *lambertoni* (REMY 1956c) from Madagascar but differs especially by the aspect of the ramification of the trichobothria (T_1 and T_2 3-branched in *lambertoni*, 4-branched in *tenuilobatus*; the T_3 with thickened lateral branches, not very thin), the styli (distal part clavate, not subcylindrical), the basal segment of the F_2 (about as large as that of F_3 , not distinctly smaller) and the appendages of the anal plate (with two small sternal appendages; no at all). There are distinct resemblances also to my own *remigatus* (SCHELLER 1984) from Canada but the shape of the T_3 is more dissimilar (no secondary branches at all in *remigatus*) and so are the distal organs of the antennal flagella (those of F_1 and F_3 somewhat fusiform in *remigatus*, not ovoid). Another species with similarities is *dendriiformis* (HAGINO 1993) from central Japan but its trichobothria T_1 , T_2 and T_4 have a much denser ramification, the distal seta on the tarsus of the last pair of legs is furcate and the shape of the posterior part of the anal plate is different.

14. *Allopaupopus (D.) tenuis* REMY, 1948a

Material. - Manaus, Rio Tarumã Mirim, 4 ad. 9(2 ♂, 2 ♀), 30.I.1983, loc. K31TM and 1 ad. 9(♀), 24.IV.1983, loc. K32TM, leg. ADIS and RODRIGUES.

General distribution. - *A. tenuis* is widely distributed in the warm belt, particularly in Africa. In South America it is previously known from Argentina (REMY 1950a).

15. *Allopaupopus (D.) pedicellus* n.sp. (Figs. 120-128)

Type locality. - Brazil, Manaus, Rio Tarumã Mirim.

Type material. - ^{INPA 0824} Holotype: ad. 9(♀), locality as above, KEMPSON soil extraction, 29.XII.1982, loc. K13TM, leg. ADIS and RODRIGUES. Holotype in the INPA collections.

Paratype: *Ibidem*, 1 ad. ♀, 29.XII.1982, loc. K31TM, leg. ADIS and RODRIGUES. Paratype in the INPA collections.

Description

Length. - 0.81(0.84) mm.

Head. - Tergal setae of medium length, subcylindrical, densely annulate, blunt. Relative lengths of setae, 1st row: $a_1 = 10$, $a_2 = ?(13)$; 2nd row: $a_1 = (10)11$, $a_2 = 25(28)$, $a_3 = 24(30)$; 3rd row: $a_1 = 11$, $a_2 = 13$; 4th row: $a_1 = 13(16)$, $a_2 = 19(22)$, $a_3 = 21(26)$, $a_4 = (17)20$. Lateral group setae (only holotype) thin annulate: $l_1 = 21$, $l_2 = 17$, $l_3 = 36$. The ratio $a_1/a_1 - a_1$ is in 1st row (1.1)1.5, 2nd row (0.5)0.7, 3rd row 0.9 and in 4th row 1.0. Length of temporal organs 2.5 times their shortest distance apart; pistil uncertain. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae, all cylindrical, annulate, p and r tapering, p' and p'' blunt. The p''' rudimentary knob only. No u . Relative lengths of setae (holotype only): $p = 100$, $p' = 62$, $p'' \approx 19$, $r = 35$. Tergal seta p 1.2 times as long as tergal branch t which is fusiform (2.1)2.9 times as long as its greatest diameter and (1.2-)1.5 times as long as sternal branch s which is 1.5 times as long as its greatest diameter and with its anterodistal corner evenly truncate. Seta q as p' of 4th segment but more densely annulate, it is 1.1 times as long as s . Relative lengths of flagella (base segments included) and base segments: $F_1 = 100$, $bs_1 = 5(6)$; $F_2 = (30)45$, $bs_2 = 5$; $F_3 = 64(83)$, $bs_3 = 5(6)$. The F_1 (3.9)4.4 times as long as t , F_2 and F_3 (1.9-)3.0 and 4(4.3) times as long as s respectively. Distal calyces small, a little flattened; distal part of flagellum axes fusiform in F_1 , strongly widened in F_2 and F_3 ; distal organ of F_2 smallest. Globulus g about as long as wide with very short stalk; (11)12 bracts; width of g 0.8 of the greatest diameter of t . Antennae glabrous.

Trunk. - Setae of collum segment, subcylindrical, blunt, annulate, with exceedingly small rudiments of secondary branches. Sublateral setae 2.1 times as long as submedian ones; sternite process small, anteriorly narrow and blunt; cap apically 2-parted and with distinct collar.

Setae on tergites of medium lengths, cylindrical, blunt, annulate, decreasing in length a little posteriorly. There are 4+4 setae on tergite I, 6+6 on II-IV, 6+4 on V, 4+2 on VI. Submedian posterior setae on VI 0.6 of their distance apart and (0.6-)0.8 of the length of pygidial a_1 .

Relative lengths of trichobothria: $T_1 = 100$, $T_2 = (105)109$, $T_3 = 95(96)$, $T_4 = 122$, $T_5 = (170)186$. They have thin straight axes, somewhat thickened in T_3 and in a less degree in T_5 ; short straight simple pubescence hairs, very thin and in distal part erect in T_1 , T_2 and T_4 , oblique and stronger in T_3 and T_5 .

Legs. - Setae on coxa and trochanter of leg 9 subsimilar, furcate, subcylindrical, blunt, densely annulate; branches subequal in length. More anteriorly these setae are simple subclavate with rudiments only of secondary branches. Tarsus of leg 9 tapering, slender, 4.1 times as long as its greatest diameter. Proximal seta tapering, pointed, with short oblique pubescence; its length (0.3)0.4 of the length of tarsus and (1.6)1.7 times as long as distal seta; the latter subcylindrical, blunt, densely striate. Cuticle of tarsus glabrous.

Pygidium. Tergum. - Posterior margin between st with a small semicircular lobe. Relative lengths of setae: $a_1 = 100$, $a_2 = 61(91)$, $a_3 = (109-)148$, $st = 52(91)$. They are almost straight, striate, with short oblique pubescence, curved a little inwards, a_1 , a_2 and a_3 somewhat converging, st considerably so. Distance $a_1 - a_1$ almost as long as a_1 and distance $a_1 - a_2$ 2.2 times as long as distance $a_2 - a_3$; distance $st - st$ twice longer than st and 1.2 times as long as distance $a_1 - a_1$. Cuticle glabrous.

Sternum. - Posterior margin between b_1 with a broad and deep rounded indentation. Relative lengths of setae ($a_1 = 100$): $b_1 = 261$, $b_2 = 87(127)$. The b_1 cylindrical densely annulate and blunt, b_2 as a_3 of pygidial tergum. The b_1 1.2 times as long as their distance apart; b_2 0.7(0.9) of distance $b_1 - b_2$. Anal plate broadest anteriorly, with concave lateral margins, distal margin rounded between two cylindrical, posteriorly directed, blunt appendages which are somewhat curved inwards; plate longer than broad and appendages a little shorter than plate.

Etymology. - From Latin *pedicellus* = small foot.

Affinities. - There are several species in which the anal plate and the pygidial chaetotaxy are similar. Among them *A. pedicellus* might be a relative of the Californian *usingeri* (REMY 1958), the Indian *insignis* (REMY 1961) and *pumilio* (REMY 1956f) from Réunion. However, among other things these species have proportionately larger antennal globuli, more or less claviform styli and a very short posteromedian bulge on the pygidial tergum.

16. *Allopauropus (D.) sinuosus* n.sp. (Figs. 129-138)

Type locality. - Brazil, Manaus, Rio Taramã Mirim. $03^{\circ} 02' S$, $60^{\circ} 12' W$ $03^{\circ} 02' S$, $60^{\circ} 12' W$

Type material. - ^{INPA 068} Holotype: ad. 9(♀), locality as above, KEMPSON soil extraction, 30.I.1983, loc. K11TM, leg. ADIS and RODRIGUES. Holotype in the INPA collections.

Paratypes: Ibidem, 1 ad. 9(♀), ^{INPA 063} 29.XII.1983, loc. K11TM; 3 ad. 9(♀), 30.I.1983, loc. K22TM, leg. ADIS and RODRIGUES. Paratypes in the INPA collections. ^{INPA 068}

Description

Length. - 0.45(-0.52) mm.

Head. - Tergal setae rather short or of medium lengths, subcylindrical, densely striate, blunt. Relative lengths of setae, 1st row: $a_1 = 10$, $a_2 = 12$; 2nd row: $a_1 = 9$, $a_2 = (13-)$ 16, $a_3 = (10-)$?13(-14); 3rd row: $a_1 = (11-)$ 13, $a_2 = (12-)$ 13; 4th row: $a_1 = (10-)$ 13, $a_2 = (13-)$ 16(-17), $a_3 = 22$, $a_4 = (13-)$ 15(-16). Lateral group setae: $1_1 = (17-)$ 22(-25), $1_2 = (15-)$ 16(-17), $1_3 = (13-)$ 16(-17). The ratio a_1/a_1-a_1 is in 1st row 0.9(-1.3), 2nd row 0.7, 3rd row (0.7-)0.9(-1.0) and in 4th row ?1.0(-1.5). Length of temporal organs 1.5(-1.6) times their shortest distance apart; pistil uncertain. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae which are cylindrical, annulate-striate, blunt; their relative lengths: $p = 100$, $p' = (50-)$ 55(-60), $p'' = (42-)$ 45(-50), $r = (42-)$ 49(-52). Neither p''' nor u . Tergal seta p 1.6(-1.9) times as long as tergal branch t . The latter short, (1.3-)1.5 times as long as its greatest diameter and (0.7-)0.9 of the length of sternal branch which is 1.3(-1.6) times as long as its greatest diameter with its anterodistal corner truncate. Seta q thinner than p and p' , cylindrical, annulate, (0.8-) at least 0.9 of the length of s . Relative lengths of flagella (base segments included) and base segments: $F_1 = 100$, $bs_1 = 8(-)$ 10; $F_2 = 40(-)$ 42, $bs_2 = 4$; $F_3 = (77-)$ 80(-89), $bs_3 = (8-)$ 11. The F_1 5.4(-6.1) times as long as t , F_2 and F_3 (1.7-)2.0 and 3.4(-3.9) times as long as s respectively. Distal calyces small helmet-shaped, distal part of flagella axes distinctly fusiform. Globulus g proportionately large, almost as long as s , pyriform, 1.4 times as long as wide; 10(-11) bracts; width of g (as long as -) 1.1 times as long as greatest diameter of t . Antennae glabrous.

Trunk. - Setae of collum segment simple, subcylindrical, blunt, annulate; sublateral one 2.3(-2.9) times as long as submedian one; sternite process very narrow with a small anterior incision; appendages with broad basis and low flat caps with at least one incision; appendages and process glabrous.

Setae on tergites as setae on tergal side of head and of about the same length on all tergites. There are 4+4 setae on tergite I, 6+6 on II-IV, 6+4 on V and 4+2 on VI. Submedian posterior setae on VI 0.3(-0.5) of their distance apart and as long as (-1.2 times as long as) pygidial a_1 .

Relative lengths of trichobothria: $T_1 = 100$, $T_2 = (102-)$ 117, $T_3 = (90-)$ 91(-95), $T_4 = 115(-)$ 125, $T_5 = 136(-)$ 146. They have thin, simple, straight axes; T_3 with a distal ovoid endswelling, length <0.1 of the length of trichobothrium; pubescence hairs short, simple, oblique on proximal halves, long branched on distal halves even on the distal endswelling of T_3 .

Legs. - Setae on coxa and trochanter of legs 1-9 simple, cylindrical, blunt, annulate; seta on trochanter only a little longer than coxal seta. Tarsus of leg 9 strongly tapering 2.8(-3.1) times as long as its greatest diameter. Proximal seta cylindrical, tapering, pointed, striate; its length 0.3 of the length

of tarsus and 1.1 times as long as distal seta; the latter cylindrical, blunt, striate. Cuticle of tarsus glabrous.

Pygidium. Tergum. - Posterior margin between *st* with a low rounded bulge. Relative lengths of setae: $a_1 = 100$, $a_2 = (67-91(-95))$, $a_3 = (158-209)$, $st = (133-164)$. All these setae are subcylindrical, tapering, striate, a little curved inwards, a_2 and *st* converging. Distance a_1-a_1 (1.2-)1.5 times as long as a_1 ; distance a_1-a_2 (2.2-)2.4 times as long as distance a_2-a_3 ; distance *st-st* 1.4(-1.6) times as long as *st* and 1.6(-1.7) times as long as distance a_1-a_1 . Cuticle glabrous.

Sternum. - Posterior margin between b_1 indented and with a subtrapezoid process below the anal plate. Relative lengths of setae ($a_1 = 100$): $b_1 = (385-445)$, $b_2 = (160-172)$. These setae are cylindrical, striate; b_1 blunt, b_2 tapering. The b_1 (1.3-)1.4 times as long as their distance apart; b_2 (0.8-)0.9 of distance b_1-b_2 . Anal plate as broad as long, linguiform, narrowest anteriorly, lateral margins convex, posterolateral corners rounded, posterior margin with a median triangular projection between two short, submedian, cylindrical, blunt, diverging appendages. Plate with appendages glabrous.

Etymology. - From Latin *sinus* = bend (lateroposterior margins of the anal plate).

Affinities. - The new species is small and short-legged. It may be most close to *A. notius* from Australia (REMY 1957c), cf. *notius* from Argentina (REMY 1962) and the two west Palaearctic *burghardti* and *gadesensis* also described by REMY (1941 and 1954b respectively). From the first two it is distinguished by e.g. the size of the bs_3 (0.5 of the length of the *g*, not as long as *g*) and the shape and size of *g* (with long only slightly curved bracts and reaching 0.7-0.8 of the length of *s*, not with short strongly curved bracts and reaching only ≤ 0.5 of the length of *s*), the shape of the *st* (long cylindrical, not short clavate), the length of the b_1 in relation to their distance apart ($b_1 > b_1-b_1$, not $< b_1-b_1$) and also in the shape of the anal plate. REMY's descriptions of the two mentioned Palaearctic species are very brief but it is evident that in both the pubescence of the trichobothria consists of simple hairs (not to a great extent branched ones), the pygidial setae $a_1 > st$ (not $a_1 < st$) and the shape of the posterior part of the anal plate is different (posterior margin between the appendages rounded, not with a triangular bulge).

17. *Allopauropus (D.) petiolatus* n.sp. (Figs. 139-150)

Type locality. - Brazil, Manaus, Rio Tarumã Mirim.

Type material. - Holotype: ad. 9(♂), locality as above, KEMPSON soil extraction, 28.II.1983, loc. K13TM, leg. ADIS and RODRIGUES. Holotype in the INPA collections.

Description

Length. - 0.79 mm.

Head. - Tergal setae rather long, cylindrical, blunt, densely annulate-striate. Relative lengths of setae, 1st row: $a_1 = a_2 = 10$; 2nd row: $a_1 = 9$, $a_2 = 17$, $a_3 = 16$; 3rd row: $a_1 = 7$, $a_2 = 11$; 4th row: $a_1 = 11$, $a_2 = 12$, $a_3 = 16$, $a_4 = ?$; lateral group not studied. The ratio a_1/a_1-a_1 is in 1st row 1.2, in 2nd row 0.6, in 3rd row 0.8 and in 4th row 1.0. Length of temporal organs 1.3 times their shortest distance apart; small posterior pistil. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae which are cylindrical, blunt, annulate; their relative lengths: $p = 100$, $p^* = 61$, $p^{**} = 43$, $r = 52$. Neither p^{***} nor *u*. Tergal seta *p* 1.1 times as long as tergal branch *t*. The latter 2.6 times as long as its greatest diameter and 1.3 times as long as sternal branch *s* which is 1.5 times as long as wide with anterodistal corner distinctly truncate. Seta *q* similar to setae of 4th segment, 0.9 of the length of *s*. Relative lengths of flagella (base segments included) and base segments: $F_1 = 100$, $bs_1 = 6$; $F_2 = 43$, $bs_2 = 4$; $F_3 = 81$, $bs_3 = 6$. The F_1 3.3 times as long as *t*, F_2 and F_3 1.9 and 3.6 times as long as *s* respectively; distal calyces very small; distal part of flagellum axes

strongly fusiform, discs there partly much wider than more proximally. Globulus *g* about as long as wide, seen from above roundly triangular, even the capsule; 15 bracts; width of *g* 1.1 times as wide as greatest diameter of *t*. Antennal branches sparsely granular.

Trunk. - Setae of collum segment simple, subcylindrical, annulate, blunt; sublateral one 1.8 times as long as submedian one; sternite process short, very small, triangular; the latter small too, with flat cap on short stalk; process and appendages glabrous.

Setae on tergites of medium length similar to setae on head, on posterior part of tergite VI tapering pointed. There are 4+4 setae on tergite I, 6+6 on II-V, 4+2 on VI. Submedian posterior setae on VI 0.5 of their distance apart and 0.8 of the length of pygidial a_1 .

Relative lengths of trichobothria: $T_1 = 100$, $T_2 = 113$, $T_3 = 116$, $T_4 = 121$, $T_5 = 166$. They have simple straight axes, very thin in the first two and T_4 , a little thicker in T_5 and thickest and distally blunt in T_3 . Pubescence consisting of simple straight hairs, mainly oblique but almost erect on distal part of T_1 , T_2 and T_4 .

Penis longish, glabrous, distal half narrowing; they are 2.3 times as long as their greatest diameter; distal seta 0.4 of the length of organ.

Legs. - Setae on coxa and trochanter of leg 9 similar, furcate, densely annulate, blunt. More anteriorly these setae seem to be simple. Tarsus of leg 9 slender, tapering, 3.9 times as long as its greatest diameter. Proximal seta tapering, pointed, striate; its length 0.3 of the length of tarsus and 1.5 times as long as distal seta; the latter subcylindrical, blunt, striate. Cuticle of tarsus very shortly pubescent.

Pygidium. Tergum. - Posterior margin evenly rounded but with a small rounded median lobe above anal plate. Relative lengths of setae: $a_1 = 100$, $a_2 = 116$, $a_3 = 91$, $st = 68$. They are all cylindrical, a_1 , a_2 and st also blunt and converging, a_1 and a_2 straight, a_3 tapering, curved inwards, diverging, st curved outwards. Distance a_1 - a_1 1.2 times as long as a_1 ; distance a_1 - a_2 2.3 times as long as distance a_2 - a_3 ; distance st - st 2.1 times as long as st and 1.2 times as long as distance a_1 - a_1 . Cuticle glabrous.

Sternum. - Posterior margin between b_1 with a broad and shallow indentation. Relative lengths of setae ($a_1 = 100$): $b_1 = 336$, $b_2 = 82$. The former 1.2 times as long as their distance apart, the latter 0.6 of distance b_1 - b_2 . These setae are cylindrical and densely striate. Anal plate about as broad as long with rounded posterolateral corners and two posterior, cylindrical, blunt, a little diverging appendages which are about as long as plate and have a sparse oblique pubescence; appendages separated by a small median indentation in the plate.

Etymology. - From Latin *petiolus* = leaf-stalk (cap of the collum appendages with stalk).

Affinities. - This species is well distinguished by the shape of the antennal globulus in combination with the cylindrically thickened T_3 , the narrowly conical penis and the stalked distal part of the appendages of the collum segment. It has some characters in common with *jasperensis* (REMY 1959a) from the USA from which it is distinguished by e.g. the shape of the antennal globulus (subspherical in *petiolatus*, ovoid in *jasperensis*) and the anal plate (the appendages not longer than the plate and with convex lateral margins, not longer than the plate and with concave lateral margins). Another Nearctic species which might have affinities to *A. petiolatus* is *junctus* (REMY 1956d) but here the similarities are less.

18. *Allopaupopus acer* n.sp. (Figs. 151-159)

Type locality. - Brazil, Manaus, Rio Tarumã Mirim.

Type material. - Holotype: ad. 9(♂), locality as above, KEMPSON soil extraction, 29.XII.1982, loc. K23TM, leg. ADIS and RODRIGUES. Holotype in the INPA collections.

Description

Length. - 0.74 mm.

Head. - Tergal and lateral setae incompletely studied. Anterior and sublateral setae of medium lengths or rather long, annulate, blunt, anterior ones somewhat clavate, posterolateral ones subcylindrical; their relative lengths, 1st row: $a_1 = 10$, $a_2 = ?$; 2nd row: $a_1 = 11$, $a_2 = 18$, $a_3 = 16$; 3rd row: $a_1 = ?$, $a_2 = 10$; 4th row: $a_1 = ?$, $a_2 = ?$, $a_3 = 16$, $a_4 = 15$; lateral group not studied. The ratio a_1/a_1-a_1 is in 1st row 1.4, in 2nd row 0.7. Temporal organs not studied. Head cuticle glabrous.

Antennae. - They are only partly available for study. The p and p' cylindrical, blunt, densely annulate; their relative lengths: $p = 100$, $p' = 74$. Tergal seta p as long as long as tergal branch t . The latter almost cylindrical, 3.1 times as long as its greatest diameter and 1.1 times as long as sternal branch s which is 2.2 times as long as wide with anterodistal corner distinctly truncate. Seta q similar to p of 4th segment, 0.8 of the length of s . Lengths of flagella (base segments included) and base segments: $F_1 = ?$, $bs_1 = 4.5$; $F_2 = 24$, $bs_2 = 4$; $F_3 = 58$, $bs_3 = 5.5$ mm. The F_2 and F_3 1.3 and 3.2 times as long as s respectively; distal distal part of flagella not studied. Globulus g 1.3 times as long as wide; 15 bracts; capsule with flattened bottom; width of g 0.8 of the greatest diameter of t . Antennal branches and 4th segment glabrous.

Trunk. - Setae of collum segment cylindrical and densely annulate, blunt, furcate but with rudimentary cylindrical secondary branches; sublateral one 2.1 times as long as submedian one; sternite process narrow, anteriorly with a small incision, it is faintly granular like basal part of appendages; the latter conical, cap small 3-parted; basal part of appendages and anterior part of process faintly granular.

Setae of tergites of medium length, subcylindrical, blunt, annulate, thinner on posterior tergites than on anterior ones. There are 4+4 setae on tergite I, 6+6 on II-IV, 6+6 (one lacking on right side) on V, 4+2 on VI. Submedian posterior setae on VI tapering, pointed, with granular surface; they are 0.5 of their distance apart and 0.7 of the length of pygidial a_1 .

Relative lengths of trichobothria: $T_1 = T_2 = 100$, $T_3 = 134$, $T_4 = 162$, $T_5 = 234$. They have simple straight thin axes, thickened only in proximal 2/3 of T_3 . Pubescence hairs short straight, strongest on T_3 , mainly oblique but erect on distal part of T_1 - T_4 .

Penis conical, pointed, 1.9 times as long as their greatest diameter; apical seta 0.4 of the length of organ.

