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THE MEXICAN PACHYTROCTIDAE (TROCTOMORPHA: PSOCOPTERA)

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RESUMEN

Once especies de la familia Pachytroctidae (Psocoptera; Troctomorpha) han sido registradas en México; pertenecen a los géneros *Nanopsocus* (una especie), *Tapinella* (cinco especies), *Pachytroctes* (cuatro especies), y *Psacadium* (una especie). Son descritas en este trabajo dos especies de *Tapinella* y el macho de *Pachytroctes ixtapaensis* García Aldrete. Se incluye la distribución en México de las especies tratadas, así como la distribución global de todas las especies de cada género.

Palabras clave: Psocoptera, Troctomorpha, Pachytroctidae, distribución, México.

ABSTRACT

Eleven species of the psocid family Pachytroctidae occur in Mexico; they belong to the genera *Nanopsocus* (one species), *Tapinella* (five species), *Pachytroctes* (four species), and *Psacadium* (one species). Two species of *Tapinella*, and the male of *Pachytroctes ixtapaensis* García Aldrete, are here described. The Mexican records of the species treated are included, as well as the distribution of the species in each genus.

Key words: Psocoptera, Troctomorpha, Pachytrotidae, distribution, Mexico.

INTRODUCTION

The family Pachytroctidae includes the genera *Antilopsocus, Nanopsocus, Peritroctes, Pachytroctes, Psylloneura, Tapinella, Nymphotroctes, Psacadium,* and *Leptotroctes* (Smithers, 1990). Four of these genera (*Nanopsocus, Pachytroctes, Tapinella*, and *Psacadium*) occur in México, and the purpose of this paper is to document

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the distribution of their species, describe two species of *Tapinella*, and describe the male of *Pachytroctes ixtapaensis* García Aldrete. The specimens studied, unless otherwise indicated, were collected by the author; the types of the new species are deposited in the Insect Collection, Instituto de Biología UNAM (IBUNAM). Measurements, of parts mounted in Euparal, are of lengths given in microns, and were taken with a filar micrometer, of which the measuring unit is 53 microns. The parts measured are abbreviated in the text as follows: F: femur; T: tibia; t1, t2, t3: tarsomeres 1, 2, and 3; f1...fn: flagellomeres 1...n; IO: minimum distance between compound eyes; D: antero-posterior diameter of compound eye; d: transverse diameter of compound eye; PO: d/D. Leg measurements are of the right hind leg; IO, D, and d were measured on heads mounted on slides. In the descriptions, the color is that of specimens in 80% alcohol.

Nanopsocus oceanicus Pearman

N. oceanicus Pearman, 1928, Ent. mon. Mag., 64: 134

This is a pantropical species that has been recorded in Vanuatu (New Hebrides), Togo, Benin, Ivory Coast, Equatorial Guinea, Zaire, Japan, Jamaica, Réunion Is., Spain, Florida and México (Baz, 1990a). New records, not shown by Baz (1990a), are the following (A = apterous, M = macropterous) : USA: LOUISIANA, Baton Rouge, L. S. U. Campus, 3.IV.1969, on dead, hanging *Yucca* leaves, 2 ♀. TEXAS, San Marcos, 3.IX.1971, beating *Cortaderia argentea*, 4 ♀. MÉXICO: CHIAPAS, Bonampak Archaeological Zone, 22.V.1980, beating branches in forest, H. Brailovsky, 1 ♀ M. GUERRERO, 8 km, SW Teopan de Galeana, 21.X.1973, beating dead stems and leaves of corn, 1 ♀M. JALISCO, Chamela, UNAM Biology Station, in nest of *Icterus*, 1 ♀M; 17.IX.1988, beating branches in forest, 1 ♀M. NAYARIT, Ixtlán del Río, 6.XI.1979, beating branches of shrubs, D. Yáñez, 1 ♀M; María Madre Island, *ca.* Nayarit Campament, 29.III.1984, beating branches of lemon tree, 6 ♀M; beating branches in forest, 1 ♂, 2 ♀ A. NUEVO LEÓN, Guadalupe, Alamillos Ranch, NE slope of Cerro de la Silla, 26.XII.1978, on dead, hanging fronds of *Sabal* palm, ♀M: on dead, hanging leaves of banana tree, 12 ♀M. 10 km, NE Montemorelos, 25.VII.1981, on dead leaves of avocado tree, I ♀M. NW slope Cerro de la Silla, *ca.* Monterrey, 18.IX.1977, beating vegetation, 14 ♀M. Santiago, 8 km, W Cola de Caballo, 1400 m, 21.VIII.1978, beating oak branches with dead leaves, 2 ♀M. 26 km, SW Linares, Santa Rosa Canyon, 600 m, 29.V.1976, on dead oak leaves, 1 ♀M.

Comments. *Nanopsocus* is a small genus of only five species (Table I), three of which occur in Africa, one is endemic to Madagascar and one is pantropical (*N. oceanicus*).