Legs. - Setae on coxa and trochanter of leg 9 subsimilar, furcate, branches subcylindrical, blunt, densely annulate, those of trochanter a little longer than those of coxae. More anteriorly these setae are simple with rudiments only of secondary branches. Coxal setae in leg 2 not deviating. Tarsus of leg 9 tapering, slender, 4.7 times as long as its greatest diameter. Proximal seta tapering, pointed, with short oblique pubescence, its length 0.5 of the length of tarsus and 3 times longer than distal seta; the latter a little clavate, blunt, densely striate. Cuticle of tarsus glabrous.

Pygidium. Tergum. - Posterior margin between st straight. Relative lengths of setae: $a_1 = 100$, $a_2 = 87$, $a_3 = 113$, $st = 60$. These setae are tapering, with short but distinct ablique pubescence, a little curved inwards, a_2 somewhat converging, st strongly converging. Distance a_1-a_1 1.7 times as long as a_1 ; distance a_1-a_2 3.3 times as long as distance a_2-a_3 ; distance $st-st$ twice longer than st and also twice longer than distance a_1-a_1 . Cuticle glabrous.

Sternum. - Posterior margin between b_1 with a broad shallow rounded indentation. Relative lengths of setae ($a_1 = 100$): $b_1 = 280$, $b_2 = 80$. The b_1 subcylindrical, tapering, distally very densely striate, b_2 as a_2 and a_3 of pygidial tergum but with shorter pubescence. The b_1 1.6 times as long as their distance apart; b_2 about as long as distance b_1-b_2 . Anal plate linguiform, with concave lateral margins, 2.8 times as long as broad with rounded posterior margin from which a blunt obliquely pubescent appendage protrudes backwards, its length 0.4 of the length of plate.

Etymology. - From Latin *acer* = pointed (anal plate).

Affinities. - The species is easily distinguished from all other *Allopaupopus* species known by the singular shape of the anal plate. Its relationships cannot be traced for the present.

Genus *Scleropauropus* SILVESTRI, 1902

Subgenus *Scleropauropus* s. str.

19. *Scleropauropus* (*S.*) *tarumamirimi* n.sp. (Figs. 160-169)

Type locality. - Brazil, Manaus, Rio Tarumã Mirf. m.

Type material. - Holotype: ad. ♀, locality as above, KEMPSON soil extraction, 25.IV.1983, loc. K29TM, leg. ADIS and RODRIGUES. Holotype in the INPA collections.

Paratype: Ibidem, 1 subad. ♂, 25.IV.1983, loc. K14TM, leg. ADIS and RODRIGUES. Paratype in the INPA collections.

Description

Length. - 1.18 mm.

Head. - Tergal setae rather long, subcylindrical-cylindrical, blunt, densely annulate-striate. Relative lengths of setae, 1st row: $a_1 = a_2 = 10$; 2nd row: $a_1 = 11$, $a_2 = 12$, $a_3 = 10$; 3rd row: $a_1 = 8$, $a_2 = ?$; 4th row: $a_1 = 10$, $a_2 = 16$, $a_3 = ?$, $a_4 = 13$; lateral group: $l_1 = ?$, $l_2 = 9$, $l_3 = 12$. The ratio a_i/a_{i-1} is in 1st and 3rd rows 1.3, in 2nd row 0.8 and in 4th row 1.5. Length of temporal organs 1.2 times their shortest distance apart; no pistil. Head cuticle glabrous but temporal organs sparsely granular.

Antennae. - Segment 4 with 5 setae which are cylindrical, blunt, annulate; their relative lengths: $p = 100$, $p' = 72$, $p'' = 52$, $r = 40$. The p''' a rudimentary knob only. Tergal seta p almost 0.9 of the length of tergal branch t . The latter 4.7 times as long as its greatest diameter and 1.2 times as long as sternal branch s which is 2.5 times as long as wide with anterodistal corner distinctly truncate. Seta q similar to p of 4th segment, 0.6 of the length of s . Relative lengths of flagella (base segments included) and base segments: $F_1 = 100$, $bs_1 = 5$; $F_2 = 39$, $bs_2 = 4$; $F_3 = 96$, $bs_3 = 4$. The F_1 2.9 times as long as t , F_2 and F_3 1.4 and 3.5 times as long as s respectively; distal calyces helmet-shaped, those of F_2 smallest; distal part of flagellum axes not widened. Globulus g only very little longer than wide; 10 bracts; width of g 0.7 of the greatest diameter of t . Antennae glabrous.

Trunk. - Setae of collum segment cylindrical and densely annulate, blunt, furcate but with rudimentary glabrous secondary branches; sublateral one 1.5 times as long as submedian one; sternite process short, anteriorly blunt, faintly granular like basal part of appendages; the latter widest at base, cap flat.

Setae on tergites rather long, on anterior tergites similar to setae on head, on posterior part of tergite V and on VI somewhat lanceolate. There are 4+4 setae on tergite I, 6+6 on II-V, 4+2 on VI. Submedian posterior setae on VI 0.4 of their distance apart and 1.3 times as long as the length of pygidial a_1 .

Relative lengths of trichobothria: $T_1 = 100$, $T_2 = 116$, T_3 (subad. paratype) = 103, $T_4 = 130$, $T_5 = 176$. They have simple straight and very thin axes, a little thickened only in T_3 . Pubescence hairs short straight, strongest on T_3 , mainly oblique but erect on distal part of T_1 , T_2 and T_4 .

Legs. - All legs 5-segmented. Setae on coxa and trochanter of leg 9 similar, furcate, densely annulate, blunt. More anteriorly these setae have rudiments only of the secondary branches. Tarsus of leg 9 slender, tapering, 6 times longer than its greatest diameter. Proximal seta tapering, pointed, with oblique pubescence; its length 0.3 of the length of tarsus and 3.1 times as long as distal seta; the latter subcylindrical, blunt, with short pubescence. Cuticle of tarsus very shortly pubescent.

Pygidium. Tergum. - Posterior margin between st with a low triangular process with pointed tip. Relative lengths of setae: $a_1 = 100$, $a_2 = 187$, $a_3 = \approx 500$, $st = 29$. The first three tapering, pointed, with

short oblique pubescence which is strongest on a_1 , st cylindrical, blunt, with very short pubescence, a_1 and st almost straight, st curved inwards, converging, a_2 converging, somewhat curved inwards, a_3 a little diverging. Distance a_1 - a_1 1.3 times as long as a_1 ; distance a_1 - a_2 \approx 10 times longer than a_2 - a_3 ; distance st - st 7.1 times as long as st and 1.6 times as long as distance a_1 - a_1 . Cuticle glabrous.

Sternum. - Posterior margin between b_1 with a broad and shallow indentation and a large median broadly linguiform process below anal plate. Relative lengths of setae ($a_1 = 100$): $b_1 = 375$, $b_3 = 83$. The former as long as their distance apart, the latter 0.4 of distance b_3 - b_3 . These setae are tapering, densely striate, b_3 somewhat curved inwards. Anal plate narrowest anteriorly, with convex lateral margins and 4 posterior cylindrical blunt appendages: two short diverging posterolateral ones and two long submedian ones which are curved inwards and separated by a V-shaped median incision. The latter appendages about 0.8 of the length of plate.

Etymology. - A latinization of the Rio Tarumã Mirim.

Affinities. - *S. tarumamirimi* is closest to the Mexican *chapanecus* (REMY 1957b), the West Palaearctic-Nearctic *lyrifer* (REMY 1936) and the West Palaearctic *heterochaetus* (REMY 1947). It is distinguished from them in the following respects: the styli are much longer and cylindrical in *tarumamirimi*, not very short and clavate, the posteromedian projection of the pygidial sternum is broad and evenly rounded, not long and more or less bilobate and the anal plate is broadest in posterior part, not in anterior one.

20. *Scleropauropus (S.) fissus* n.sp. (Figs. 170-176)

Type locality. - Brazil, Manaus, Rio Tarumã Mirim.

Type material. - ^{11.11.1983} Holotype: ad. ♀, locality as above, KEMPSON soil extraction, 27.VI.1983, loc. K20TM, leg. ADIS and RODRIGUES. Holotype in the INPA collections.

Description

Length. - 1.08 mm.

Head. - (setae between temporal) organs lacking). Setae rather long, anterior ones somewhat clavate, lateral ones cylindrical-tapering. Relative lengths of setae, 1st row: $a_1 = 10$, $a_2 = 12$; 2nd row: $a_1 = 12$, $a_2 = 13$, $a_3 = 11$; 3rd row: a_1 and $a_2 = ?$; 4th row: a_1 and $a_2 = ?$, $a_3 = a_4 = 15$; lateral group setae: $l_1 = l_2 = 12$, $l_3 = 14$. The ratio a_1/a_1 - a_1 is in 1st row 1.2, in 2nd row 0.8. Temporal organs in tergal view narrowest in posterior part, their length 1.3 times their shortest distance apart; no pistil. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae; p and p' cylindrical, densely annulate, blunt, p'' and r tapering, striate, pointed. Relative lengths of setae: $p = 100$, $p' = 70$, $p'' = 53$, $r = 33$. Neither p''' nor u . Tergal seta p 0.9 of the length of tergal branch t . The latter subcylindrical, 4.7 times as long as its greatest diameter and 1.2 times as long as sternal branch s which is 2.7 times as long as wide, subcylindrical and with its anterodistal corner distinctly truncate. Seta q similar to setae p and p' of 4th segment, 0.7 of the length of s . Relative lengths of flagella (base segments included) and base segments: $F_1 = 100$, $bs_1 = 5$; $F_2 = 35$, $bs_2 = 3$; $F_3 = 99$, $bs_3 = 4$. The F_1 3.7 times as long as t , F_2 and F_3 1.3 and 3.6 times as long as s respectively; distal calyces of F_1 and F_3 helmet-shaped, of F_2 hemispherical; calyces of F_1 largest, those of F_2 smallest; distal part of flagellum axes not widened. Globulus g only very little longer than wide; \approx 8 bracts; width of g 0.6 of the greatest diameter of t . Antennae glabrous.

Trunk. - Setae of collum segment thick, subcylindrical, distinctly pubescent, with very short secondary branches; sublateral seta 1.5 times as long as submedian one; sternite process triangular with small incision at apex; caps of appendages and anterior part of process faintly granular.

Setae on tergites with short oblique pubescence, on anterior tergites they are rather long and of the same shape as anterior setae of head, on tergites V and VI they are very little lanceolate. There are 4+4 setae on tergite I, 6+6 on II-IV, 6+4 on V and 4+2 on VI. Submedian posterior setae on VI 0.2 of their distance apart and 1.5 times as long as the length of pygidial a_1 . Anterior tergites almost glabrous, posterior ones with granular cuticle.

Relative lengths of trichobothria: $T_1 = 100$, $T_2 = 107$, $T_3 = ?$, $T_4 = 159$, $T_5 = 194$. They have very thin straight axes with short pubescence.

Legs. - Setae on coxa and trochanter of leg 9 similar, furcate, densely annulate, blunt. Secondary branch shorter than primary one. More anteriorly these setae have rudiments only of the secondary branches. Tarsus of leg 9 slender, tapering, 6 times longer than its greatest diameter. Proximal seta tapering, pointed, with very short oblique pubescence; its length 0.3 of the length of tarsus and 2.8 times as long as distal seta; the latter subcylindrical, blunt, with short pubescence. Cuticle of tarsus shortly pubescent.

Pygidium. Tergum. - Posterior margin rounded but with an irregularly triangular process below a_1 . Relative lengths of setae: $a_1 = 10$, $a_2 = 33$, $a_3 = 93$, $st = 7$. The a_1 straight, lanceolate, like a_2 with conspicuous oblique pubescence; a_2 sublanceolate, a little curved inwards, somewhat converging; a_3 thin, tapering with very short pubescence, curved inwards; st straight, cylindrical, blunt, with short pubescence; distance a_1 - a_1 2.1 times as long as a_1 ; distance a_1 - a_2 about 8 times longer than distance a_2 - a_3 ; distance st - st 4.6 times as long as st and 1.5 times as long as distance a_1 - a_1 . Cuticle granular.

Sternum. - Posterior margin between b_1 broadly indented but with a rounded process below anal plate. Relative lengths of b_1 ($a_1 = 10$) = 57, $b_3 = 13$. These setae thin with short pubescence, the former tapering, the latter cylindrical. The b_1 as long as their distance apart; b_3 0.5 of their distance apart. Anal plate narrowest anteriorly with subparallel convex lateral margins, posteriorly two straight tapering appendages separated by a deep narrow V-shaped cleft; length of appendages 1/3 of the length of plate, distal part of appendages with short oblique pubescence.

Etymology. - From Latin *fissus* = parted (anal plate).

Affinities. - Within the subgenus *S. fissus* belongs to a group of species in which the anal plate does not have any distinct lateral or posterolateral corners or processi. There it may be most close to the Angolan *caesariatus* (REMY 1955) but it seems to be akin also to *crinitus* (REMY 1950a) from Argentina and *dugdalei* (REMY 1956a) from New Zealand, may be also to *simplex* (REMY 1954a, 1955) from the Ivory Coast and Angola. It is distinguished from *caesariatus* e.g. in the following respects: the antennal globulus g is proportionately small in *fissus*, rather big in *caesariatus*; the pygidial setae a_1 and a_2 distinctly thickened (not very thin); the a_2 much shorter than the a_3 (not much longer than the a_3); and the anal plate is long, with a deep posteromedian incision and tapering posterolateral processi (not proportionately short with shorter posteromedian incision and with cylindrical posterolateral processi). Distinguishing characters in relation to *crinitus* are the proportionately short antennal flagellum F_2 (about 1/3 of the length of the F_3 in *fissus*, about 0.8 of that length in *crinitus*), the occurrence of the antennal setae u (no in *fissus*), the pygidial setae a_1 and a_2 dissimilar in the same way as in relation to *caesariatus*, the shape of the styli (short cylindrical and about as thick as the appendages of the anal plate, not claviform and much larger) and the shape of the posteromedian margin of the pygidial tergum (with triangular lobe in *fissus*, with only a vestige of it in *crinitus*). Both *dugdalei* and *simplex* seem to be less related.

The genus is here reported for the first time from Brazil.

Subgenus *Hemipauropus* s.str.

21. *Hemipauropus* (*H.*) *piriformis* n.sp. (Figs. 177-187)

Type locality. - Brazil, Manaus, Tarumã Mirim.

Type material. - ^{1074, 039} Holotype: ad. ♀, locality as above, KEMPSON soil extraction, 30.I.1983, loc. K15TM, leg. ADIS and RODRIGUES. Holotype in the INPA collections.

Paratypes: Ibidem, 1 ad. ♀, 29.XII.1982, loc. K12TM; ibidem, 1 ad. ♀, 29.XII.1982, loc. K13TM; 1 ad. ♀, 30.I.1983, loc. K26TM; 4 ad. ♀(2 ♂, 2 ♀), 2 juv. 6, 3 juv. 5, 1 juv. 3, 30.I.1983, loc. K28TM; 1 subad. ♀, 29.XII.1982, loc. K29TM, leg. ADIS and RODRIGUES. Paratypes in the INPA collections.

Description

Length. - 0.80(-1.14) mm.

Head. - Tergal setae rather long, most of them broadly leaf-shaped, the a_3 of 2nd row thick subcylindrical blunt, a_3 and a_4 of 4th row thin cylindrical pointed; pubescence of leaf-shaped setae very short and dense, for the rest short, sparser and oblique. Relative lengths of setae, 1st row: $a_1 = 10$, $a_2 = ?(11)$; 2nd row: $a_1 = ?(10)$, $a_2 = 13(-14)$, $a_3 = 12(-13)$; 3rd row: $a_1 = ?(11-12)$, $a_2 = ?(12)$; 4th row: a_1 and $a_2 = ?$, $a_3 = 15(-23)$, $a_4 = 8(-9)$; lateral group setae thin, tapering, pointed, with short oblique pubescence, relative lengths of them: $1_1 = (24-)27(-29)$, $1_2 = (24-)25(-28)$, $1_3 (7-)=12(-13)$. The ratio a_1/a_1-a_1 is in 1st row 1.3(-1.6), in 2nd row $?(1.0)$, in 3rd and 4th rows $?$. Temporal organs narrowing anteriorly, their length (0.7-) $0.8(-0.9)$ of their shortest distance apart; small posterior pistil at the level of 1_1 . Head cuticle glabrous.

Antennae. - Segment 4 with 5 setae; p and p' leaf-shaped, the former broad and blunt, the latter narrower; p'' and r subcylindrical, the former blunt, the latter tapering; u cylindrical, blunt; pubescence of p , p' and p'' as on leaf-shaped head setae, that of r and u coarser, sparser, oblique. Relative lengths these setae: $p = 100$, $p' = (91-)109$, $p'' = 51(-63)$, $r = 51(-57)$, $u = 9(-10)$. Tergal seta p about 0.5 of the length of tergal branch t . The latter subcylindrical, (3.3-) $3.6(-3.7)$ times as long as wide and about as long as sternal branch s which is (2.5-) $2.7(-3.3)$ times as long as wide, subcylindrical and with its anterodistal corner distinctly truncate. Seta q similar to seta r of 4th segment, (0.5-) 0.6 of the length of s . A rudimentary q' inserted on anterotergal side of 3rd segment. Relative lengths of flagella (base segments included) and base segments: $F_1 = 100$, $bs_1 = (8-)10(-11)$; $F_2 = (45-)48(-52)$, $bs_2 = 9(-11)$; $F_3 = (104-)107$, $bs_3 = 12(-13)$. The F_1 (2.4-) $2.6(-3.3)$ times as long as t , F_2 and F_3 1.2(-1.5) and (2.6-) 3.3 times as long as s respectively; distal calyces of F_1 and F_2 ovoid, 1.7 times as long as greatest diameter, with dense longitudinal rifles and with short spines around distal opening, axes below calyces not widened; calyces of F_3 helmet-shaped, upper part of axes widened; all calyces with very short erect pubescence. Globulus g pear-shaped, (1.4-) $1.5(-1.6)$ times as long as its greatest diameter; 12(-15) bracts; capsule with long stalk and flattened bottom; diameter of g about as long as (-1.1 times as long as) greatest diameter of t . Basal segments of flagella and distal branches of t and s granular and faintly granular respectively.

Trunk. - Setae of collum segment leaf-shaped, blunt, with very faint pubescence and rudimentary secondary branches; sublateral one ≈ 1.5 times as long as submedian one; sternite process triangular, anteriorly pointed and with short erect pubescence.

Tergites most often transversely indistinctly divided and with a more or less distinct reticular

pattern in the cuticula both along the partition lines and in two submedian longitudinal rows; meshes most distinct in tergites IV-VI. Setae of tergites rather long, increasing in length posteriorly, leaf-shaped, on anterior tergites broadly blunt, on posterior ones tapering. There are 4+4 setae on tergite I, 6+6 on II-IV, 2+6 on V and 4 setae in a single row on VI; submedian setae on the latter tergite (0.4)0.5 of their distance apart and (1.5)-1.9 times as long as pygidial a_1 .

Relative lengths of trichobothria: $T_1 = 100$, $T_2 = ?(85-132)$, $T_3 = ?(125-145)$, $T_4 = (142-161)$, $T_5 = ?(236-265)$. They have thin straight axes with exceedingly short pubescence in distal half.

Penis (paratypes only) rather long, 2.1-2.7 times as long as their greatest diameter, faintly granular; distal seta about 0.5 of the length of organ.

Legs. - Legs very long, 0.3(-0.4) of the length of body. Setae on coxa and trochanter of leg 9 furcate, leaf-shaped, with very short dense pubescence; primary branch ovoid, secondary branch in distal part subrectangular; seta of trochanter (1.3-)-1.5(-1.6) times as long as that of coxa. More anteriorly the secondary branch is rudimentary. Coxal setae of leg 2 in males (paratypes only) broadly lanceolate with short dense pubescence. Tarsus of leg 9 tapering, slender, (6.2)-6.6(-6.9) times as long as its greatest diameter; setae tapering, pointed, with short oblique pubescence. Proximal seta 0.3 of the length of tarsus and (2.9-)-3.0(-3.4) times as long as distal seta. Cuticle of tarsus glabrous.

Pygidium. Tergum. - Posterior margin rounded but with a shallow indentation between st. Relative lengths of setae: $a_1 = 100$, $a_2 = (117-)-119(-125)$, $a_3 = (142-)-187(-212)$, $st = (25-)-31(-37)$. The first three lanceolate, blunt, with short depressed pubescence; a_1 straight, a_2 and a_3 somewhat curved inwards; st sublanceolate, blunt, glabrous, outer margin straight, inner curved. Distance a_1 - a_1 (1.1-)-1.3(-1.4) times as long as a_1 ; distance a_1 - a_2 (2.5-)-5.0 times as long as distance a_2 - a_3 ; distance st-st (3.4-)-3.6(-4.0) times as long as st and 0.8(-0.9) of distance a_1 - a_1 . Cuticle glabrous.

Sternum. - Posterior margin between b_1 almost squarely cut. Relative lengths of b_1 ($a_1 = 100$) = (208-)-218(-243). These setae curved inwards, thick, tapering, blunt, with dense short oblique pubescence; they reach 0.7(-0.9) of their distance apart. Anal plate with a rather broad base with two thin, straight, posterolateral spines with filamentous distal parts; between them a much longer posteromedian forked appendage. The latter (1.7-)-1.8(-1.9) times as long as its greatest width.

Juveniles. - In juv. 5 the number of tergal setae is: I 4+4, II 4+6, III 2+4 and VI 4 in a single row. In juv. 6: I 4+4, II-III 6+6, IV 6+4 and VI 4 in a single row.

Etymology. - From Latin *piriformis* = pear-shaped (antennal globulus q).

Affinities. - This long-legged species belongs to the group within the nominate subgenus having only one pair of setae, b_1 , on the pygidial sternum. However, since most species are incompletely known both biogeographically and taxonomically the relationships are not possible to trace. Moreover, no species have been collected in the Nearctic and only three in the Neotropical region, two from Jamaica and one from Colombia. Among them it may be most close to *jamaicensis* (REMY 1958) but the stalk of the antennal globulus g is very thin at base in *piriformis*, thicker in *Jamaicensis*; the antennae, particularly the flagellae and the globulus, are distinctly pubescent in *piriformis*, not in *jamaicensis*; the pygidial setae a_1 and a_2 are more longish and tapering in *piriformis*, short and clavate in *jamaicensis*; on the tarsus of the last pair of legs the proximal seta is 2.9-3.4 times as long as the tarsus in *piriformis*, ≈ 1.5 in *jamaicensis*.

22. *Hemipauropus amazonicus* n.sp. (Figs. 188-198)

Type locality. - Brazil, Manaus, Rio Taramã, Mirim.

Type material. - Holotype: ad. ♀, locality as above, KEMPSON soil extraction, 30.I.1983, loc. K29TM, leg. ADIS and RODRIGUES. Holotype in the INPA collections.

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Paratypes: Ibidem, 1 ad. 9(♀), 28.II.1983, loc. K12TM; ibidem, 1 ad. 9(♀), 28.II.1983, loc. K13TM; 6 ad. 9(3 ♂, 3♀), 28.II.1983, loc. K19TM, leg. ADIS and RODRIGUES. Paratypes in the INPA collections.

Description

Length. - (0.72-)0.99 mm.

Head. - Tergal setae rather long, most of them leaf-shaped with dense faint pubescence; a_2 of 2nd row and sublateral setae of 4th row cylindrical and striate; a_3 and a_4 of 4th row not found. Relative lengths of setae (many lacking), 1st row: $a_1 = 10$, $a_2 = (10-11(-14))$; 2nd row: $a_1 = (10-11(-12))$, $a_2 = (16-)$ 17, $a_3 = 15(-16)$; 3rd row: $a_1 = 8(-10)$, $a_2 = (10-)$ 13; 4th row: $a_1 = (7)$, $a_2 = (14-16)$. Lateral group setae subcylindrical, tapering, pointed, striate, relative lengths of them (paratypes only): $l_1 = 12-15$, $l_2 = 24-32$, $l_3 = 28-33$. The ratio a_1/a_1-a_1 not possible to study. Temporal organs narrowing anteriorly, length (0.8-)0.9 of their shortest distance apart. Head cuticle glabrous.

Antennae. - Segment 4 with 5 setae; all but u subcylindrical, tapering, striate; u cylindrical blunt, r very thin. Relative lengths of these setae: $p = 100$, $p' = 90-95(-100)$, $p'' = (37-)$ 48-50, $r = 33-35(-52)$, $u = (4-)$ 5(-6). Tergal seta p 0.7(-0.8) of the length of tergal branch t . The latter subcylindrical, (3.0-)3.1(-3.6) times as long as its greatest diameter and (0.8-)0.9(-1.0) of the length of sternal branch s which is 2.7(-2.9) times as long as its greatest diameter, almost subcylindrical, with its anterodistal corner distinctly truncate. Seta q similar to seta p of 4th segment, 0.7(-0.8) of the length of s . A rudimentary q' on anterotergal side of 3rd segment. Relative lengths of flagella (base segments included) and base segments: $F_1 = 100$, $bs_1 = (12-)$ 14; $F_2 = (53-)$ 60, $bs_2 = (10-)$ 13(-14); $F_3 = (100-)$ 125, $bs_3 = 12(-15)$. The F_1 (2.2-)2.6 times as long as t , F_2 and F_3 (1.1-)1.2(-1.3) and 2.4 times as long as s respectively; distal calyces of F_1 and F_2 ovoid, 1.3 times as long as greatest diameter, consisting of densely arranged bracts around a sessile ovoid capsule at the bottom; calyces of F_3 probably of other shape. Globulus g subspherical (as long as -) 1.1(-1.3) times as long as its greatest diameter; (9-)10 bracts, capsule with very short stalk and flattened bottom; diameter of g 0.6(-0.7) of greatest diameter of t . Antennae glabrous.

Trunk. - Setae of collum segment leaf-shaped, broadest in distal part, almost glabrous, with very short cylindrical blunt secondary branches; sublateral seta 1.3 times as long as submedian one; sternite process small, anteriorly with shallow median incision; appendages with flat caps: process and appendages glabrous.

Tergites most often transversely indistinctly divided and with a more or less distinct reticular pattern in the cuticula in two submedian longitudinal rows on tergites IV-V(VI). Setae of tergites of various lengths, leaf-shaped. There are 4+4 setae on tergite I, 6+6 on II-V and 4 setae in a single posterior row on VI; submedian setae on the latter tergite 0.3 of their distance apart and about as long as pygidial a_1 .

Relative lengths of trichobothria: $T_1 = 100$, $T_2 = ?(121-125)$, $T_3 = ?(132-133)$, $T_4 = 123(-125)$, $T_5 = ?(187-190)$. They have thin straight axes with short pubescence; axes thickest and pubescence most coarse in T_3 .

Penis (paratypes only) conical, narrowing in distal half, twice longer than their greatest diameter, glabrous; distal seta 0.3(-0.4) of the length of organ.

Legs. - Legs long, leg 9 1/4 of the length of body. Setae on coxa and trochanter of leg 9 furcate, leaf-shaped, almost glabrous; primary branch with subparallel lateral margins, secondary branch much smaller, in distal part subrectangular; seta of trochanter (1.1-)1.2 times as long as that of coxa. More anteriorly the secondary branch is rudimentary. Coxal setae of leg 2 in males (paratypes only) leaf-shaped with rounded lateral margins and faintly pubescent. Tarsus of leg 9 tapering, very slender, (5.0-)6.0 times longer than its greatest diameter, glabrous; proximal seta tapering, pointed; distal one fusiform. The former, 0.2(-0.3) of the length of tarsus and (2.1-)2.4(-2.7) times as long as distal seta. Cuticle of tarsus glabrous.

Pygidium. Tergum. - Posterior margin rounded but a little indented between st. Relative lengths of setae: $a_1 = 100$, $a_2 = (113-142)$, $a_3 = (275-329)$, $st = 43(-62)$. The first two leaf-shaped as setae on tergites, a_3 thickest at base and tapering, st lanceolate(-subcylindrical); a_1 , a_2 and a_3 with faint pubescence, st glabrous; a_1 , a_2 and st straight, a_3 curved inwards; st converging. Distance a_1-a_1 (1.6-)2.0 times as long as a_1 ; distance a_1-a_2 about (2-)3 times longer than distance a_2-a_3 ; distance st-st (2.8-)3.4 times as long as st and (0.8-)0.9 of distance a_1-a_1 . Cuticle glabrous.

Sternum. - Posterior margin between b_1 rounded. Relative lengths of b_1 ($a_1 = 100$) = (287-)334(-343). These setae curved inwards, thick, tapering, with distinct oblique pubescence; they reach 0.8(-0.9) of their distance apart. Anal plate with two thin, straight, converging, posterolateral spines; between them a much longer posteromedian appendage with long stalk and rhomboidal distal plate which is cleft distally by a deep incision; distal plate only a little longer than it is wide.

Etymology. - A latinization of (the river) Amazonas.

Affinities. - *H. amazonicus* is close to the preceding species but has much shorter and smaller antennal globulus g, no leaf-shaped setae on the 4th antennal segment, a much smaller globulus g' on the 3rd antennal segment, smaller styli and proportionately shorter setae a_1 and a_2 on the pygidial tergum.

Subfamily Polypauropodinae Genus *Polypauropus* REMY, 1932

23. *Polypauropus tropicus* n.sp. (Figs. 199-210)

Type locality. - Brazil, Manaus, Rio Tarumã Mirim.

Type material. - Holotype: ad. 9(♀), locality as above, KEMPSON soil extraction, 25.IV.1983, loc. K32TM, leg. ADIS and RODRIGUES. Holotype in the INPA collections.

Paratypes: Same data as holotype, 2 ad. 9(♂, ♀); ibidem, 1 ad. 10(♀), 3 ad. 9(♂), 3 subad. 8(2 ♂, 1 ♀), 2 juv. 6, 1 stad. ?, 25.IV.1983, K26TM; ibidem, 3 subad. 8(1 ♂, 2 ♀), 25.IV.1983, K31TM, leg. ADIS and RODRIGUES. Paratypes in the INPA collections.

Description

Length. - 1.04(-1.28) mm.

Head. - Submedian tergal setae of medium lengths, sublateral and lateral ones rather long, subcylindrical-cylindrical, blunt, annulate. Relative lengths of them, 1st row: $a_1 = 10$, $a_2 = 11(-13)$; 2nd row: $a_1 = 10(-12)$, $a_2 = 11(-12)$, $a_3 = (14-)19$; 3rd row: $a_1 = (6-)8$, $a_2 = (10-)11$; 4th row: $a_1 = \approx 11$, $a_2 = 16(-19)$, $a_3 = 21(-24)$, $a_4 = 13(-15)$; lateral group: $l_1 = (25-)31$, $l_2 = 13(-15)$, $l_3 = 18(-22)$. The ratio a_1/a_1-a_1 is in 1st row (1.0-)1.1, in 2nd row (0.7-)1.0, 3rd row 0.7(-0.8) and in 4th row (0.5-)0.8. Length of temporal organs (0.7-)0.8 of their shortest distance apart; no pistil. Mediotergal plate not narrowing in the middle, 2.8(-2.9) times as long as its greatest breadth. Head cuticle faintly granular.

Antennae. - Segment 4 with 5 setae, all blunt and annulate: p, p' and p'' subcylindrical, u and r cylindrical. Relative lengths of these setae: p = 100, p' = 71(-100), p'' = (42-)45(-54), r = 13(-21), u = 10(-23). Tergal seta p (1.3-)1.7 times as long as the length of tergal branch t. The latter very short, subcylindrical, (1.2-)1.3 times as long as its greatest diameter and (0.4-)0.5 of the length of sternal branch s which is (1.4-)1.5(-1.7) times as long as its greatest diameter with its anterodistal corner truncate. Setae q and q' cylindrical, blunt, annulate; q (a little shorter than -) 1.1 times as long as s and (0.6-)0.7 of the length of q'. Relative lengths of flagella (base segments included) and base segments: $F_1 = 100$, $bs_1 = (9-)11$; $F_2 = 91(-116)$, $bs_2 = (8-)9(-11)$; $F_3 = 100(-110)$, $bs_3 = 9(-11)$. The F_1 (5.6-)6.1(-6.6) times as long as t, F_2 and F_3 2.6(-3.2) and (2.8-)2.9(-3.0) times as long as s respectively;

distal calyces subconical-conical and of the same structure as the globuli of *s*; they have 5 bracts and conical capsule with flat base. Length of globuli of sternal branch (stalks included) 2.2-2.4(2.7) times as long as greatest diameter and (0.6-)-0.7(-0.8) of the length of *s*; both globuli of about the same diameter, ≈ 0.8 of the greatest diameter of *t*. A rudimentary *g'* on anterotergal side of 3rd segment. Antennae glabrous except the basal segments of flagella which have a short erect pubescence.

Trunk. - Setae of collum segment simple, somewhat clavate, blunt, annulate; sublateral one 1.2 times as long as submedian one; sternite process broadly triangular, cleft anteriorly into two rounded lobes; appendages with rather flat 4-parted caps; process and basal part of appendages with short but distinct erect pubescence.

Setae on tergites of medium lengths, subcylindrical, blunt, annulate. In the stadia with 8, 9 and 10 pairs of legs tergites I and II are simple with 4+4 and 6+6 setae respectively, tergite III weakly divided with 6+4 setae on anterior part and 6 on posterior one, tergite IV weakly divided with 6+4 setae on anterior part and probably 4+4 on posterior one. On the weakly divided tergite V (ad. 10 and ad. 9) there are 4+2 setae on each part. Tergite VI is weakly divided in ad. 10 with 6+2 setae on anterior part and 4+2 on posterior one; in ad. 9 and subad. 8 this tergite is simple with 4+2 setae. Length of submedian posterior setae on VI 0.1(-0.2) of their distance apart and 0.2 of the length of pygidial a_1 .

Trichobothria with straight simple axes and oblique-erect simple pubescence hairs. Axes thickest and pubescence strongest in T_3 . Relative lengths of trichobothria: $T_1 = 100$, $T_2 = ?(126-139)$, $T_3 = ?(118-134)$, $T_4 = (157-)-160(-180)$, $T_5 = (170-)-181(-183)$.

Penis (paratypes only) short, subconical, 1.2(-1.3) times as long as their greatest diameter; distal seta 0.6 of the length of organ; very short but distinct pubescence. In subad. 8 penis very short, about as wide as long, rounded, glabrous, without apical seta.

Legs. All legs 5-segmented. Setae on coxa and trochanter of leg 9 simple, annulate, a little widening outwards, apex shallowly cleft; seta on coxa (1.1-)-1.2 times as long as the one on trochanter; more anteriorly these setae are cylindrical. Tarsus of leg 9 somewhat tapering, (3.0-)-3.5(-3.6) times as long as its greatest diameter. Proximal seta tapering, pointed, striate; its length 0.3 of the length of tarsus and 1.5(-2.0) times as long as distal seta; the latter thin, a little clavate, striate. Tarsus glabrous.

Pygidium. Tergum. - Posterior margin almost straight but with a small rounded bulge between a_1 . Relative lengths of setae: $a_1 = 100$, $a_2 = (40-)-50(-67)$, $a_3 = (37-)-50(-66)$, $st = (157-)-171(-197)$, $t_1 = 14(-16)$. All but t_1 subcylindrical, tapering; a_1 , a_2 and a_3 pointed; a_1 and a_2 with oblique pubescence, very faint on the latter; a_3 and st striate; a_1 diverging; a_2 , a_3 and st somewhat curved inwards. The t_1 triangular with distinct sparse pubescence of partly erect hairs. Distance a_1 - a_1 0.3(-0.4) of the length of a_1 ; distance a_1 - a_2 3.3(-3.4) times as long as distance a_2 - a_3 ; distance st - st 0.9 of the length of st and (3.8-)-3.9(4.1) times as long as distance a_1 - a_1 . Cuticle glabrous.

Sternum. - Posterior margin shallowly indented between t_2 and with a small median trapeziform process having a little posterior incision. Relative lengths of setae ($a_1 = 100$): $b_1 = (74-)-77(-107)$, $b_2 = (70-)-71$, $t_2 = 14(-17)$. The b_1 as a_1 of pygidial tergum, b_2 a little thicker. The b_1 (1.4-)-1.7 times as long as their distance apart; b_2 (as long as -)1.2 times as long as distance b_1 - b_2 . Anal plate represented by two stalked and a little converging lamelliform setae; distal part circular, longer than its stalk, sparsely set with straight erect pubescence hairs distinctly longer than on other pygidial setae.

Etymology. - From Latin *tropicus* = tropical.

Affinities. - Among 8 species described in the genus *P. tropicus* shows greatest affinities to *lamottei* (REMY 1959b) from Liberia but there are good distinguishing characters in the shape of the temporal organs (broadest anteriorly in *tropicus*, posteriorly in *lamottei*, the anal plate appendages (circular in *tropicus*, linguiform in *lamottei*) and the shape and length of the pygidial setae a_1 (tapering pointed, a_1/a_1 - $a_1 = 2.4-3.0$ in *tropicus*; cylindrical blunt, a_1/a_1 - $a_1 = 1.2$ in *lamottei*).

Type locality. - Brazil, Manaus, Rio Tarumã Mirim.

Type material. - Holotype: ad. 10(♀), ^{INPA 005} locality as above, KEMPSON soil extraction, 28.II.1983, loc. K29TM, leg. ADIS and RODRIGUES. Holotype in the INPA collections.

^{INPA 006} Paratype: Ibidem, 1 ad. 9(♀), 25.IV.1983, loc. K24TM, leg. ADIS and RODRIGUES. Paratype in the INPA collections.

Description

Length. - (0.82-)1.02 mm.

Head. - Tergal and lateral setae cylindrical, main part of medium lengths, blunt, annulate. Relative lengths of them, 1st row: $a_1 = 10$, $a_2 = 11$; 2nd row: $a_1 = 10$, $a_2 = 15$, $a_3 = 17$; 3rd row: $a_1 = 9$, $a_2 = 10$; 4th row: $a_1 = 15$, $a_2 = 13$, $a_3 = 27$, $a_4 = 10$; lateral group: $l_1 = l_3 = 17$, $l_2 = 33$. The ratio $a_1/a_1 - a_1$ is in 1st row 1.3, in 2nd row 2.0, 3rd row 1.1 and in 4th row ≈ 0.6 . Length of temporal organs 0.8 of their shortest distance apart; no pistil. Mediotergal plate almost triangular (1.5-)1.9 times as long as its greatest breadth. Head cuticle glabrous.

Antennae. - Segment 4 with 4 setae which are cylindrical, blunt, annulate. Relative lengths of them: $p = p' = 100$, $p'' = 42$, $r = 20$. Neither p''' nor u . Tergal seta p 1.3 times as long as tergal branch t . The latter in the shape of an upside down truncated cone, 1.1(-1.2) times as long as its greatest diameter and 0.5 of the length of sternal branch s which is 1.5 times as long as its greatest diameter with its anterodistal corner a little truncate. Setae q and q' long, as setae of 4th segment; q 1.4 times as long as s and 1.2 times as long as q' . Relative lengths of flagella (base segments included) and base segments: $F_1 = 100$, $bs_1 = 10(-11)$, $F_2 = 79$, $bs_2 = 14(-15)$; $F_3 = 41(-42)$, $bs_3 = 10$. The F_1 5.1(-5.4) times as long as t , F_2 and F_3 2.0 and 2.8 times as long as s respectively; distal calyces ovoid and of the same structure as the globuli of s ; they have 5 sometimes furcate bracts and a very small capsule on a long and thick stalk. Length of globuli of sternal branch (stalks included) 2.2 times as long as their greatest diameter and 0.8 of the length of s ; both globuli of about the same diameter, ≈ 0.8 of the greatest diameter of t . The g' of 3rd segment not studied. Capsule of upper globulus strongly flattened, of lower conical; ≈ 16 bracts. Antennae glabrous.

Trunk. - Setae of collum segment simple, somewhat clavate, blunt, annulate; sublateral one 1.3 times as long as submedian one; sternite process short and broadly rounded; appendages with small 3-parted caps; process and basal part of appendages with short pubescence.

Setae on tergites as on head; those in anterior row of tergite I longer than more posteriorly. There are 4+4 setae on tergite I, 6+6 on II, 4+4 on V and 4+2 on VI. Tergites III and IV not studied. Length of submedian posterior setae on VI ≈ 0.2 both of their distance apart and of the length of pygidial a_1 .

Trichobothria with straight simple axes which are thickest in T_3 . In the latter there is also a small distal ovoid endswelling. Pubescence hairs almost straight, short and oblique in T_5 , longer and more erect in the others, strongest in T_3 . Relative lengths of trichobothria: $T_1 = 100$, $T_2 = (113-)127$, $T_3 = 109$, $T_4 = 136$, $T_5 = (142-)151$.

Legs. - All legs 5-segmented. Setae on coxa and trochanter of legs 1-9 similar, simple, annulate, a little widening outwards, apex blunt. Tarsus of leg 9 tapering, (2.7-)3.0 times as long as its greatest diameter. Proximal seta cylindrical and striate; its length 0.1 of the length of tarsus and 0.7 of the length of distal seta; the latter spatulate, twice longer than wide with very short erect pubescence. Tarsus glabrous.

Pygidium. Tergum. - Posterior margin almost straight but with several small bulges between st and among them a median plate-like structure twice broader than long between a_1 . Relative lengths of setae: $a_1 = 100$, $a_2 = ?(119-128)$, $a_3 = 33(-48)$, $st = 137(-152)$, $t_1 = 13(-16)$. The a_1 , a_2 and st subcylindrical, tapering, pointed, glabrous; a_3 cylindrical, blunt, striate; t_1 obliquely triangular-spatulate with sparse

pubescence of straight erect hairs. Distance a_1-a_1 0.3 of the length of a_1 ; distance a_1-a_2 2.4 times as long as distance a_2-a_3 ; distance $st-st$ (1.1-)1.2 times as long as st and 4.8(-5.2) times as long as distance a_1-a_1 . Posterior part of tergum with sparse but distinct pubescence.

Sternum. - Posterior margin shallowly indented between t_2 and with a small median trapeziform process having a very small posterior incision. Relative lengths of setae ($a_1 = 100$): $b_1 = 70(-72)$, $b_2 = 43(-60)$, $t_2 = 17(-20)$. The b_1 as a_1 of pygidial tergum, diverging, b_2 a little thicker, curved inwards; t_2 spatulate with sparse pubescence of straight erect hairs. The b_1 (2.0-)2.1 times as long as their distance apart; b_2 (0.5-)0.6 of distance b_1-b_2 . Anal plate represented by two stalked and a little converging lamelliform setae; distal part subtriangular, longer than its stalk, sparsely set with straight erect pubescence hairs.

Etymology. - From Latin *latebra* = hiding-place and *-colus* = inhabiting.

Affinities. - *P. latebricolus* is close to the preceding species but is distinguished from it by the shape of the mediotergal plate of the head (anteriorly broad and with almost straight anterior margin in *latebricolus*, narrow with distinct anterior incision in *tropicus*), the shape of the temporal organs (broadest posteriorly in *latebricolus*, broadest anteriorly in *tropicus*), the shape of the setae of the coxa and trochanter of the last pair of legs (distally incised in *tropicus*, not so in *latebricolus*) and the shape of the distal seta of the tarsus of the same leg (broadly spatulate in *tropicus*, thin subcylindrical in *latebricolus*).

Genus *Polypauropoides* REMY, 1956c

25. *Polypauropoides unisetus* n.sp. (Figs. 220-229)

Type locality. - Brazil, Manaus, Rio Tarumã Mirim.

Type material. - Holotype: ad. 9(♂), locality as above, KEMPSON soil extraction, 30.I.1983, loc. K29TM, leg. ADIS and RODRIGUES: Holotype in the INPA collections.

Paratypes: Same data as holotype, 1 ad. 9(♂); ibidem, 1 ad. 9(♀), 27.VI.1983, loc. K19TM, leg. ADIS and RODRIGUES. Paratypes in the INPA collections.

Description

Length. - (0.49-)0.62(-82) mm.

Head. - Tergal setae rather short, subcylindrical, blunt, annulate. Relative lengths of them, 1st row: $a_1 = 10$, $a_2 = (10-)11$; 2nd row: $a_1 = (9-)10$, $a_2 = (7-)9$, $a_3 = 13(-17)$; 3rd row: $a_1 = (11-)12$, $a_2 = ?$; 4th row: $a_1 = ?(9-10)$, $a_2 = (10-)14$, $a_3 = (10-)13(-15)$, $a_4 = (9-)14$; lateral group not studied. The ratio a_1/a_1-a_1 is in 1st row (holotype only) 1.0, in 2nd row 0.4, in 3rd row 0.6, in 4th row (two paratypes only) 0.5. Temporal organs in tergal view triangular, length of them (≈ 1.0 -)1.3(-1.5) times their shortest distance apart; no pistil. Mediotergal plate distinctly narrowing in the middle, (1.3-)1.5(-1.9) times as long as its greatest breadth. Head cuticle glabrous.

Antennae. - Description incomplete because they are not suitable for study. Segment 4 with at least p , p' and r . They are cylindrical and blunt, the two former striate, the latter glabrous. Relative lengths of them (paratypes only): $p = 100$, $p' = (86 \text{ and } 91)$, $r = (31-36)$. Tergal seta p 1.4 times as long as tergal branch t . The latter short, subspherical, (0.3-)0.4 of the length of sternal branch s which is (1.3-)1.6 times as long as its greatest diameter with its anterodistal corner distinctly truncate. Setae q and q' cylindrical, blunt, striate; q 0.7 of the length of s and 1.7 times as long as q' . Relative lengths of flagella (base segments included) and base segments: $F_1 = 100$, $bs_1 = (12-)14(-15)$; $F_2 = 76(-100)$, $bs_2 = (17-19(-20))$; $F_3 = 108(-123)$, $bs_3 = (17-)20(-23)$. The F_1 5.3(-6.0) times as long as t , F_2 and F_3 1.7(-2.1) and (2.3-)2.4(-2.5) times as long as s respectively. Distal calyces subspherical and of similar

structure as the globuli of *s*; they have 5-6 bracts; capsule subspherical on a very short stalk. Length of globuli of sternal branch (stalks included) twice longer than their greatest diameter and 0.7(-0.8) of the length of *s*; both globuli of about the same diameter, as wide as greatest diameter of *t*. The *g'* of 3rd segment not studied. Capsule of lower globulus with strongly flattened bottom; ≈ 8 bracts. Antennae glabrous.