Pachytroctes ixtapaensis García Aldrete
P. ixtapaensis García Aldrete, 1986, Folia Entomol. Mex. 69: 13

This species was described on basis of five females collected in Ixtapa, Guerrero, on the Pacific Coast. One male, attributable to the same species, on basis of the pattern of pigmentation, compound eyes not reaching the vertex and sculpture of the integument, was collected in Veracruz, on the Gulf Coast, and it is here described:

Pachytroctes (*Neotroctes*) *ixtapaensis* García Aldrete (♂)
(Figs. 15-22)

Male. Color. Body dark brown, with pattern as in Fig. 15. Head dark brown, compound eyes black, without ocelli. Epicranial ecdysial lines well defined. Maxillary palps and antennae brown. Prothorax dark brown, notum with a small, median, less pigmented area on posterior border. Meso- and metathorax white. Legs with coxae and trochanters dark brown; femora proximally dark brown, distally white; tibiae white; with a broad brown band towards distal end; tarsomeres pale brown (Figs. 15 an 19). Abdomen dark brown; paraprocts and epiproct pale brown, clunium brown (Fig. 17).

Morphology. Apterous. Hypandrium (Figs. 18), long, broad, setose, rounded posteriorly, covering most of abdominal sternum. Phallosome (Fig. 16), elongate, with well defined, rounded antero-lateral extensions, and a posterior, median, rounded, heavily sclerotized structure; parameres wide at base, narrowing distally, apically blunt, as usual for the genus. Epiproct tringular, setose (Fig. 17). Sculpture of integument: vertex and front of head with echinoid granulations (Figs. 20); prothorax and abdominal tergites with granules forming rhomboid areolae, not as coarse as in head (Fig. 21), hypandrium with slender, elongate areolae, finely punctuated (Fig. 22).

Measurements F: 250; T: 318, t1: 162; t2: 44; t3: 61; P4: 56; f1: 91; f2: 83; f3: 93; f4: 86; f5: 59; f6: 61; f7: 47; f8: 53; f9: 47; f10: 47; IO: 227; D: 69; d: 41; IO/D: 3.28; PO: 0.59

Records. MÉXICO. VERACRUZ. Los Tuxtlas, *ca.* Balzapote, 18.XII.1989, on dead leaves of fallen trees, forest edge, J. García Figueroa, 1 ♂ (IBUNAM).

Comments. The male of *P. ixtapaensis* is very close to the male of *P. dichromoscelis* Badonnel, described from Brazil (Badonnel, 1979); both species have the same pattern of pigmentation and similar phallosome, but differ in details of pigmentation in the males and in the posterior median structure of the phallosome, this being also more elongate in the Mexican species; the female of *P. dichromoscelis* was described from Ivory Coast, in West Africa (Badonnel, 1949a). It also differs from *P. ixtapaensis* on details of genitalia and pigmentation; in the latter, the pigmentation is uniform, and the head lacks an X- shaped mark, characteristic of the former.

Pachytroctes maculosus García Aldrete
P. maculosus García Aldrete, 1986, Folia Entomol. Mex. 69: 7

This species has been recorded from the Mexican states of Jalisco and Morelos (García Aldrete, 1986).

Pachytroctes neoleonensis García Aldrete
P. neoleonensis García Aldrete, 1986, Folia Entomol. Mex. 69: 9

This species has only been recorded in northeastern México, in several localities in the state of Nuevo León (García Aldrete, 1986).

Pachytroctes pacificus García Aldrete
P. pacificus García Aldrete, 1986, Folia Entomol. Mex. 69: 11

This species is known from María Madre Island, Nayarit, and from Chamela, Jalisco; an additional record is here presented, that extends its distribution to the state of Michoacán, also on the Pacific slope: MICHOACÁN. El Laurel, km 10, rd. Tepalcatepec— Coalcomán, 9.II.1983, under rocks, H. Brailovsky and E. Barrera, 1 ♀ M.

The genus *Pachytroctes* includes 24 species (Table 1), mostly African (11 species), and Neotropical (seven species); one species each are Western Palearctic, Pacific, and Australian, and three species are endemic to Madagascar. Of the African species, six (54 %) have been recorded in Angola, and four of the Neotropical species (57%), have been collected in México.

Psacadium pictum Badonnel
P. pictum Badonnel, 1986a, Revue suisse Zool. 93(3): 702

This species has only been recorded on the Mexican Pacific coast, in Chamela, Jalisco.

Comments. *Psacadium* is a genus very similar to *Tapinella*, from which it differs in having lacinial apices bidentate; it only includes four species (Table 1), two of them Oriental, and two Neotropical.

Tapinella bicolorata sp. nov. (♀)
(Figs. 1-4)

Female. Color. Body pale brown, with pigmented bands as described below. Compound eyes black; a narrow, reddish brown band from each compound eye to

epistomal sulcus, enclosing antennal fossae and extending to postclypeus. Antennae reddish brown. Maxillary palps whitish, except P4, reddish brown. Thoracic pleurae ochre, pigment extending to sides of nota (Fig. 1). Legs brown; pattern of coloration of abdomen (Fig. 1), with reddish brown subcuticular bands as indicated. Clunium with central area unpigmented, and sides reddish brown (Fig. 3).

Morphology. Apterous. Subgenital plate rounded posteriorly, setose; T-shaped sclerite with stem short and lateral arms distally acuminate (Fig. 2). Paraprocts elongate, setose, without sensory fields; epiproct almost trapezoidal, setose; gonapophyses elongate (Fig. 4).

Measurements. F: 314; T: 424; t1: 233; t2: 57; t3: 57; P4: 106; f1: 97; f2: 103; f3: 106; f4: 102; f5: 91; f6: 93; f7: 77; f8: 83; f9: 70; f10: 76; IO: 241; D: 137; d: 77; IO/D: 1.75; PO: 0.55.

Type locality. MÉXICO. CHIAPAS. Lagunas de Montebello, 60 km, SE Comitán, 11.VIII.1975, 1580 m, beating oak branches with dead leaves, 1 ♀, holotype (IBUNAM).

Records. CHIAPAS, 60 km, NE Tapachula, Finca Hamburgo, 850 m, on foliage of coffee trees, 8.IX.1987, G. Ibarra, 1 ♀. OAXACA, 16 km, SE Valle Nacional, 1850 m, beating dead fronds of banana trees, 1 ♀.

Tapinella chamelana Badonnel

T. chamelana Badonnel, 1986a, Revue suisse Zool. 93(3): 698

This species is only known from the Mexican Pacific coast, in the state of Jalisco, from San Patricio-Melaque to the village of Chamela (Badonnel, 1986a).

Tapinella maculata Mockford & Gurney

T. maculata Mockford & Gurney, 1956, Jour. Wash. Acad. Sci. 46(11): 360

This species is known from southern Texas, Guatemala, Belize, Jamaica, possibly Guadeloupe, in the Lesser Antilles, and in the Mexican states of Campeche, Chiapas, Nayarit, Nuevo León, Oaxaca, Quintana Roo, San Luis Potosí, Sinaloa, Tabasco, Tamaulipas and Veracruz (Badonnel, 1988; Mockford, 1975; Turner, 1975). Additional records, from Mexican states where it had not been previously recorded are the following: BAJA CALIFORNIA SUR: San Ignacio, carretera 1,110 m, 24.VIII.1974, on dead fronds of date palm and *Typha*, 13 ♀ A. 34 kms, S El Triunfo, 22.VII.1974, on dead fronds of fan palm and dead papaya leaves, 1 ♀ A, 1 ♀ M. COAHUILA: Zaragoza, 22.XII.1969, on dead stems and leaves of corn and shorgum, 1 ♀ A; on dead Compositae flowers in graveyard, 1 ♀ A. COLIMA: *Ca*. Manzanillo International Airport, 1.XII.1980, on dead fronds of banana tree, 1 ♀ A. GUERRERO: 8 km, SW Tecpan de Galeana, 21.X.1973, on dead corn leaves, 3 ♀ A. Ixtapa, *ca*. Zihuatanejo, 15.V.1975, sifting mangrove litter, 1 ♀ A; beating branches in forest, I ♀ A. JALISCO: Chamela, *ca*. Playa El Negrito, 22.X.1980, beating bran-

ches with dead leaves, miscellaneous vegetation, 1 ♀ M. YUCATÁN: 12 km, S Progreso, 14.VII.1986, on dead leaves of fallen trees, low forest, 3 ♀ M.

Tapinella olmeca Mockford
T. olmeca Mockford, 1975, Folia Entomol. Mex. 31-32: 102

This species is known from Guatemala, Belize, and the Mexican states of Campeche, Chiapas, Oaxaca, Puebla, Quintana Roo, San Luis Potosí, Tabasco, Tamaulipas and Veracruz (Mockford, 1975). Records from Mexican states where the species had not been collected, are the following (B = brachypterous): COLIMA: Manzanillo, Las Hadas, 20.X.1977, sifting litter, J. Palacios, 5 ♀ A. GUERRERO: 24.VII.1969, beating mango branches with dead leaves, 1 ♀ A. 38 km, E Acapulco, Playa Revolcadero, 24.VII.1969, beating bamboo, 2 ♀ B. 16 km, W Acapulco, 23.VII.1969, beating dead fronds of coconut palm, 2 ♀ M, 2 ♀ B, 1 ♂ A. 10 km, S Zihuatanejo, 25.VII.1969, on dead fronds of banana trees, 3 ♀ B. Ixtapa, *ca.* Zihuatanejo, 15-17.V.1975, beating branches in forest, 1 ♀ B; sifting litter in forest, 4 ♀ M, 4 ♀ B; beating mangrove branches, 3 ♀ A. 12.XII.1975, beating vegetation in forest, 3 ♀ B; on dead fronds of fan palms, 1 ♀ M, 2 ♀ B. 13.VI.1976, beating branches of mangrove and dead fronds of fan palms, 9 ♀ M, 1 ♀ B. Las Gatas, *ca.* Zihuatanejo, 25.VI.1975, on dead fronds of fan palm, 1 ♀ A. HIDALGO: Ca. Otongo, 900 m, 10.V.1980, sifting oak litter, J. M. Johansen, 2 ♂ A. Omitlán, *ca.* Real del Monte, Hwy.105, 21.VIII.1980, beating oak branches, 2 ♀ M. JALISCO: Chamela, *ca.* UNAM Biology Station, 22.IV.1980, sifting mangrove litter, L. Menchaca, 1 ♀ B. 3.VII.1980, sifting mangrove litter, S. Gómez, 1 ♀ M. *Ca.* Melaque, 20.X.1980, beating mangrove branches, T. Zoebitsch, 1 ♀ M. 17 km, SE Tomatlán, 3.XII.1980, beating branches with dead leaves of fallen trees, ♀ M. MICHOACAN: El Laurel, km, 10, Rd. Tepalcatepec-Coalcomán, 9.II.1983, under rocks, E. Barrera, 1 ♀ M. NUEVO LEÓN: 50 km, NW San Nicolás de los Garza, 600 m, Hwy. NL-1, 24.XII.1975, on dead hanging leaves of *Yucca*, 1 ♀ M, 2 ♀ B. 8 km, E Hidalgo, 550 m, 20.VIII.1977, beating branches with dead leaves of *Erethia* and *Senecio*, 1 ♀ B. 12 km, S. Santiago, 500 m, 29.XII.1978, on dead grasses, 4 ♀ B, 7 ♂ A.