Trunk. - Setae of collum segment short, simple, somewhat clavate, blunt, annulate; sublateral one 1.3 times as long as submedian one; sternite process triangular with blunt tip; appendages with small hemispherical caps; process and appendages glabrous.

Setae on tergites as on head; there are 4+4 setae on tergite I, 6+6 on tergites II-V, 4+4 on VI. Length of submedian posterior setae on VI 0.3(-0.4) of their distance apart and 0.6(-0.8) of the length of pygidial a_1 .

Trichobothria polyramose in their outer 2/3 with branches arranged in one plane; branches most often decreasing in length outwards; main axes and branches covered with oblique straight pubescence hairs. There are (one paratype only) 6 branches on T_1 , 6 or 7 branches on T_2 , 9 branches on T_3 , 6-10 branches on T_4 and 10 branches on T_5 . Relative lengths of trichobothria: $T_1 = 100$, $T_2 = (94-)98$, $T_3 = (98-)100$, $T_4 = (98-)104$, $T_5 = (112-)116$.

Legs. - All legs 5-segmented. Setae on coxa and trochanter of legs 1-9 similar, simple, annulate, blunt; seta on trochanter thinner and a little longer than coxal seta. Tarsus of leg 9 short, fusiform, tapering, 2.2(-2.3) times as long as its greatest diameter. No proximal seta; distal seta cylindrical, blunt, with short oblique pubescence; its length 0.3(-0.4) of the length of tarsus. Tarsus glabrous.

Pygidium. Tergum. - Posterior margin almost rounded. Relative lengths of setae; $a_1 = 100$, $a_2 = (83-)100$, $a_3 = (367-)500$, $st = ?(130-138)$. All these setae are cylindrical-subcylindrical, annulate; a_1 , a_2 and st blunt, a_3 tapering; a_1 almost straight and converging, a_2 curved outwards and diverging, a_3 curved inwards and diverging, st curved inwards and converging. Distance a_1-a_1 about 3 times longer than a_1 , distance a_1-a_2 2.5(-3.8) times as long as distance a_2-a_3 ; distance $st-st$ 2.3(-2.6) times as long as st and about as long as distance a_1-a_1 . Cuticle glabrous.

Sternum. - Posterior margin shallowly indented but with a small median triangular process below anal plate. Relative lengths of setae ($a_1 = 100$): $b_1 = (117-)160(\approx 200)$, $b_2 = (60-)63(-67)$. The b_1 almost straight, clavate, annulate, (0.4-)0.6 of their distance apart; b_2 straight, cylindrical, annulate, blunt, 0.4 of distance b_1-b_2 . Anal plate represented by two almost straight, pubescent, claviform setae which are a little shorter than b_1 . Cuticle glabrous.

Etymology. - From Latin *unus* = one and *-setus* = hairy (tarsus).

Affinities. - The genus is very seldom met with and only 5 species have been described and as far as external morphology is concerned they constitute a homogenous group. *P. unisetus* appears to be most similar to *legeri* (REMY 1940) from Corsica and *propinquus* (REMY 1948a) from the Ivory Coast. It is distinguished from them e.g. by the proportionately longer branches of the trichobothria, the longer pygidial setae b_1 (longer than the anal plate, not as long as or shorter) and by the shape of the anal plate appendages (with long thin stalks, not thick).

26. *Polypaupoides biclaviger* n.sp. (Figs. 230-238)

Type locality. - Brazil, Manaus, Rio Taramã Mirim.

Type material. - Holotype: ad. 9(♀), locality as above, KEMPSON soil extraction, 29.XII.1982, loc. K12TM, leg. ADIS and RODRIGUES. Holotype in the INPA collections.

Paratype: Ibidem, 1 ad. 9(♂), 25.IV.1983, loc. K10TM, leg. ADIS and RODRIGUES. Paratype in the INPA collections.

Description

Length. - (1.04)1.13 mm.

Head. - Tergal setae of medium length, all subcylindrical and blunt except a_3 of 2nd row which is tapering and pointed. Relative lengths of them, 1st row: $a_1 = 10$, $a_2 = (10)11$; 2nd row: $a_1 = ?(8)$, $a_2 = ?$, $a_3 = (16)17$; the 3rd and 4th rows seem to be fused and their setae are here enumerated together: $a_1 = (12)15$, $a_2 = 15$, $a_3 = (10)15$, $a_4 = 15(17)$, $a_5 = (13)15$, $a_6 = 15$; lateral group: $l_1 = l_2 = (15)17$, $l_3 = (13)17$. The ratio a_i/a_{i-1} is in 1st row 0.8, in 2nd row ?, in the combined 3rd and 4th rows 1.8. Temporal organs very broad, in posterior part with a posteromedian extension; length of organs (tergal view) 2.1 times their shortest distance apart; no pistil. Mediotergal plate as broad as long, posterior 1/3 narrow. Head cuticle glabrous.

Antennae. - Segment 4 with 5 setae. They are cylindrical, annulate, blunt; relative lengths of them (holotype only): $p = 100$, $p' = 86$, $p'' = 121$, $r = 57$, $u = 14$. Tergal seta p 1.2 times as long as tergal branch t . The latter very short, subspherical, 0.4 of the length of sternal branch s which is as long as its greatest diameter with its anterodistal corner very little truncate. Setae q and q' cylindrical, blunt, annulate; q 0.8(0.9) of the length of s and 1.5(2.1) times as long as q' . Relative lengths of flagella (base segments included) and base segments: $F_1 = 100$, $bs_1 = (13)14$; $F_2 = (113-)128$, $bs_2 = (13-)16$; $F_3 = (140-)143$, $bs_3 = (16-)23$. The F_1 (5.7)5.8 times as long as t , F_2 and F_3 (2.8-)3.0 and 3.3(-3.5) times as long as s respectively. Distal calyces complicated consisting of a central subglobular capsule from the base surrounded by a whorl of 4-6 cylindrical and blunt bracts which are short except two which are bent in a semicircular curve over the capsule. Length of globuli of sternal branch (stalks included) (1.6)1.8 times as long as the organ and 0.4 of the length of branch; lower globulus wider than upper one, 1.2 times as wide as greatest diameter of t ; capsules hemispherical with flattened bottom. Antennae glabrous.

Trunk. - Setae of collum segment simple, cylindrical, blunt, annulate; sublateral one 1.3 times as long as submedian one; sternite process very large, anteriorly divided into two low rounded lobes; appendages very wide with large caps which are 4-parted; caps and process with short erect pubescence.

Setae on tergites subcylindrical, blunt, annulate; there are 4+4 setae on tergite I, 6+6 on tergite II, tergites III-VI not studied.

Trichobothria have simple and very thin straight axes; pubescence increasing in length outwards from short oblique straight hairs to long curved many-branched hairs arranged in whorls in distal halves. Relative lengths of trichobothria: $T_1 = 100$, $T_2 = 98(-100)$, $T_3 = 102$, $T_4 = 110$, $T_5 = 116(-117)$.

Legs. - All legs 5-segmented. Setae on coxa and trochanter of leg 9 cylindrical, annulate, blunt, with a very rudimentary pointed secondary branch; the latter with short oblique pubescence; more anteriorly these setae are similar but the secondary branch is still more reduced. Coxal seta in leg 2 in male not deviating. Tarsus of leg 9 short, tapering, 2.2(2.3) times as long as its greatest diameter. Proximal seta subclavate, blunt, annulate; its length 0.2 of the length of tarsus and 0.7 of the length of distal seta; the latter fusiform, annulate. Tarsus shortly pubescent.

Penis small, short, rounded, about as long as the greatest diameter, glabrous; distal seta 0.5 of the length of organ.

Pygidium. Tergum. - Posterior margin straight. Relative lengths of setae; $a_1 = 100$, $a_2 = (63)69$, $a_3 = (158)187$, $st = (58)69$. The a_1 and a_2 straight with distinct oblique pubescence, the former lanceolate and the latter subcylindrical tapering; a_3 cylindrical, annulate, st subcylindrical, tapering, pointed, glabrous, both these setae curved inwards; a_2 and a_3 diverging, st converging. Distance a_1-a_1 about (1.8)2.2 times as long as a_1 , distance a_1-a_2 5.8 times as long as distance a_2-a_3 ; distance $st-st$ (1.5)1.6 times as long as st and 0.5 of distance a_1-a_1 . Cuticle distinctly pubescent.

Sternum. - Posterior margin with deep broadly V-shaped indentation, posterolateral corners triangular. Relative lengths of setae ($a_1 = 100$): $b_1 = (111)119$, $b_2 = (26)31$. The b_1 almost straight,

subcylindrical, densely annulate, 1.1(1.2) times as long as their distance apart; b_2 cylindrical, annulate, blunt, curved inwards, 0.3 of distance b_1 - b_2 . Anal plate represented by two broadly claviform setae with long erect pubescence hairs; they are 0.5 of the length of b_1 . Distal part of sternum pubescent, longest hairs on posterodistal corners.

Etymology. - From Latin *bi* = two and *clava* = club (anal plate).

Affinities. - In some respects e.g. as to the branching and pubescence of the trichobothria and the chaetotaxy of the legs the new species appears to be rather close to *lautus* (REMY 1959c) from Mauritius but the following differences have to be focused: the pygidial setae b_1 are twice longer than the anal plate appendages (only ≈ 0.8 of this length in *lautus*), the *st* are glabrous, tapering, pointed (not cylindrical, striate, blunt), the shape of the pygidial setae a_1 and a_2 are lanceolate (not cylindrical) and the anal plate appendages are broadly claviform with long erect pubescence hairs (not linguiform and annulate).

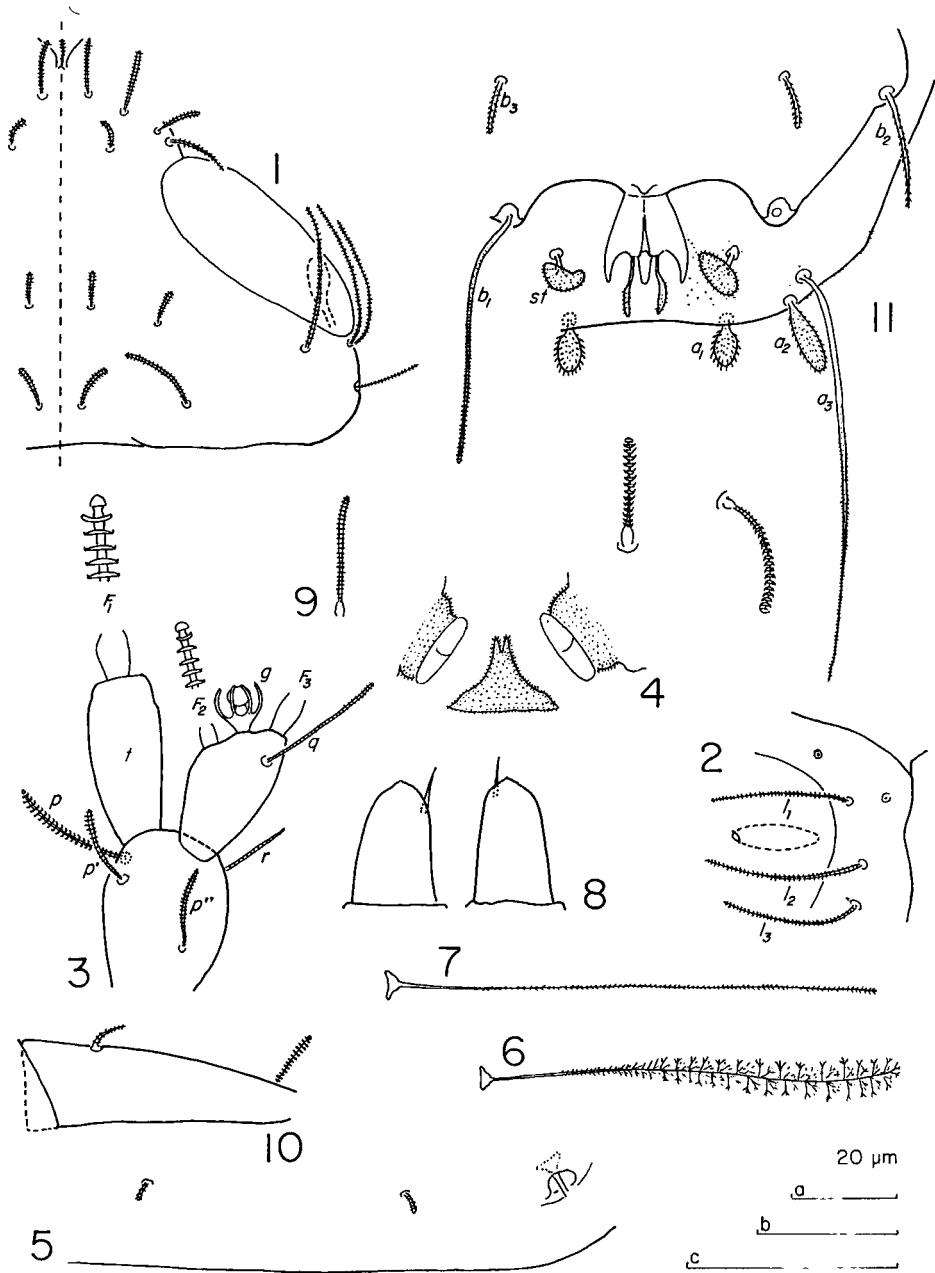
Acknowledgments

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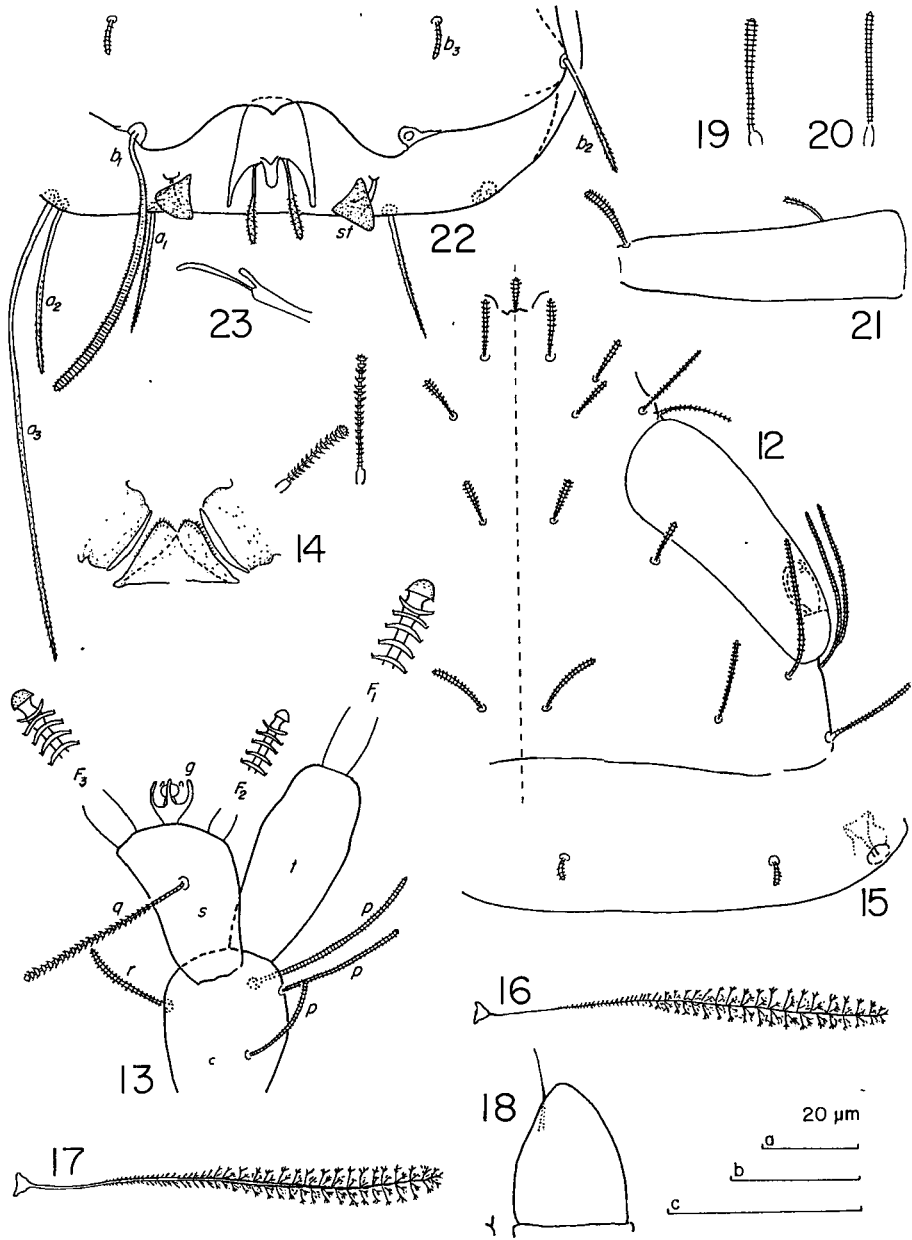
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Figs. 1-11:

Allopaupopus (Allopaupopus) ovalis n.sp., holotype.

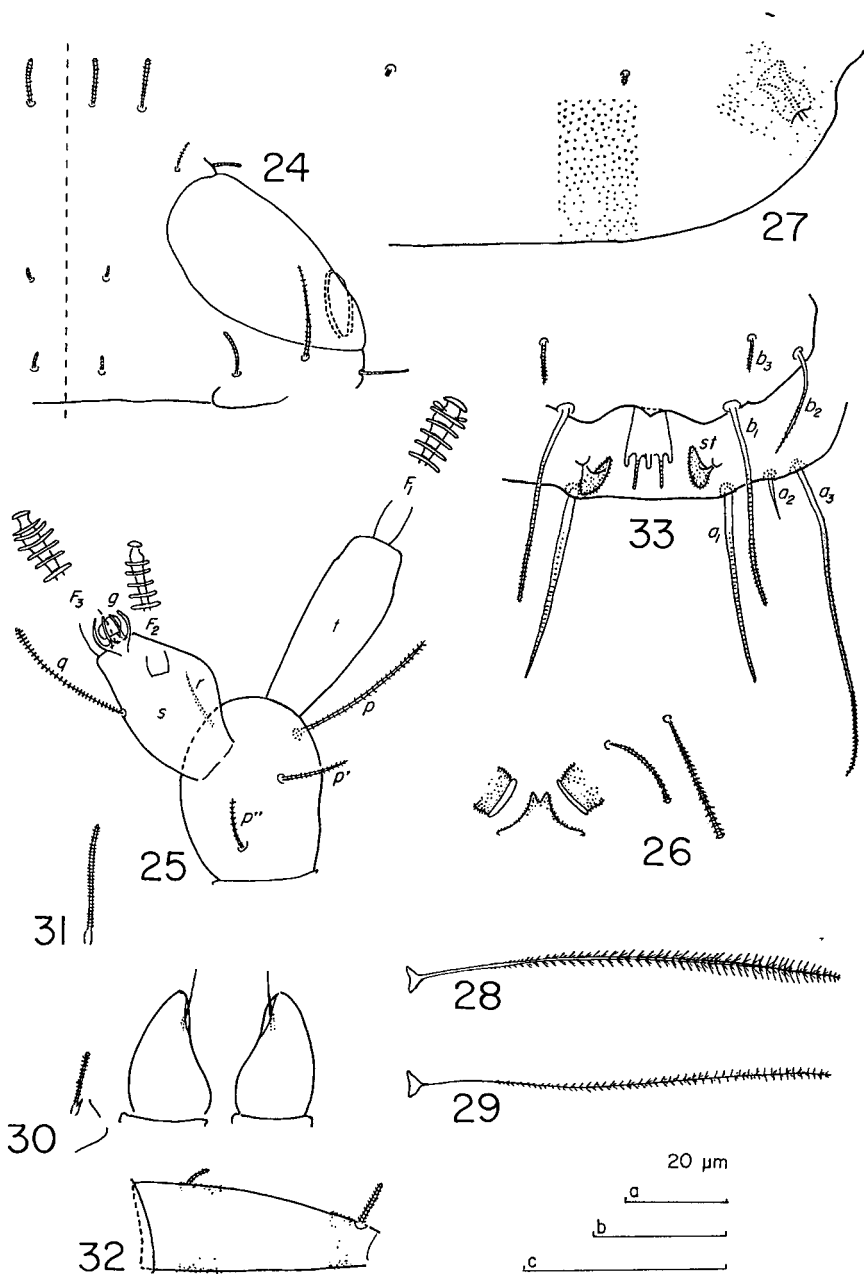
1: Head, right half, tergal view. 2: Posterior part of temporal organ with pistil and insertion points of lateral group setae, left side, lateral view. 3: Left antenna, sternal view. 4: Collum segment, median and left part, sternal view. 5: Tergite VI, posteromedian and right posterolateral part. 6: T_3 . 7: T_5 . 8: Penes, anterior view. 9: Seta on trochanter of leg 9. 10: Tarsus of leg 9. 11: Pygidium, median and left part, sternal view. Pubescence only partly drawn in 11. Scale a: 6, 7, 8; b: 1, 5, 9, 10; c: 2-4, 11.



Figs. 12-23:

Allopauropus (Allopauropus) rodriguezsi n.sp., holotype 12-17, 19-23; paratype 18.

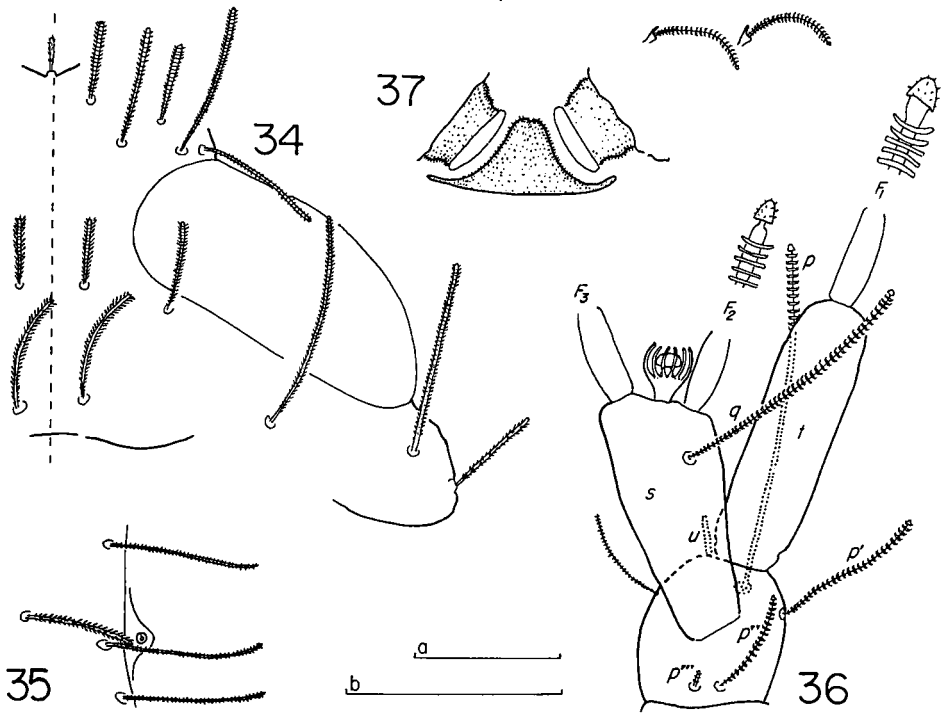
12: Head, right half, tergal view. 13: Right antenna, sternal view. 14: Collum segment, median and left part, sternal view. 15: Tergite VI, posteromedian and right posterolateral part. 16: T₁. 17: T₂. 18: Right penis, anterior view. 19: Seta on coxa of leg 9. 20: Seta on trochanter of leg 9. 21: Tarsus of leg 9. 22: Pygidium, median and left part, sternal view. 23: Anal plate, lateral view, lateral appendages not shown. Scale a: 15-18; b: 12, 14, 19-21; c: 13, 22, 23.



Figs. 24-33:

Allopauropus (Allopauropus) uncinatus n.sp., holotype 24-29, 31-33; paratype 30.

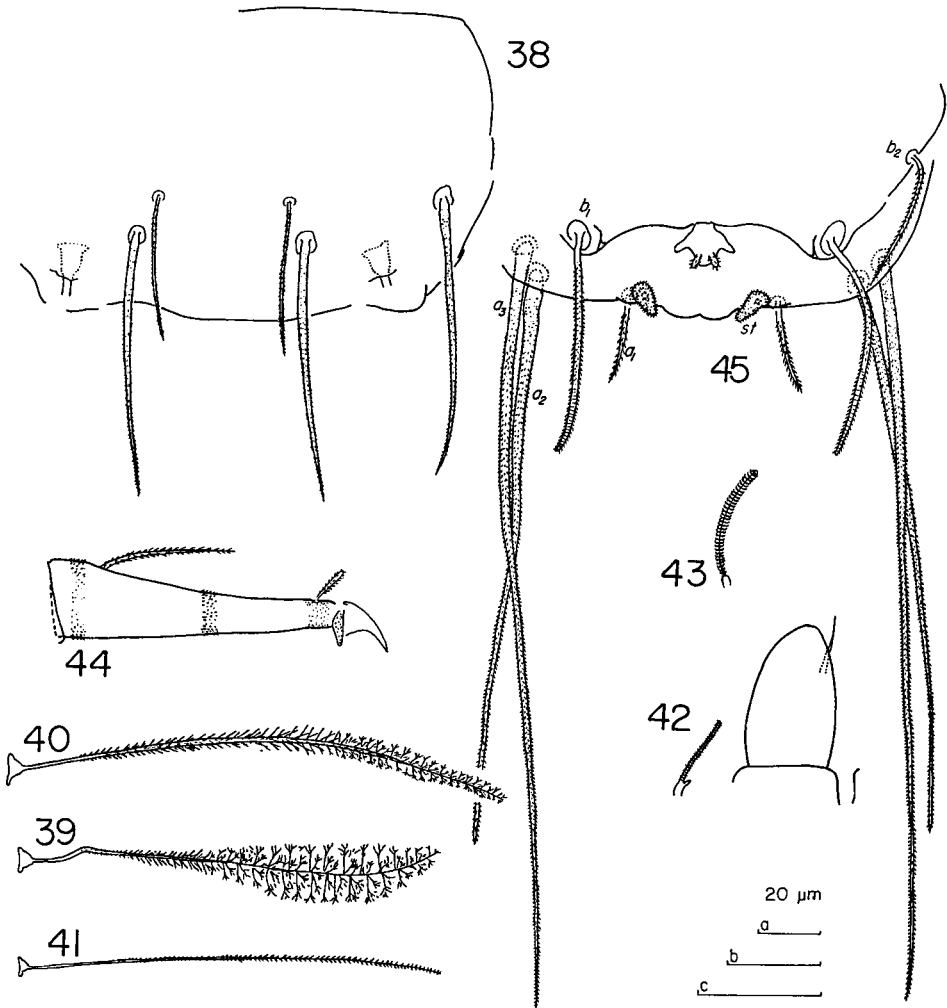
24: Head, right half, tergal view. 25: Right antenna, sternal view. 26: Collum segment, median and left part, sternal view. 27: Terite VI, posteromedian and right posterolateral part. 28: T₃. 29: T₄. 30: Penes and seta on coxa of left leg 2, anterior view. 31: Seta on trochanter of leg 9. 32: Tarsus of leg 9. 33: Pygidium, sternal view. Pubescence only partly drawn in 32. Scale a: 28-30; b: 24, 26, 27, 31-33; c: 25.



Figs. 34-37:

Allopauopus (Allopauopus) bicorniculus n.sp., holotype.

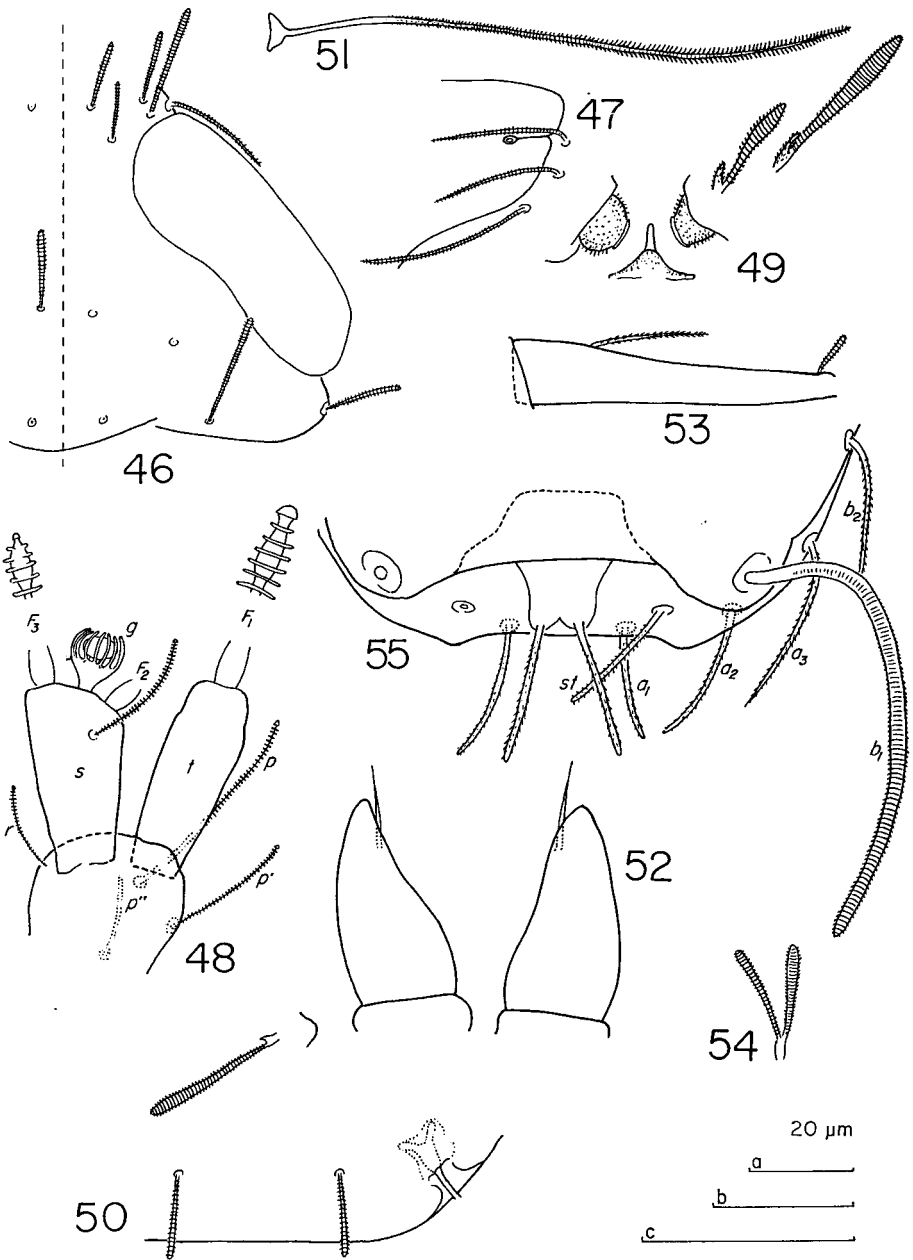
34: Head, right half, tergal view. 35: Posterior part of temporal organ with pistil, lateral group setae and seta a_4 of 4th row, right side, lateral view. 36: Right antenna, sternal view. 37: Collum segment, median and left part, sternal view. Scale a: 34, 35, 37; b: 36.



Figs. 38-45:

Allopauropus (Allopauropus) bicorniculus n.sp., holotype 38-41, 43-45; paratype 42.

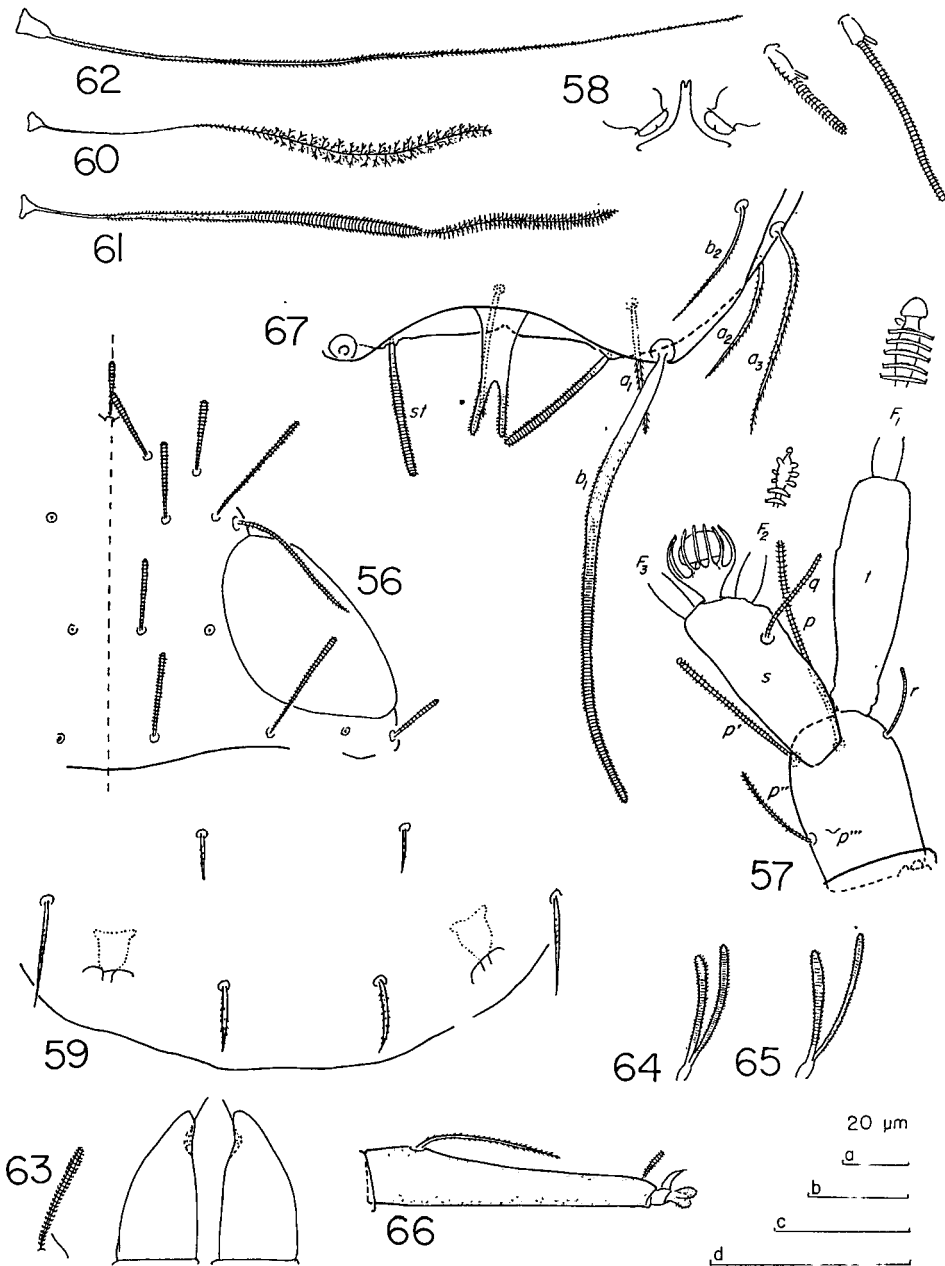
38: Tergite VI, median and right part. 39: T₁. 40: T₃. 41: T₄. 42: Penis and seta on coxa of left leg 2, anterior view. 43: Seta on trochanter of leg 9. 44: Tarsus of leg 9. 45: Pygidium, sternal view. Pubescence only partly drawn in 44. Scale a: 38, 41; b: 39, 40, 44; c: 42, 43, 45.



Figs. 46-55:

Allopauropus (Dacapauropus) adisi n.sp., holotype.

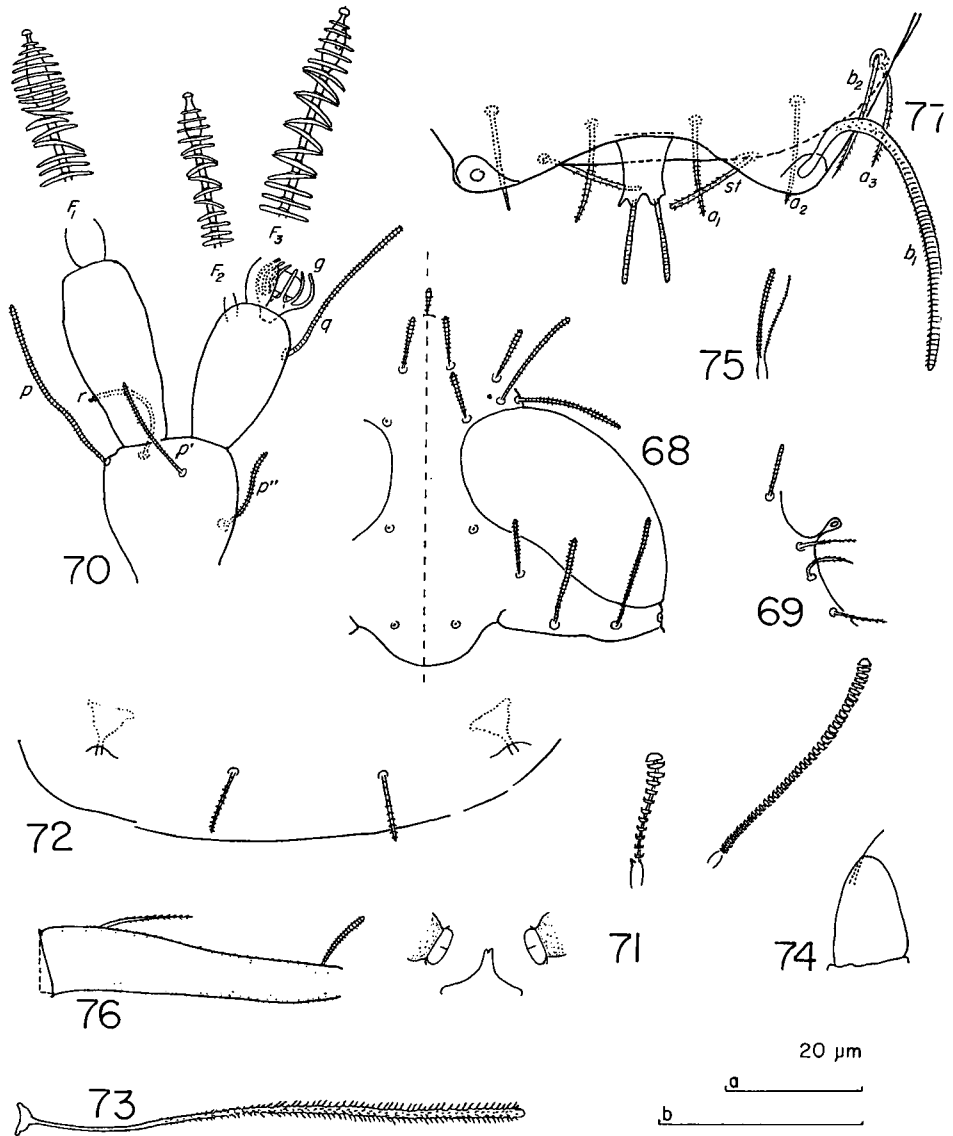
46: Head, median and right half, tergal view. 47: Posterior part of temporal organ with pistil and lateral group of setae, left side, lateral view. 48: Left antenna, sternal view. 49: Collum segment, median and left part, sternal view. 50: Tergite VI, posteromedian and right posterolateral part. 51: T₃. 52: Penes and seta on coxa of right leg 2, anterior view. 53: Tarsus of leg 9. 54: Seta on trochanter of leg 9. 55: Pygidium, median and left side, sternal view. Scale a: 53, 54; b: 46, 47, 49, 50, 52; c: 48, 55.



Figs. 56-67:

Allopauropus (Decapauropus) bicornutus n.sp., holotype 56-62, 64-67; paratype 63.

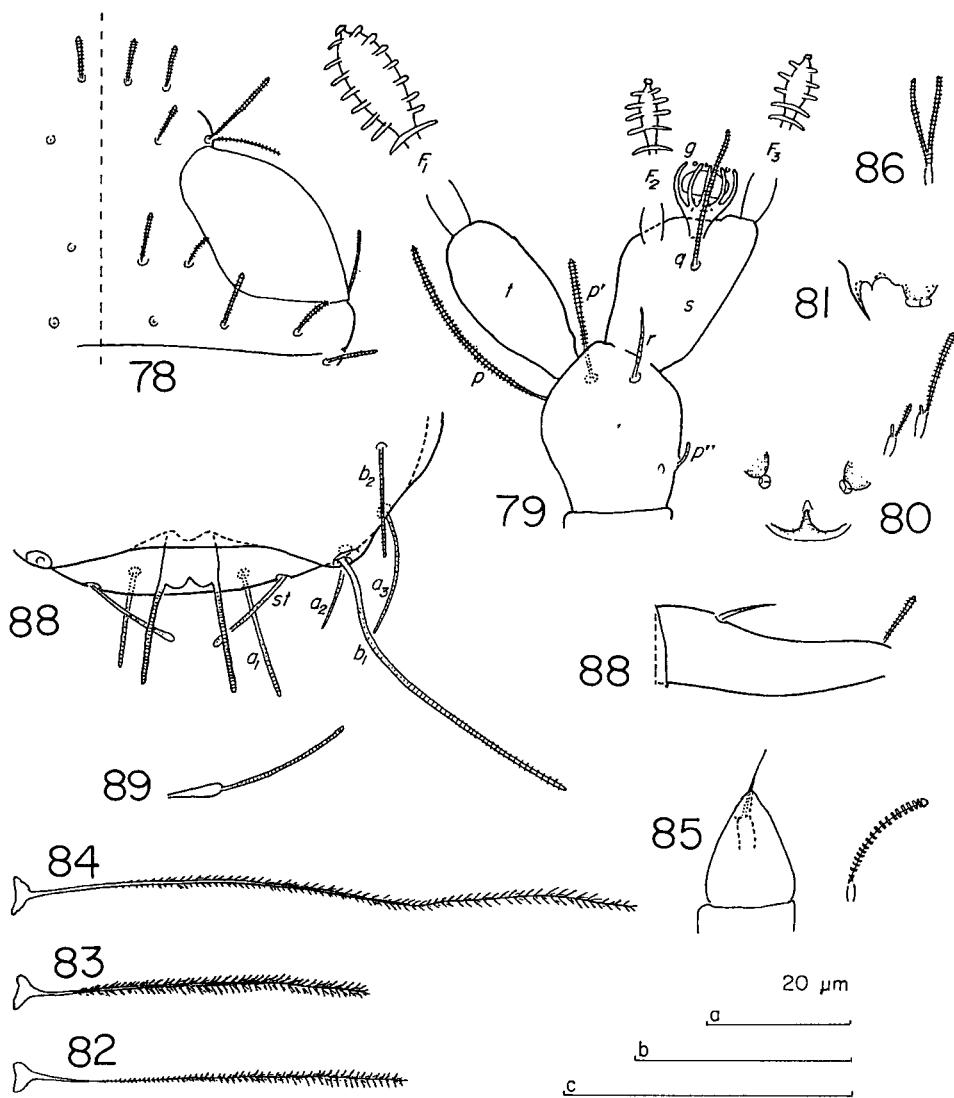
56: Head, median and right half, tergal view. 57: Left antenna, sternal view. 58: Collum segment, median and left part, sternal view. 59: Tergite VI. 60: T₁. 61: T₃. 62: T₅. 63: Penes and seta on coxa of left leg 2, anterior view. 64: Seta on coxa of leg 9. 65: Seta on trochanter of leg 9. 66: Tarsus of leg 9. 67: Pygidium, median and left part, sternal view. Scale a: 62; b: 60, 61, 66; c: 56, 58, 59, 63-65; d: 57, 67.



Figs. 68-77:

Allopauropus (Decapauropus) irmgardae n.sp., holotype.