Tapinella vittata sp. nov.
(Figs. 5-13)

Female. Color. Body amber creamy. Compound eyes black; maxillary palps and antennae pale brown. A narrow, reddish brown band on each side of head, from compound eyes to epistomal sulcus, partially enclosing antennal fossae, and extending into postclypeus. Thorax with reddish brown spots on pleurae, forming two irregular bands. Legs amber brown, coxae with ochre spots basally. Abdomen with a broad stripe on each side, the stripes irregular, each formed by the succession

of S-shaped marks on segments 1-7 (Figs. 5 and 6). Clunium unpigmented dorsally, on area next to epiproct, sides brown (Fig. 9).

Morphology. Apterous. Subgenital plate setose, rounded posteriorly, with a row of strong setae on posterior margin, next to T-shaped sclerite; stem of T-shaped sclerite short, arms elongate; pigmented area of subgenital plate deeply concave anteriorly (Fig. 8). Gonapophyses elongate, typical of the genus (Fig. 10). Paraprocts setose, without sensory fields; epiproct trapecial, setose (Fig. 9).

Measurements. F: 384; T: 428; t1: 232; t2: 54; t3: 59; P4: 96; f1: 98; f2: 108; f3: 114; f4: 108; f5: 96; f6: 95; f7: 75; f8: 80; f9: 70; f10: 75; IO: 232; D: 124; d: 82; IO/D: 1.86; PO: 0.65.

Male. Color. Same as the female. Lateral stripes slender, not as broad as in the female. Abdominal tergites 3-7 with a slender, sclerotized band along anterior margin (Fig. 11).

Morphology. Apterous. Tenth tergite with the usual pair of sclerotized apophyses; these short, rounded; each basally with a pair of setae (Fig. 12). Phallosome (Figs. 13), narrower anteriorly; parameres narrowing distally, terminally acuminate.

Measurements. F: 242; T: 335; t1: 99; t2: 39; t3: 46: P4: 81; f1: 80; f2: 91; f3: 95; f4: 83; f5: 87; f6: 79; f7: 66; f8: 69; f9: 61; f10: 59; IO: 172; D: 100; d: 65; IO/D: 1.72; PO: 0.65.

Type locality. MÉXICO. VERACRUZ. Los Tuxtlas, UNAM Biology Station, 26.VI.1979, beating vegetation in forest, holotype ♂, allotype ♀, two paratypes ♀ (IBUNAM).

Records. NAYARIT. María Madre Island, road Puerto Balleto— Antena, 230 m, 29.III.1984, beating vegetation in forest, 2 ♀. *Oaxaca*. 16 km, SE Valle Nacional, 1850 m, 11.VII.1986, beating dead hanging fronds of banana trees, 6 ♀, 1 ♂. VERACRUZ. *Ca*. Tuxpam, 2.VII.1978, beating mangrove branches, 3 ♀. Los Tuxtlas, *ca*. Sontecomapan, 15.III.1984, beating vegetation in forest, 1 ♀; 28.I.1989, beating vegetation, A. Cadena, 2 ♀. UNAM Biology Station, 16-18.VIII.1987, beating vegetation in forest and *Citrus* trees in orchard, 17 ♀, 2 ♂; 8-9.VII.1988, beating branches of *Citrus* trees, and branches with dead leaves on forest edge, 39 ♀; 2.VIII.1989, on dead fronds of banana trees, J. García, 2 ♀; 21.VIII.1989, on tree trunk in forest, 1 ♀. Balzapote, 3.VIII.1989, beating *Citrus* tress and branches with dead leaves in forest, 13 ♀; 18.XII.1989, beating branches with dead leaves of fallen trees, forest edge, J. García, 1 ♀. Ruiz Cortines, 5.VIII.1989, beating *Citrus* trees, 11 ♀.

A variant of *Tapinella vittata* was detected in several localities in the states of Chiapas, Hidalgo, Oaxaca, Puebla, and San Luis Potosí. This variant, of which only females are known, is here referred to as *Tapinella vittata* forma *semicircularis*; it presents the same pattern of body pigmentation as *T. vittata*, but the lateral abdominal stripes are considerably extended towards the middle of the tergites (Fig. 14), the pigment is more intense, the pigmentation of the clunium is similar to that of *T. vittata*, and the measurements are comparable. So far as presently known, the populations of both forms only coincide, in the same habitat, in one locality in the state of Oaxaca (*ca*. Valle Nacional), within the range of distribution of *T. vittata*.