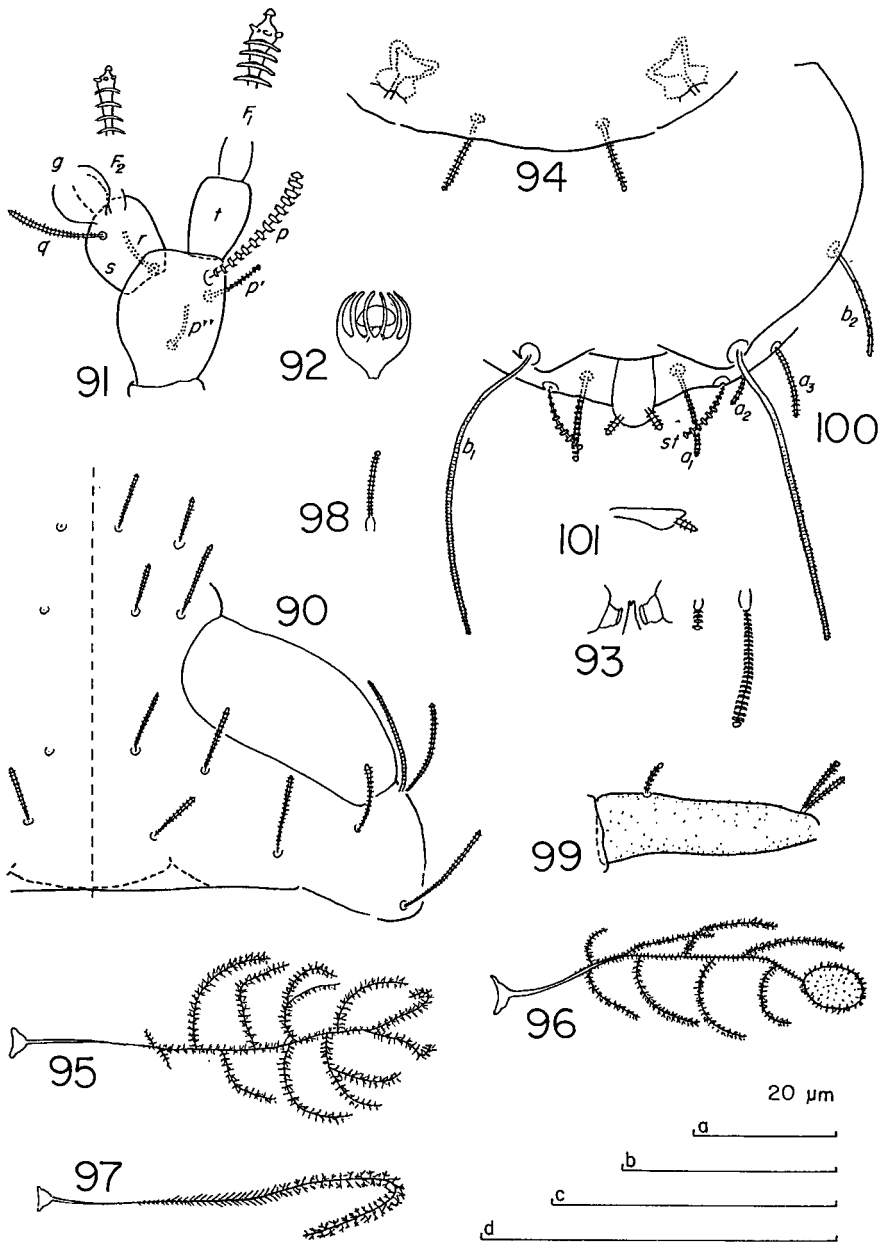
68: Head, median and right half, tergal view. 69: Posterior part of temporal organ with pistil, lateral group of setae and seta a_4 of 4th row, right side, lateral view. 70: Right antenna, anterolateral view. 71: Collum segment, median and left part, sternal view. 72: Tergite VI, posterior part. 73: T_3 . 74: Right penis, anterior view. 75: Seta on trochanter of leg 9. 76: Tarsus of leg 9. 77: Pygidium, median and left part, sternal view. Scale a: 68, 69, 73-76; b: 70-72, 77.



Figs. 78-89:

Allopauropus (Decapauropus) neotropicus n.sp., holotype 78-84; paratype 85.

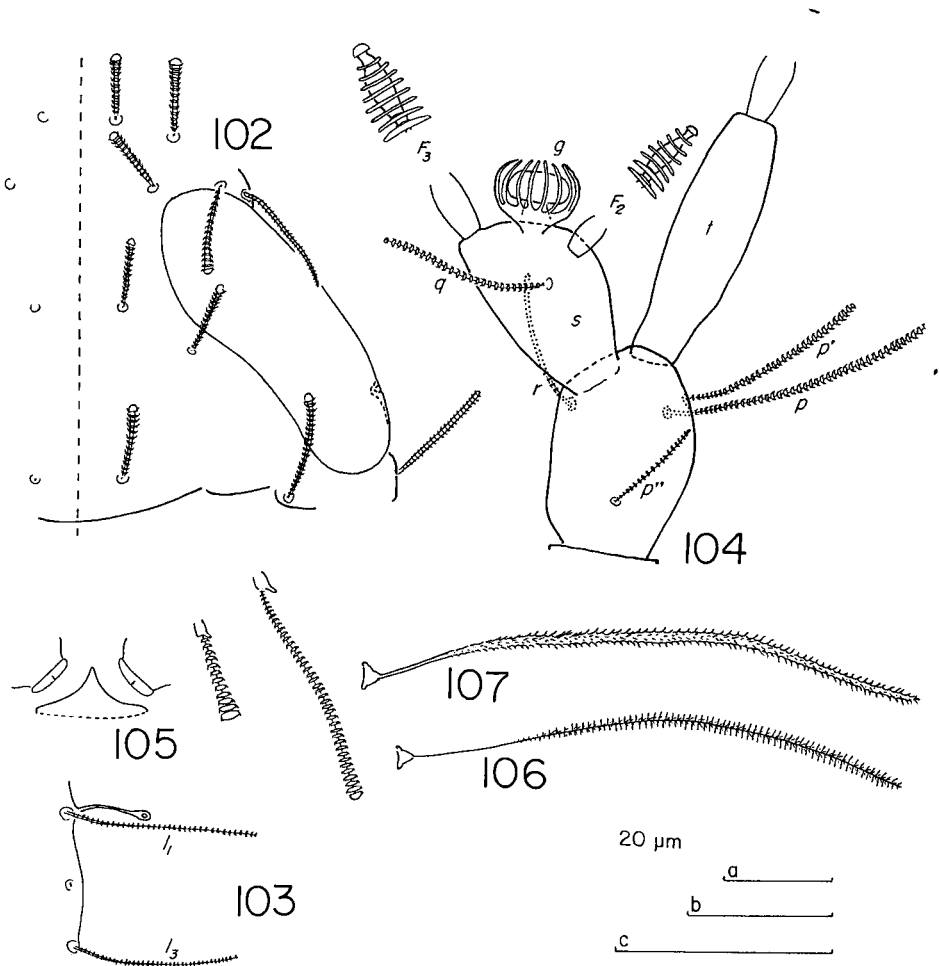
78: Head, median and right half, tergal view. 79: Right antenna, lateral view. 80: Collum segment, median and left part, sternal view. 81: Collum segment, median part, lateral view. 82: T₉. 83: T₉. 84: T₉. 85: Penis and seta on coxa of right leg 2, anterior view. 86: Seta on coxa of leg 9. 87: Tarsus of leg 9. 88: Pygidium, median and left part, sternal view. 89: Anal plate, lateral view. Scale a: 78, 80-85; b: 86, 87; c: 79, 88, 89.



Figs. 90-101:

Allopauropus (Decapauropus) brachypodus n.sp., holotype.

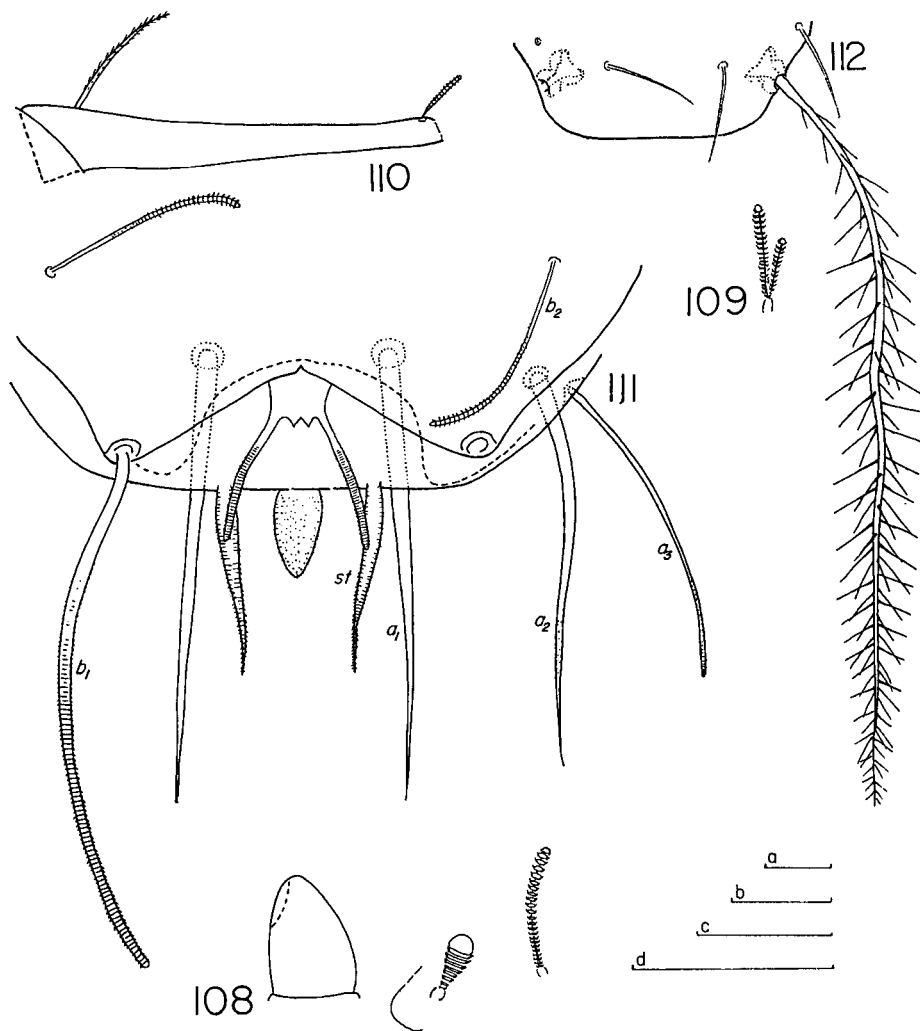
90: Head, median and right half, tergal view. 91: Left antenna, tergal view. 92: Antennal globulus. 93: Collum segment, median and left part, sternal view. 94: Tergite VI, posterior part. 95: T₁. 96: T₃. 97: T₅. 98: Seta on coxa of leg 9. 99: Tarsus of leg 9. 100: Pygidium, posterior and left part, sternal view. 101: Anal plate, lateral view. Scale a: 97; b: 93, 95, 96; c: 90, 91, 94, 98-101; d: 92.



Figs. 102-107:

Allopauropus (Decapauropus) manausensis n.sp., holotype.

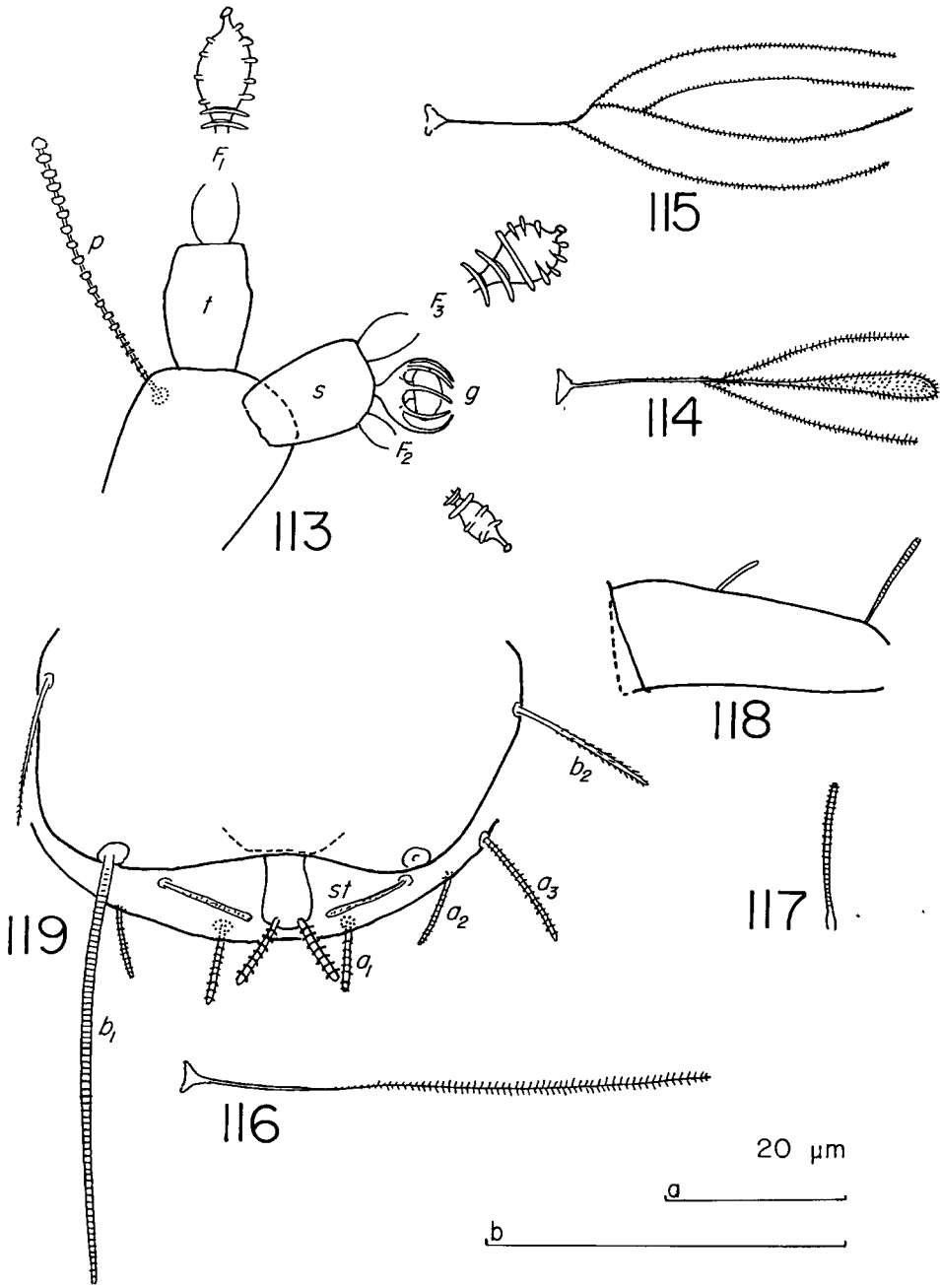
102: Head, median and right half, tergal view. **103:** Posterior part of temporal organ with pistil and lateral group of setae, right side, lateral view. **104:** Right antenna, sternal view. **105:** Collum segment, median and left part, sternal view. **106:** T₁. **107:** T₃. Scale a: 106, 107; b: 102, 103, 105; c: 104.



Figs. 108-112:

Allopauropus (Decapauropus) manausensis n.sp., holotype.

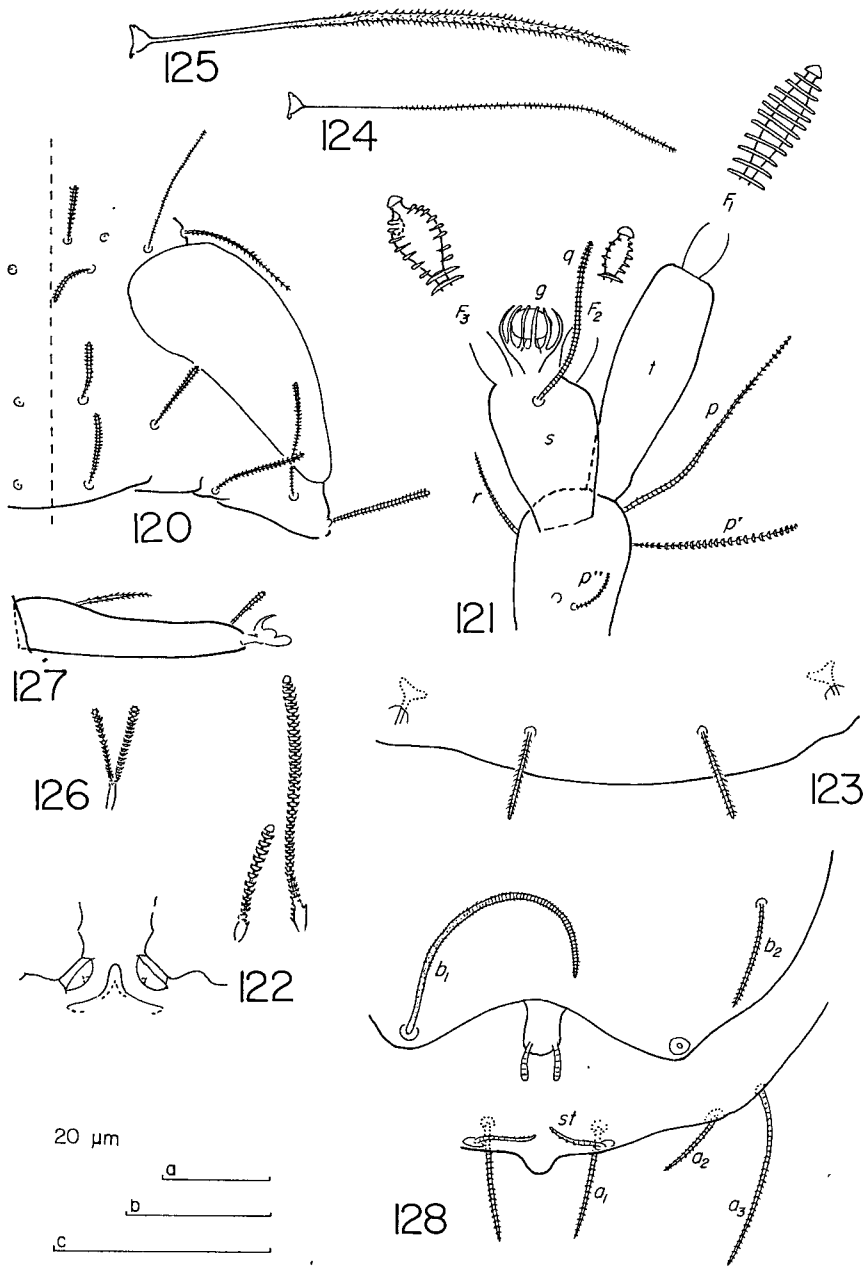
108: Right penis and setae on coxa and trochanter of leg 2, anterior view. **109:** Seta on coxa of leg 9. **110:** Tarsus of leg 9. **111:** Pygidium, median and left part, sternal view. **112:** Tergite VI, posterior part with right T_s , tergal view. Scale a: 112; b: 109, 110; c: 108; d: 111.



Figs. 113-119:

Allopauropus (Decapauropus) tenuilobatus n.sp., holotype.

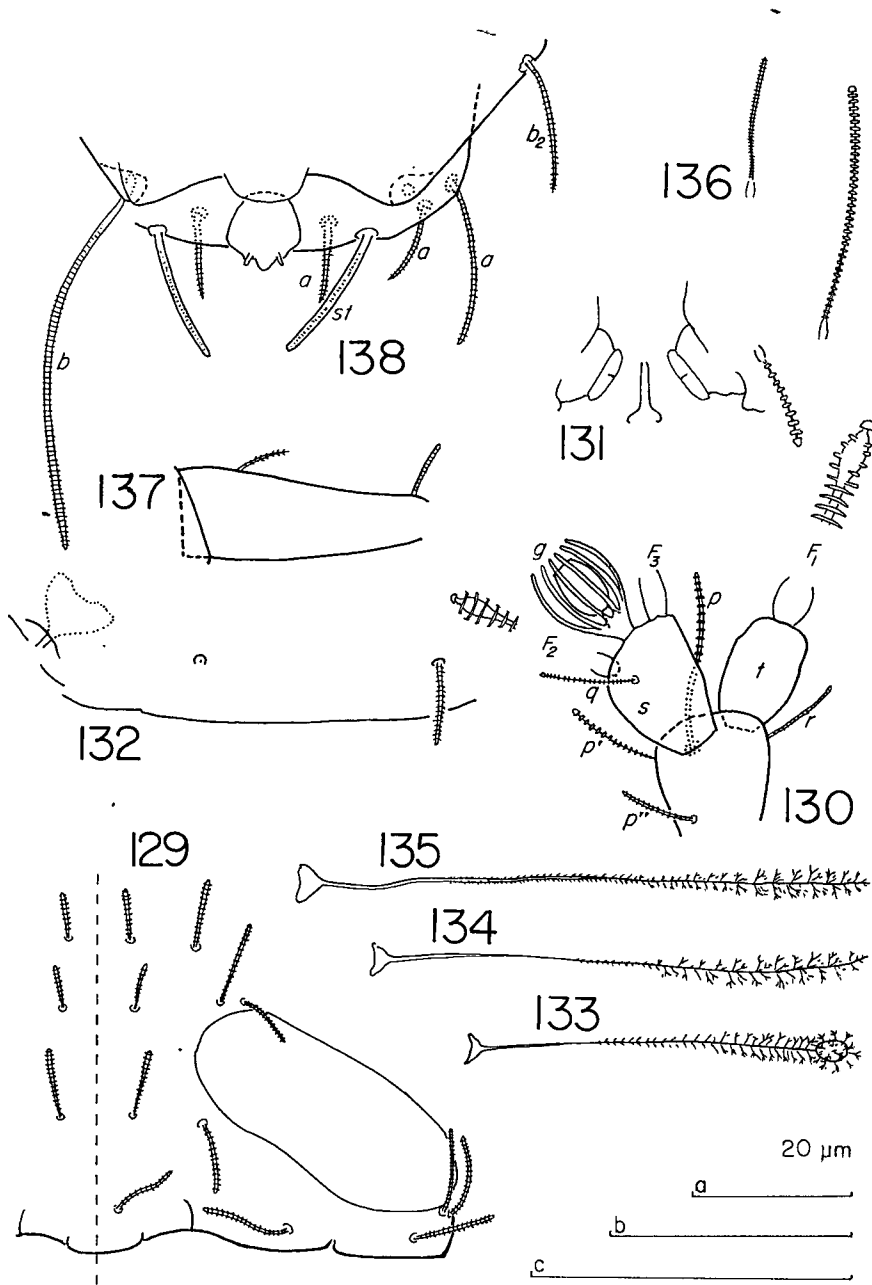
113: Left antenna, sternal view. 114: T₃. 115: T₄. 116: T₅. 117: Seta on trochanter of leg 9. 118: Tarsus of leg 9. 119: Pygidium, sternal view. Scale a: 114-116; b: 113, 117-119.



Figs. 120-128:

Allopaupopus (Decapauropus) pedicellus n.sp., holotype.

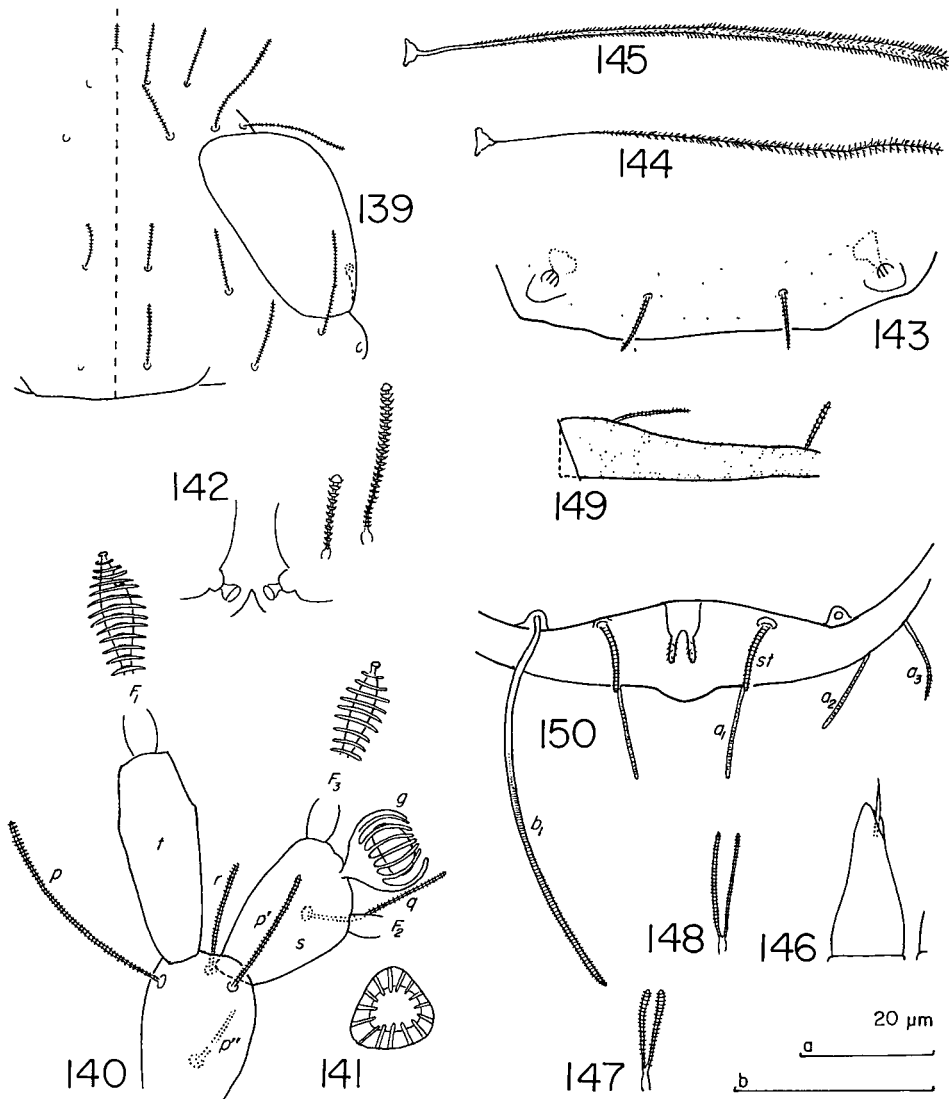
120: Head, median and right half, tergal view. 121: Right antenna, sternal view. 122: Collum segment, median and left part, sternal view. 123: Tergite VI, posteromedian part. 124: T₁. 125: T₃. 126: Seta on coxa of leg 9. 127: Tarsus of leg 9. 128: Pygidium, median and right part, sternal view. Scale a: 124, 127; b: 120, 125, 126; c: 121-123, 128.



Figs. 129-138:

Allopauopus (Decapauopus) sinuosus n.sp., holotype.

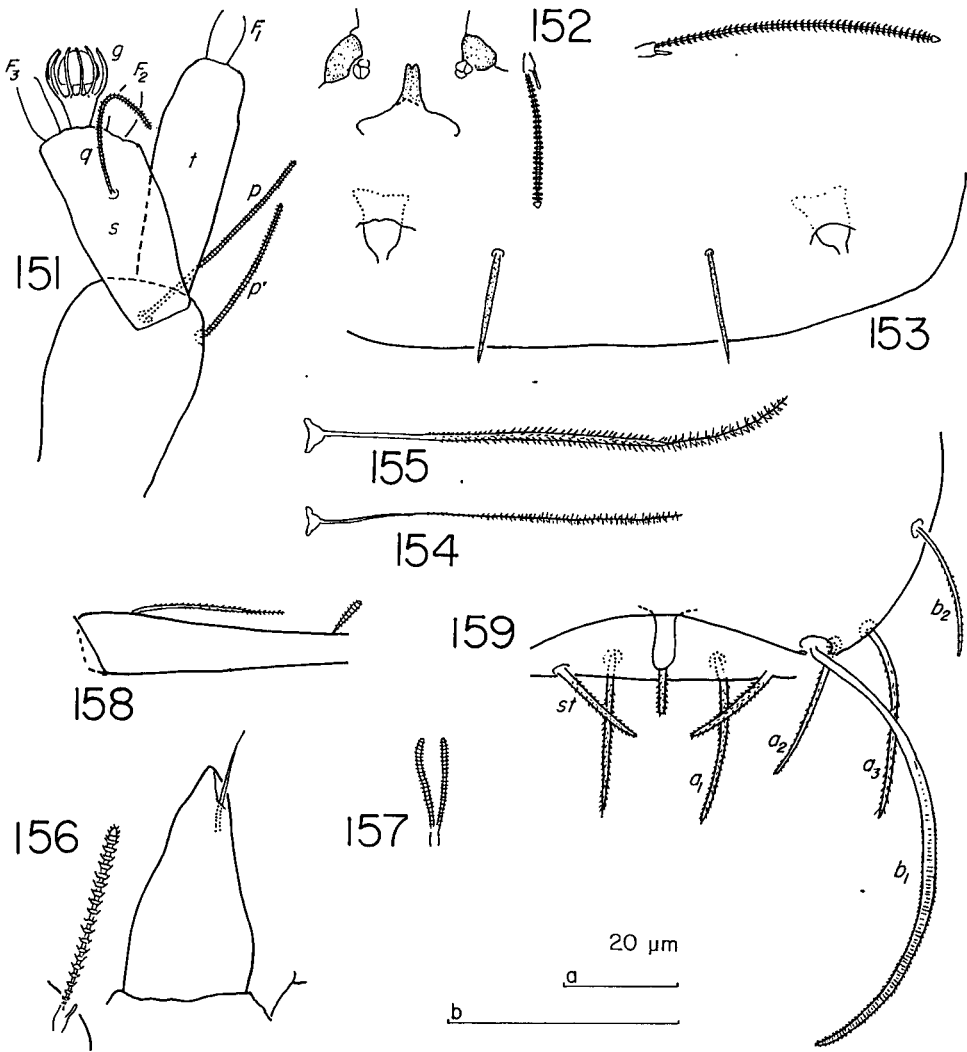
129: Head, median and right half, tergal view. 130: Left antenna, sternal view. 131: Collum segment, median and left part, sternal view. 132: Tergite VI, posteromedian and left posterolateral part. 133: T₃. 134: T₄. 135: T₅. 136: Seta on coxa of leg 9. 137: Tarsus of leg 9. 138: Pygidium, median and left part, sternal view. Scale a: 133, 134; b: 129, 136, 137; c: 130-132, 138.



Figs. 139-150:

Allopauropus (Decapauropus) petiolatus n.sp., holotype.

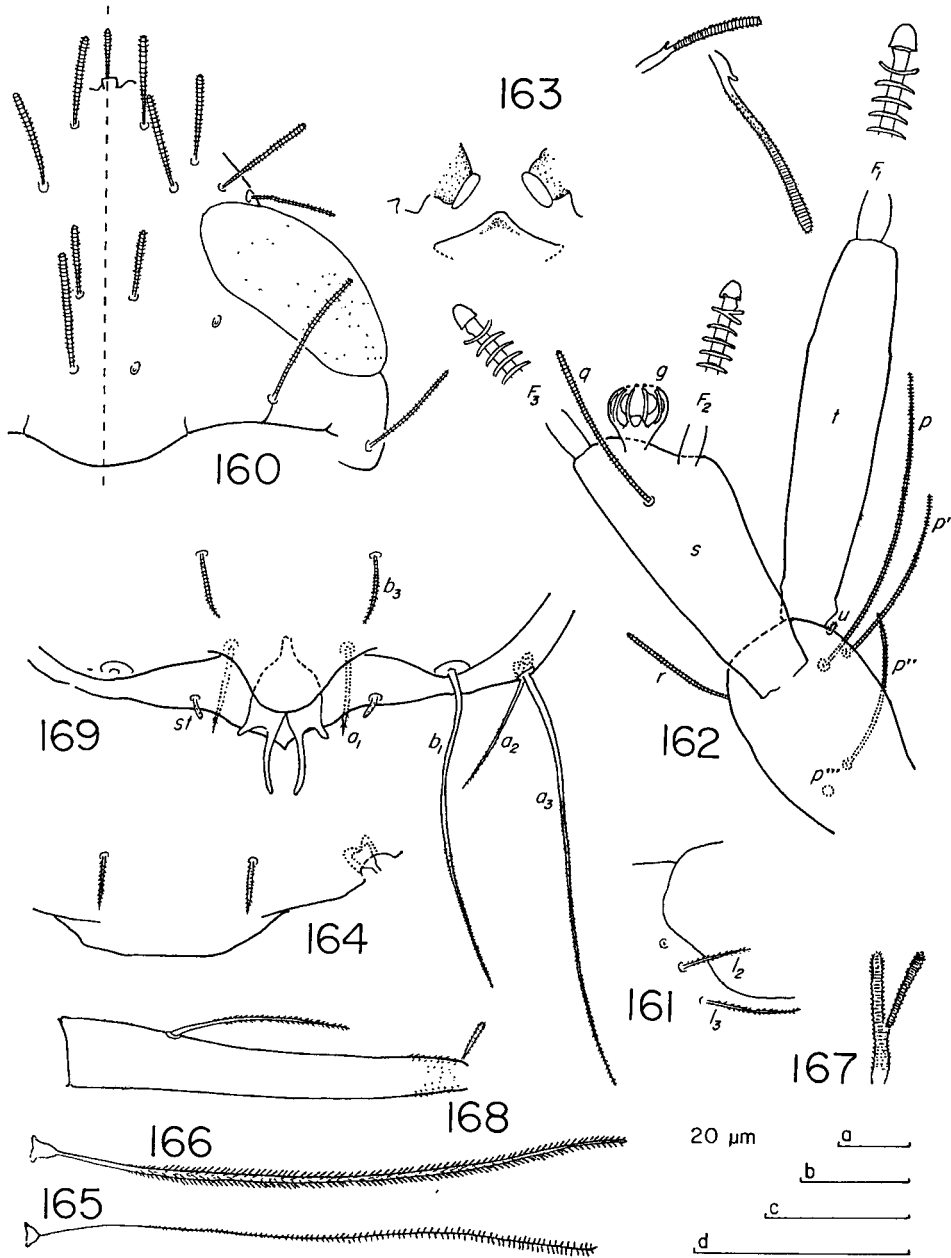
139: Head, median and right half, tergal view. 140: Left antenna, tergal view. 141: Antennal globulus *g*, from above. 142: Collum segment, median and left part, sternal view. 143: Tergite VI, posterior part. 144: T₁. 145: T₃. 146: Left penis, anterior view. 147: Seta on coxa of leg 9. 148: Seta on trochanter of leg 9. 149: Tarsus of leg 9. 150: Pygidium, median and left part, sternal view. Scale a: 139, 142-149; b: 140, 141, 150.



Figs. 151-159:

Allopauropus (Decapauropus) acer n.sp., holotype.

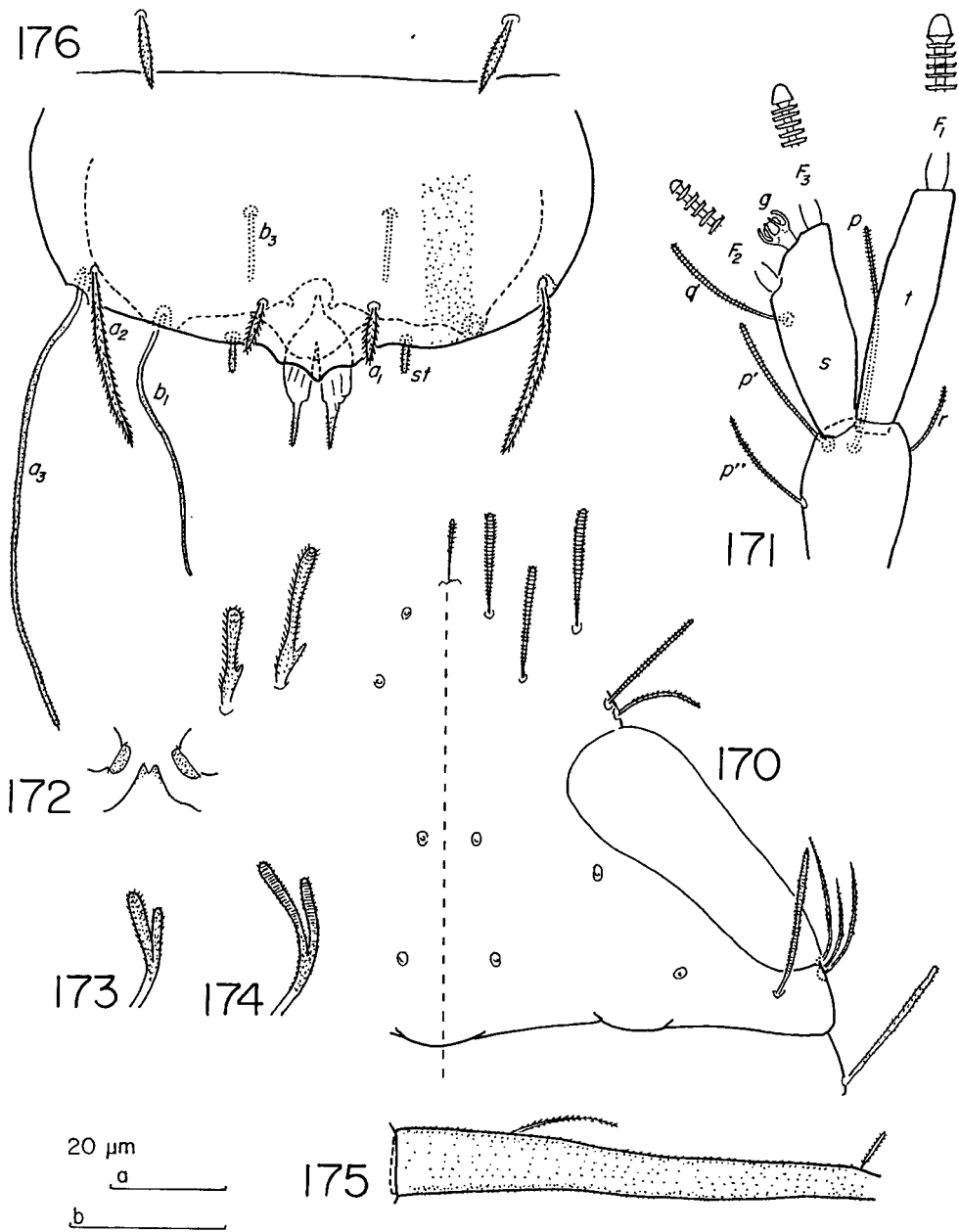
151: Left antenna, sternal view. 152: Collum segment, median and left part, sternal view. 153: Tergite VI, posterior part. 154: T₁. 155: T₃. 156: Penis and seta on coxa of left leg 2, anterior view. 157: Seta on trochanter of leg 9. 158: Tarsus of leg 9. 159: Pygidium, median and left part, sternal view. Scale a: 154, 155, 157, 158; b: 151-153, 156, 159.



Figs. 160-169:

Scleropauopus (Scleropauopus) tarumamirimi n.sp., holotype.

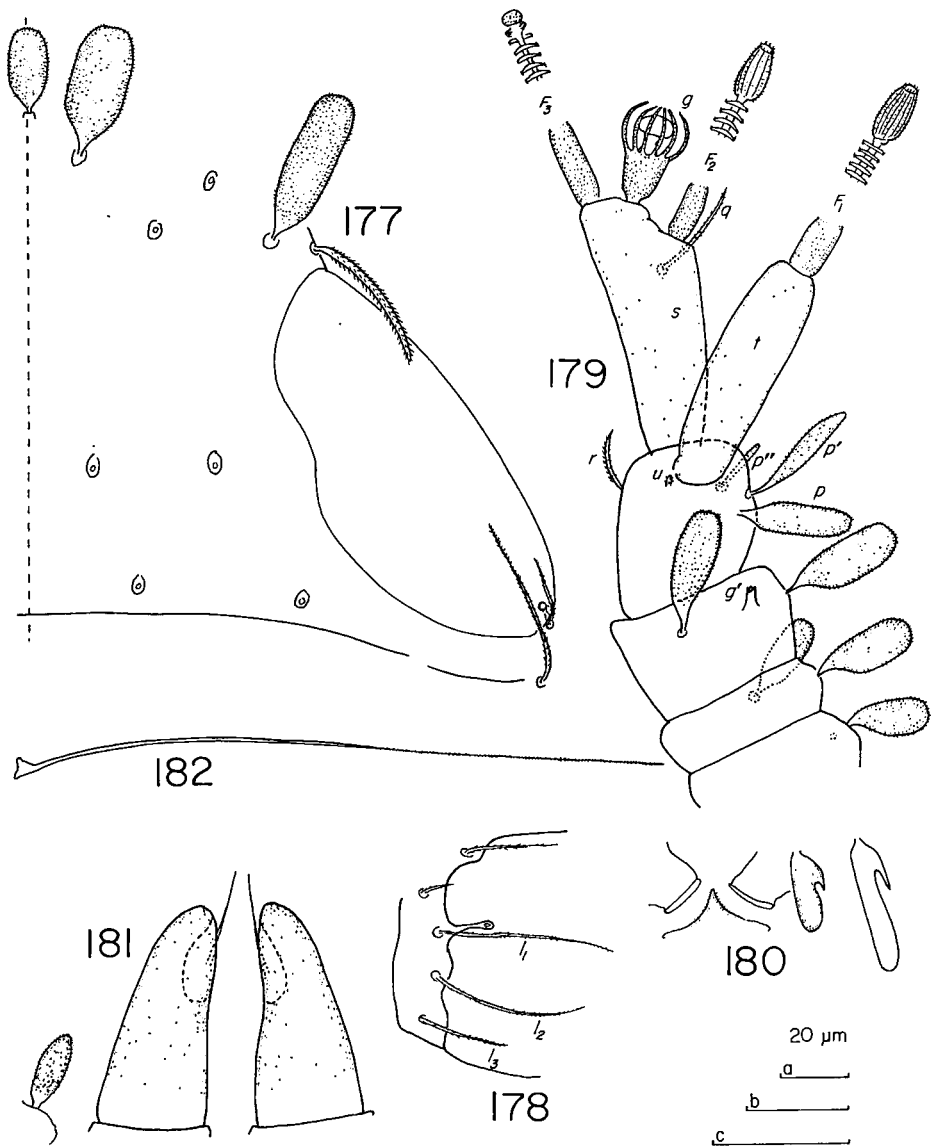
160: Head, median and right half, tergal view. 161: Posterior part of temporal organ with lateral group of setae, right side, lateral view. 162: Right antenna, sternal view. 163: Collum segment, median and left part, sternal view. 164: Tergite VI, posteromedian and right posterolateral part. 165: T₁. 166: T₃. 167: Seta on trochanter of leg 9. 168: Tarsus of leg 9. 169: Pygidium, median and left part, sternal view. Pubescence only partly drawn in 166. Scale a: 164; b: 160, 161, 165-168; c: 163, 169; d: 162.



Figs. 170-176:

Scleropaupopus (Scleropaupopus) fissus n.sp., holotype.

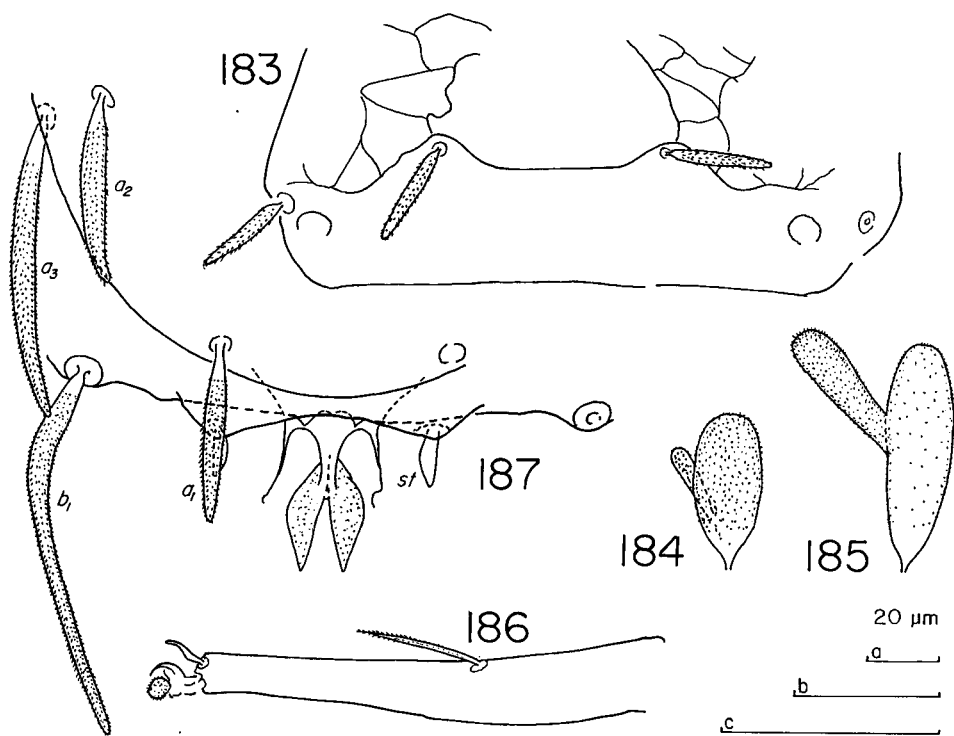
170: Head, median and right half, tergal view. 171: Left antenna, sternal view. 172: Collum segment, median and left part, sternal view. 173: Seta on coxa of leg 9. 174: Seta on trochanter of leg 9. 175: Tarsus of leg 9. 176: Posteromedian part of tergite VI and pygidium, tergal view. Pubescence only partly drawn in 176. Scale a: 172-175; b: 170, 171, 176.



Figs. 177-182:

Hemipauropus piriformis n.sp., holotype 177-180, 182; paratype 181.