As no males have been found associated with it, and until more data on distribution is available, I prefer not to treat this form as a different species from *T. vittata*.

Tapinella vittata forma *semicircularis* (♀)
(Fig. 14)

Female. Color. Body amber creamy; pattern of pigmentation as in *T. vittata*, but bands on sides of abdomen extended towards the middle of the tergites. Bands of thoracic pleurae and abdominal stripes reddish brown, more intense than in *T. vittata*. Pigmentation of clunium same as in *T. vittata* (Fig. 9).

Morphology. Apterous. Subgenital plate, gonapophyses, T-shaped sclerite, epiproct and paraprocts, same as *T. vittata*.

Measurements. F: 373; T: 417: t1: 227; t2: 54: t3: 57; P4: 87; f1: 98; f2: 101; f3: 109; f4: 154: f5: 90; f6: 102; f7: 78; f8: 86; f9: 68; f10: 80; IO: 234; D: 130; d: 82; IO/D: 1.8; PO: 0.63.

Distribution. CHIAPAS: 13 km, S. Ixtacomitán, Hwy. 195, 410 m, 13.VIII.1975, beating branches with dead leaves in forest, 2 ♀. 29 km, N Palenque, 100 m, 12.VII.1986, on dead leaves of fallen tree, 1 ♀. HIDALGO: Omitlán, *ca.* Real del Monte, Hwy. 105, 21.VIII.1980, beating oak branches, 13 ♀. *Ca.* Otongo, 650 m, 24.III.1981, Berlese, tropical forest litter, J. M. Johansen, 1 ♀. OAXACA: 16 km, SE Valle Nacional, 1 850 m, 11.VII.1986, on dead fronds of banana tree, I ♀. PUEBLA: 7 km, SE Xicotepec de Juárez, 23.V.1975, on dead leaves of shrubs, forest edge, 1 ♀. SAN LUIS POTOSÍ: 20 km, N Jct. Hwy. 85 and road to Xilitla, 25.II.1973, on dead leaves of Convolvulaceae vines, 2 ♀.

Tapinella is a genus predominantly neotropical that includes 31 species, 13 of which occur in the Neotropical region; four species have been recorded in Africa, six occur in the Oriental and five in the Pacific regions, while two species have been recorded in Madagascar and one species each occur in the Nearctic, Palearctic and Australian regions (Table 1). The distribution data presented in Table 1, partially taken from Smithers' *Catalogue of the Psocoptera of the World* (1967) besides pointing to the actual distributions fo the species, may also reflect the effort dedicated to the study of the Pachytroctidae in different areas.

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Table 1. Species of *Nanopsocus, Pachytroctes, Psacadium* and *Tapinella*, and distribution

Nanopsocus falsus Badonnel *N. falsus* Badonnel, (n. comb.), 1977a, 927 *Onychotroctes africanus* Badonnel, 1973, 78	Angola, Reunion Is.
N. longicornis Badonnel *N. longicornis* Badonnel, 1976, 1157	Madagascar
N. oceanicus Pearman *N. oceanicus* Pearman, 1928, 134	Vanuatu (New Hebrides), Togo, Benin, Ivory Coast, Zaire, Equatorial Guinea, Réunion Is., Japan, Spain, México, Jamaica, Florida
N. pictus Baz *N. pictus* Baz, 1990b, 437	Equatorial Guinea, (Bioko Island)
N. trifasciatus (Badonnel) *Oncychotroctes trifasciatus* Badonnel. 1969, 73	Angola
Pachytroctes aegyptius Enderlein (*Pachytroctes*)	Egypt
P. aegyptius Enderlein, 1905, 46	
P. achrosta Thornton & Woo (*Neotroctes*) *P. achrosta* Thornton & Woo, 1973, 24	Galápagos Is.
P. aglyphus Badonnel (*Pachytroctes*) *P. aglyphus* Badonnel, 1955, 107	Angola
P. ambiguus Badonnel (*Pachytroctes*) *P. ambiguus* Badonnel, 1955, 105	Angola
P. aurantiacus Badonnel (*Pachytroctes*) *P. aurantiacus* Badonnel, 1949a, 35	Ivory Coast, Senegal
P. australis Ribaga (*Pachytroctes*) *P. australis* Ribaga, 1911, 159	South Africa
P. bicoloripes Badonnel (*Pachytroctes*) *P. bicoloripes* Badonnel, 1949a, 33	Ivory Coast, Senegal
P. brasilianus Roesler (*Neotroctes*) *P. brasilianus* Roesler, 1940, 228	Brazil

Table 1. (Continues)

P. brunneus Ribaga (*Pachytroctes*) *P. brunneus*, Ribaga, 1911, Redia, 161	South Africa
P. dichromoscelis Badonnel (*Pachytroctes*?) *P. dichromoscelis* Badonnel, 1949a, 32 (♀) *P. dichromoscelis* Badonnel, 1979, 19 (♂)	Ivory Coast, Senegal, Brazil
P. ealensis Badonnel (*Pachytroctes*) *P. ealensis* Badonnel, 1949b, 23	Congo, Angola
P. granulosus Badonnel (*Pachytroctes*) *P. granulosus* Badonnel, 1955, 100	Angola
P. infuscatus Badonnel (*Pachytroctes*?) *P. infuscatus* Badonnel, 1973, 73	Angola
P. insularis Thornton, Lee & Chui (*Pachytroctes*?) *P. insularis* Thornton, Lee & Chui, 1972, 77	Micronesia (S. Mariana Is.)
P. ixtapaensis García Aldrete (*Neotroctes*) *P. ixtapaensis* García Aldrete, 1986, 13	México
P. maculosus García Aldrete (*Neotroctes*) *P. maculosus* García Aldrete, 1986, 7	México
P. neoleonensis García Aldrete (*Neotroctes*) *P. neoleonensis* García Aldrete, 1986, 9	México
N. nivecinctus Badonnel (*Pachytroctes*?) *P. nivecinctus* Badonnel, 1955, 102	Angola
P. pacificus García Aldrete (*Neotroctes*) *P. pacificus* García Aldrete, 1986, 11	México
P. rugosus Smithers (*Pachytroctes*?) *P. rugosus* Smithers, 1984, 459	S. Australia
P. sericeus Badonnel (*Pachytroctes*?) *P. sericeus* Badonnel, 1976, 1153	Madagascar
P. tapinelloides Badonnel (*Pachytroctes*?) *P. tapinelloides* Badonnel, 1955, 106	Angola
P. velutinus Badonnel *P. velutinus* Badonnel, 1967, 136	Madagascar

Table 1. (Continues)

P. viettei Badonnel (*Pachytroctes*?) *P. viettei* Badonnel, 1976, 1 155	Madagascar
Psacadium bilimbatum Enderlein *P. bilimbatum* Enderlein, 1908, 777 (Lizhong, 1987, 3, transferred *P. bilimbatum* to *Antilopsocus*, but this change seems to require more fundament).	Taiwan (Formosa)
P. georgi Menon *P. georgi* Menon, 1938, 250	India
P. negreai Badonnel *P. negreai* Badonnel, 1977b, 347	Cuba
P. pictum Badonnel *P. pictum* Badonnel, 1986a, 702	México
Tapinella aliena (Banks) *Psylloneura aliena* Banks, 1941, 393	Cuba
T. baliensis Thornton *T. baliensis* Thornton, 1984, 89	Bali
T. bicolorata García Aldrete	México
T. campanensis New & Thornton *T. campanensis* New & Thornton, 1981, 142	Chile
T. candida New *T. candida* New, 1974, 2	SE Australia
T. castanea Pearman *T. castanea* Pearman, 1932, 240	England (Canary Is.?)
T. columbiana Badonnel *T. columbiana* Badonnel, 1986b, 193	Colombia
T. curvata Badonnel *T. africana curvata* Badonnel, 1949b, 28 *T. bilineata* (Smithers, 1958, 55)	Congo, Angola, Senegal, Nigeria
T. chamelana Badonnel *T. chamelana* Badonnel, 1986a, 698	México
T. clypeola Thornton	Lombok

Table 1. (Continues)

T. clypeola Thornton, 1984, 89	
T. dichromoptera Badonnel *T. dichromoptera* Badonnel, 1988, 285	Guadeloupe Is.
T. fasciata Thornton & Wong *T. fasciata* Thornton & Wong, 1966, 1	India
T. formosana Enderlein *T. formosana* Enderlein, 1908, 774	Taiwan, India, Micronesia, Hawaii
T. francesca Thornton & Woo *T. francesca* Thornton & Woo, 1973, 22	Galápagos Is.
T. fusca Badonnel *T. fusca* Badonnel, 1977c, 112	Angola
T. glyptops Badonnel *T. glyptops* Badonnel, 1976, 1 156	Madagascar
T. levuka Thornton *T. levuka* Thornton, 1981, 38	Fiji
T. maculata Mockford & Gurney *T. maculata* Mockford & Gurney, 1956, 360	Texas, México, Guadeloupe Is.
T. madagascariensis Badonnel *T. madagascariensis* Badonnel, 1967, 59	Madagascar
T. mariana Thornton, Lee & Chui *T. mariana* Thornton, Lee & Chui, 1972, 80	Micronesia
T. olmeca Mockford *T. olmeca* Mockford, 1975, 102	Guatemala, México
T. picticeps Badonnel *T. picticeps* Badonnel 1977d, 342	Cuba
T. pictipenna Thornton, Lee & Chui *T. pictipenna* Thornton, Lee & Chui, 1972, 81	Micronesia, Philippines
T. spinosa Thornton *T. spinosa* Thornton, 1984, 91	Lombok
T. squamosa Badonnel *T. squamosum* Badonnel, 1955, 111	Angola

Table 1. (Concludes)

T. stenomedia Thornton & Woo *T. stenomedia* Thornton & Woo, 1973, 23	Galápagos Is.
T. trilineata Badonnel *T. trilineata* Badonnel, 1983, 142	Senegal
T. tuila Thornton *T. tuila* Thornton, 1981, 38	Fiji
T. unicolorata Turner *T. unicolorata* Turner, 1975, 556	Jamaica
T. vittata García Aldrete	México
T. williamsi (Banks) *Psylloneura williamsi* Banks, 1931, 439	Hawaii