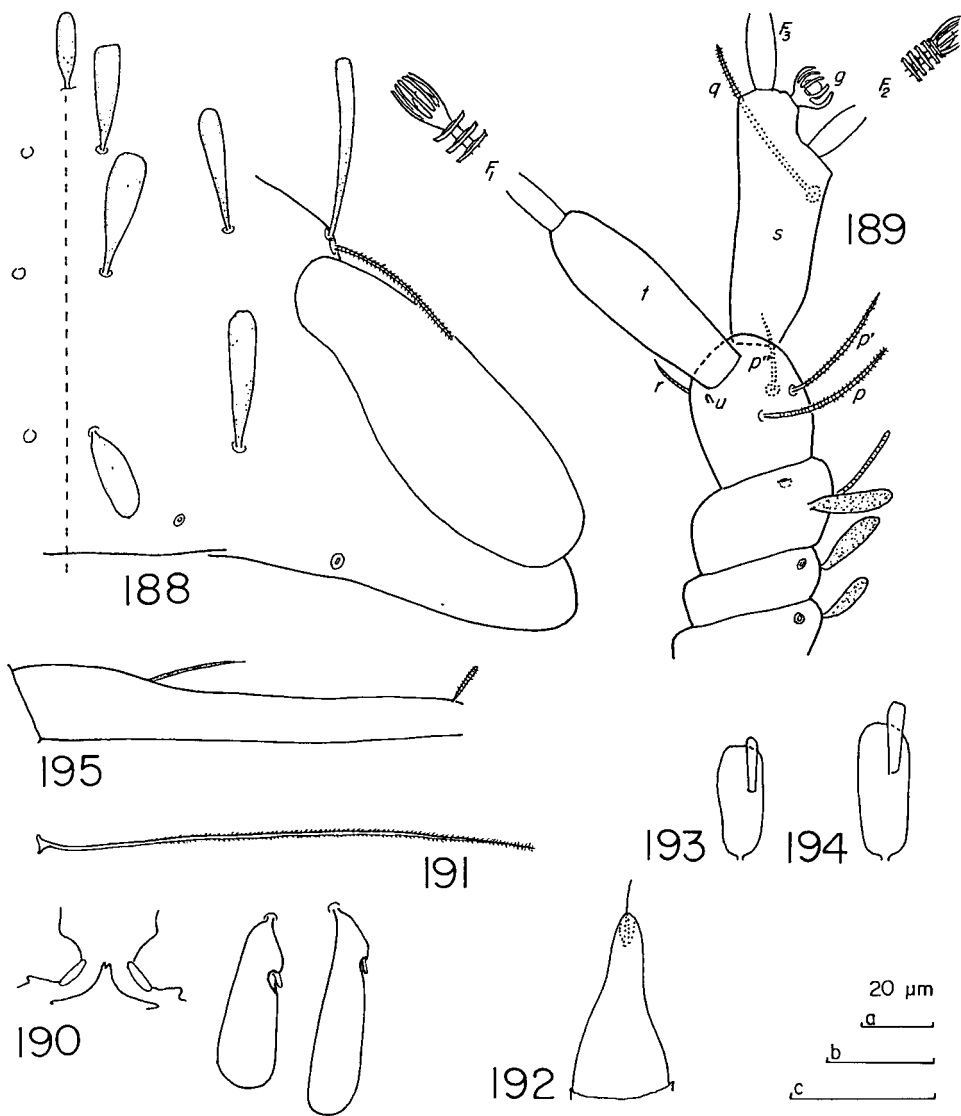
177: Head, median and right half, tergal view. 178: Posterior part of temporal organ with pistil, lateral group of setae and setae a_3 and a_4 of 4th row, right side, lateral view. 179: Left antenna, tergal view. 180: Collum segment, median and left part, sternal view. 181: Penes and seta on coxa of left leg 2, anterior view. 182: T₃. Pubescence only partly drawn in 180. Scale a: 178, 182; b: 180, 181; c: 177, 179.



Figs. 183-187:

Hemipauropus piriformis n.sp., holotype.

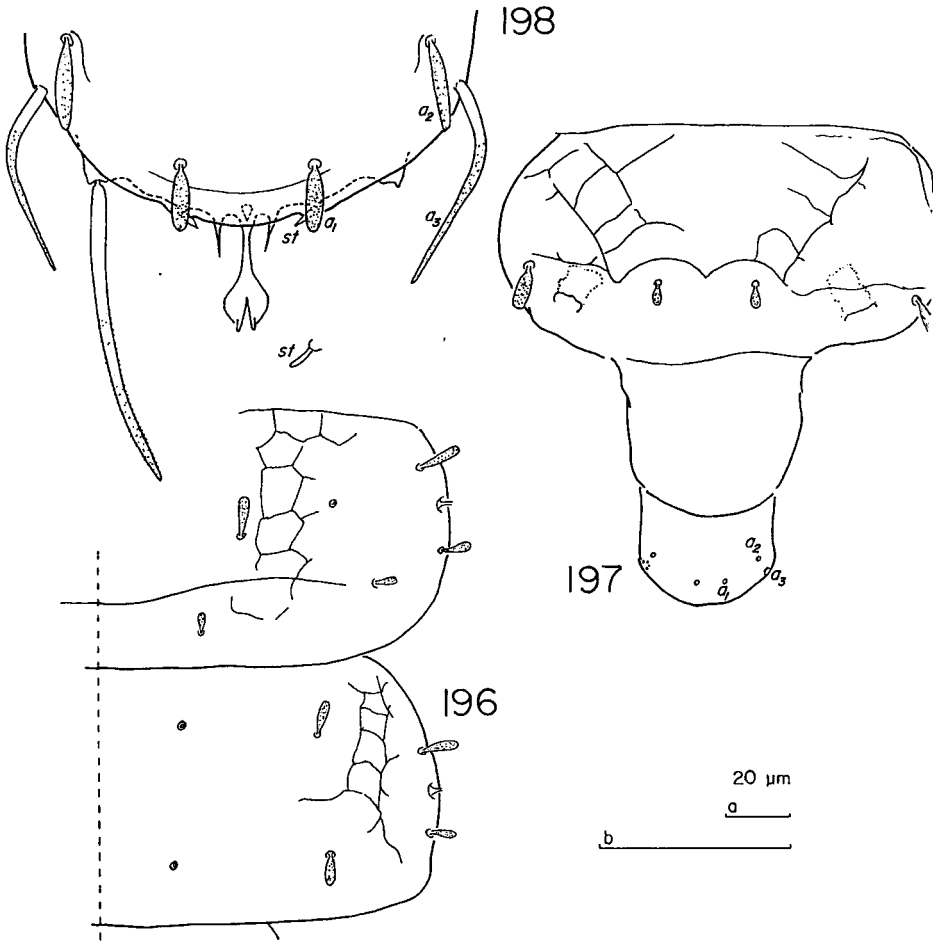
183: Tergite VI. 184: Seta on coxa of leg 9. 185: Seta on trochanter of leg 9. 186: Tarsus of leg 9. 187: Pygidium, median and left part, tergal view. Scale a: 183, 186; b: 184, 185; c: 187.



Figs. 188-195:

Hemipauropus amazonicus n.sp., holotype 188-191, 193-195; paratype 192.

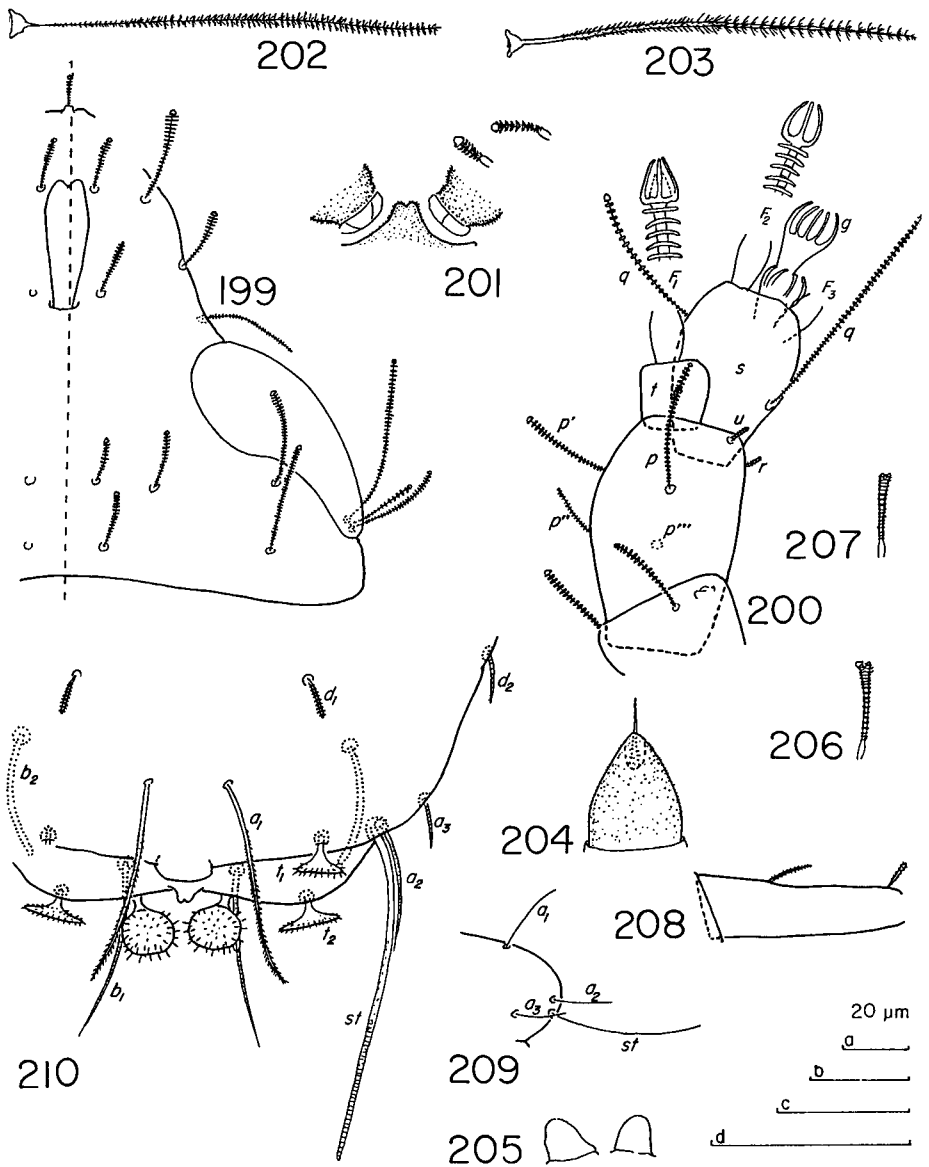
188: Head, median and right half, tergal view. 189: Left antenna, tergal view. 190: Collum segment, median and left part, sternal view. 191: T₃. 192: Right penis, lateral view. 193: Seta on coxa of leg 9. 194: Seta on trochanter of leg 9. 195: Tarsus of leg 9. Scale a: 191; b: 190, 192-195; c: 188, 189.



Figs. 196-198:

Hemipauropus amazonicus n.sp., holotype.

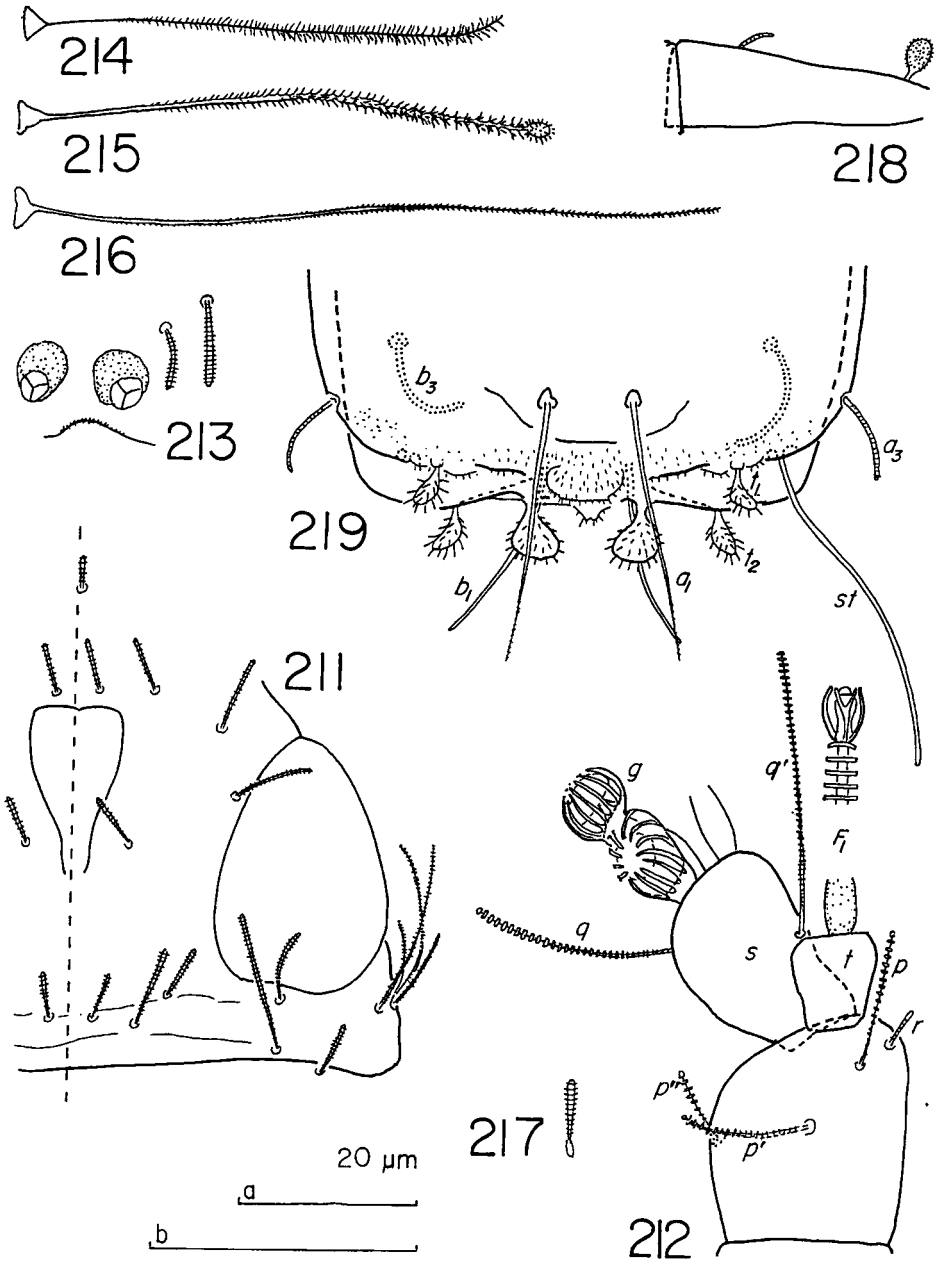
196: Tergites IV and V, right halves. 197: Tergite VI and pygidium, setae not shown on the latter. 198: Pygidium, tergal view; below *st* in paratype. Scale a: 196, 197; b: 198.



Figs. 199-210:

Polypauropus tropicus n.sp., holotype 199-203, 206-209; paratype 204-205, 210.

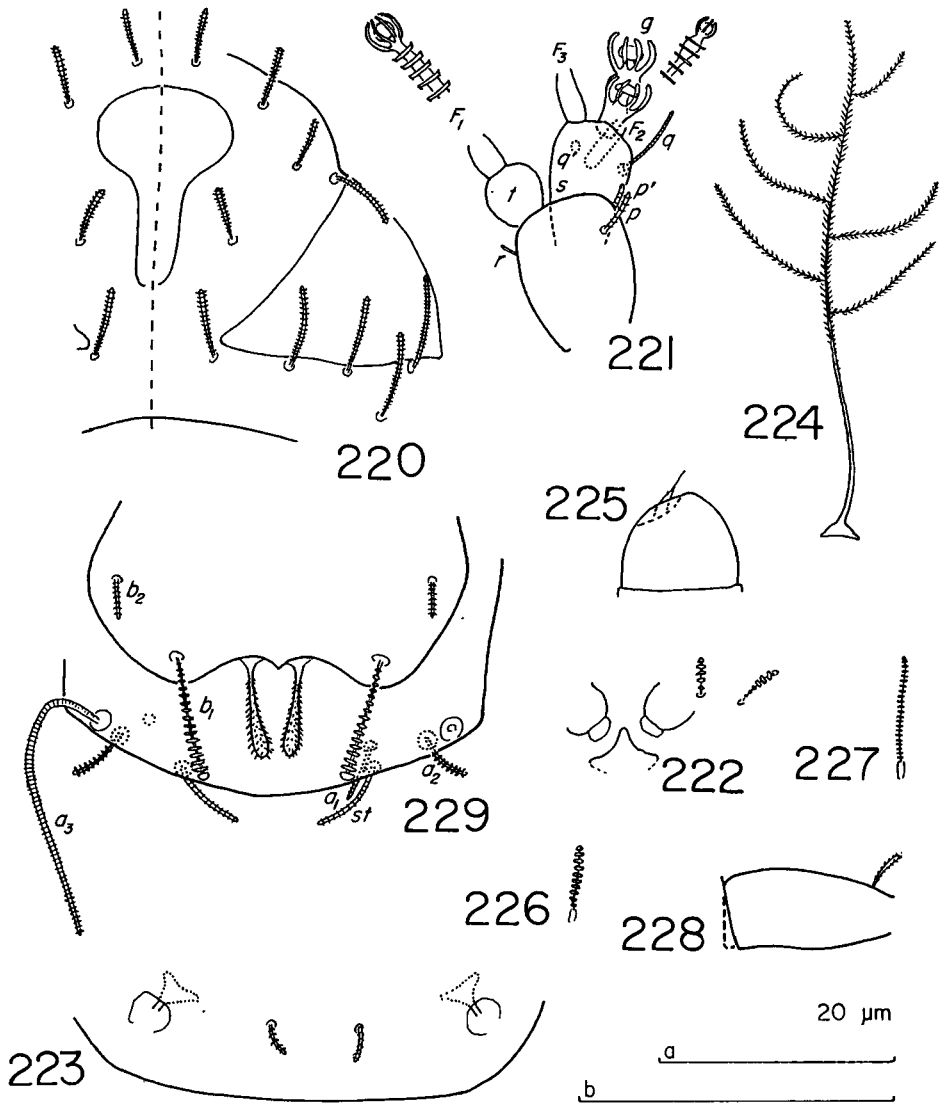
199: Head, median and right half, tergal view. 200: Right antenna, tergal view. 201: Collum segment, median and left part, sternal view. 202: T₁. 203: T₃. 204: Right penis, lateral view. 205: Penes in subad. 8, anterior view. 206: Seta on coxa of leg 9. 207: Seta on trochanter of leg 9. 208: Tarsus of leg 9. 210: Pygidium, median and right part, tergal view. Scale a: 205; b: 201, 203, 204, 208; c: 199, 202, 206, 207, 210; d: 200.



Figs. 211-219:

Polypauropus latebricolus n.sp., holotype.

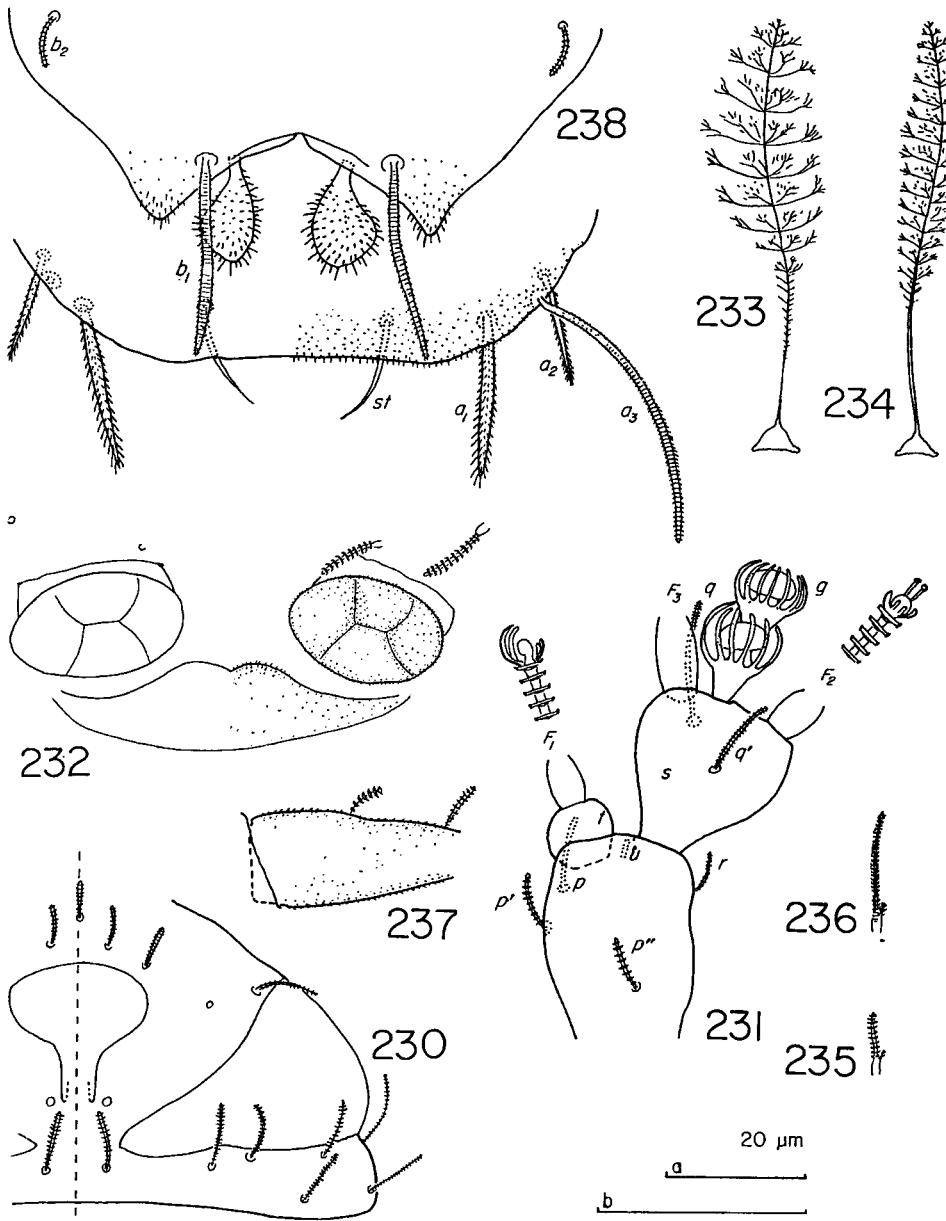
211: Head, median and right half, tergal view. 212: Right antenna, tergal view. 213: Collum segment, median and left part, sternal view. 214: T₁. 215: T₂. 216: T₃. 217: Seta on trochanter of leg 10. 218: Tarsus of leg 10. 219: Pygidium, tergal view. Scale a: 211, 213-219; b: 212.



Figs. 220-229:

Polypauropoides unisetus n.sp., holotype.

220: Head, median and right half, tergal view. 221: Left antenna, tergal view. 222: Collum segment, median and left part, sternal view. 223: Tergite VI, posterior part. 224: T₃. 225: Right penis, anterior view. 226: Seta on coxa of leg 9. 227: Seta on trochanter of leg 9. 228: Tarsus of leg 9. 229: Pygidium, sternal view. Scale a: 221-225; b: 226-229.



Figs. 230-238:

Polypauropoides biclaviger n.sp., holotype.

230: Head, median and right half, tergal view. 231: Left antenna, sternal view. 232: Collum segment, median and left part, sternal view. 233: T₁. 234: T₃. 235: Seta on coxa of leg 9. 236: Seta on trochanter of leg 9. 237: Tarsus of leg 9. 238: Pygidium, sternal view. Pubescence only partly drawn in 232 and 238. Scale a: 230, 233, 234; b: 231, 232, 235-238.

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