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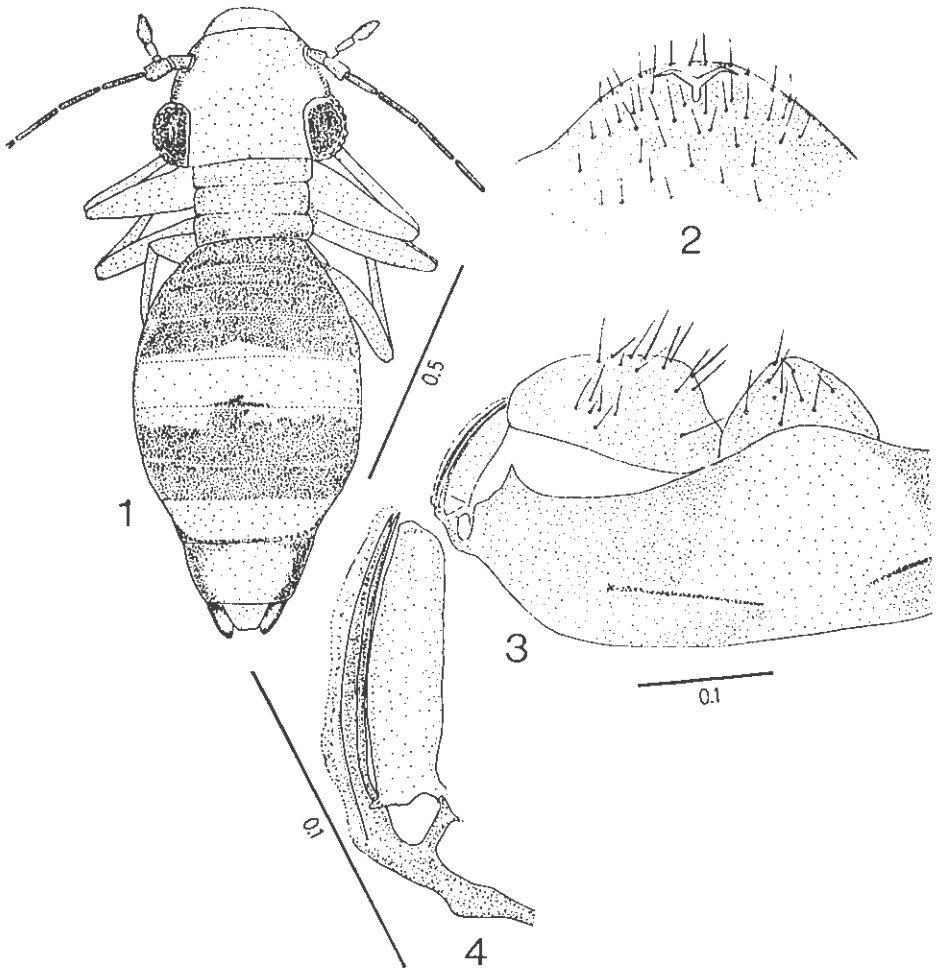
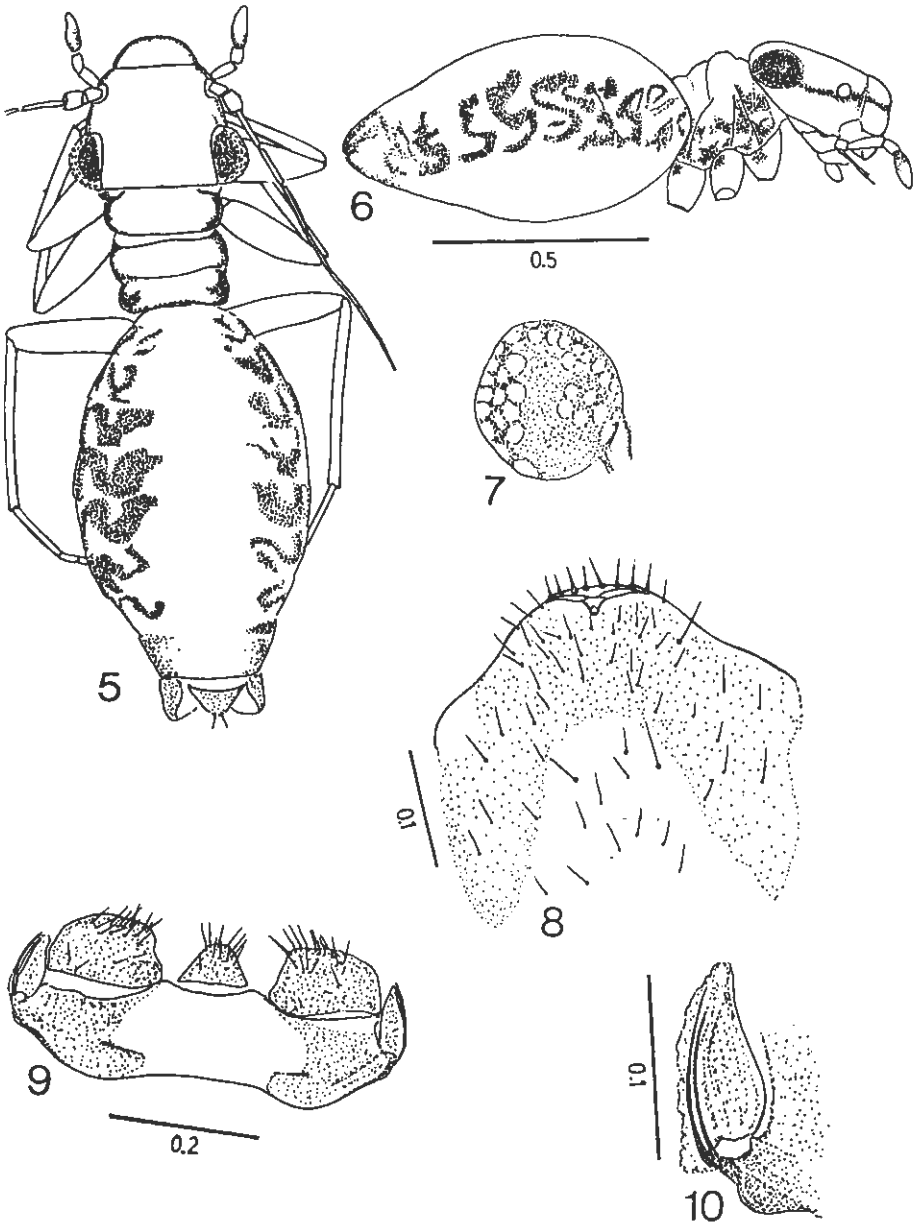
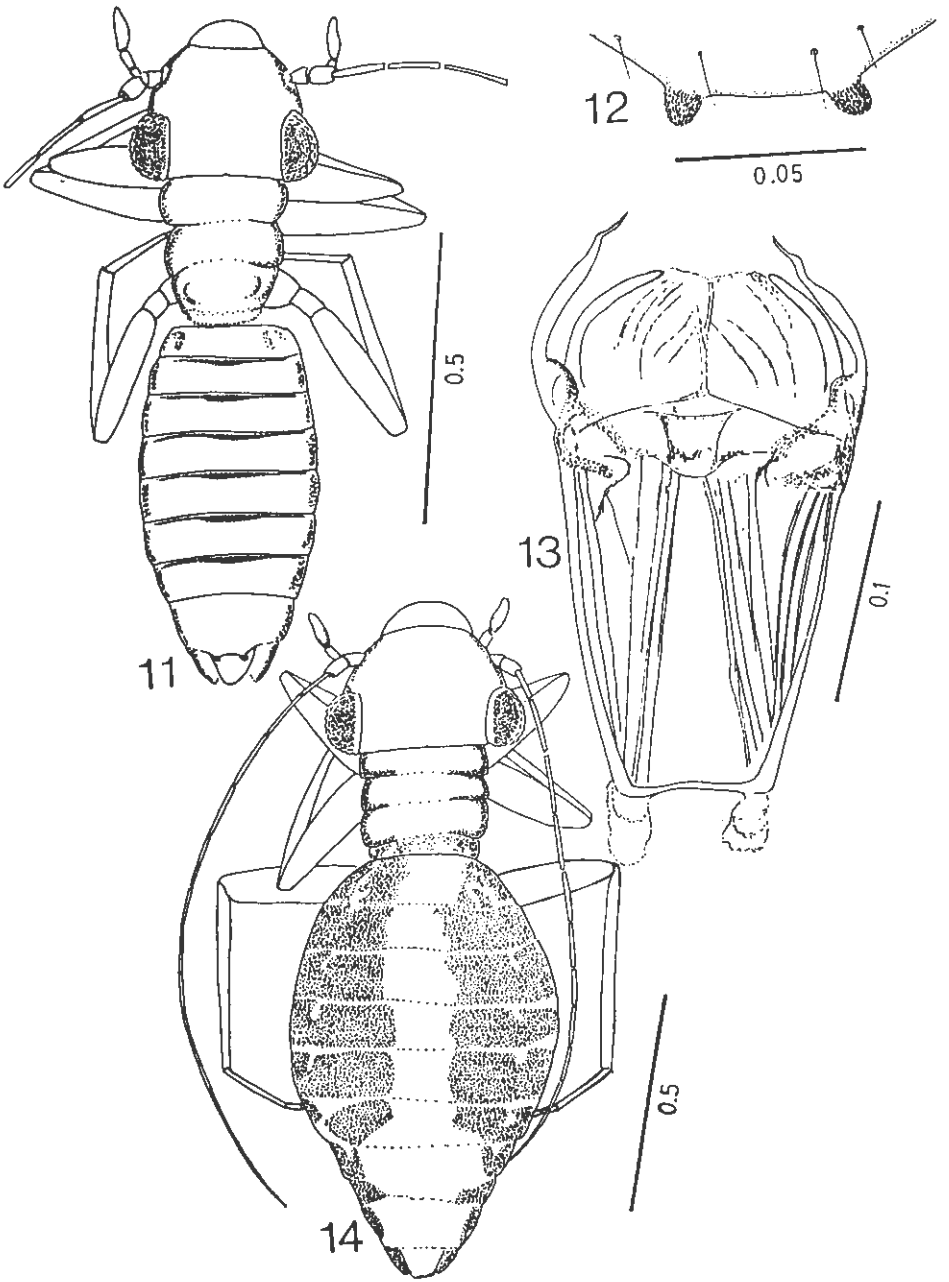


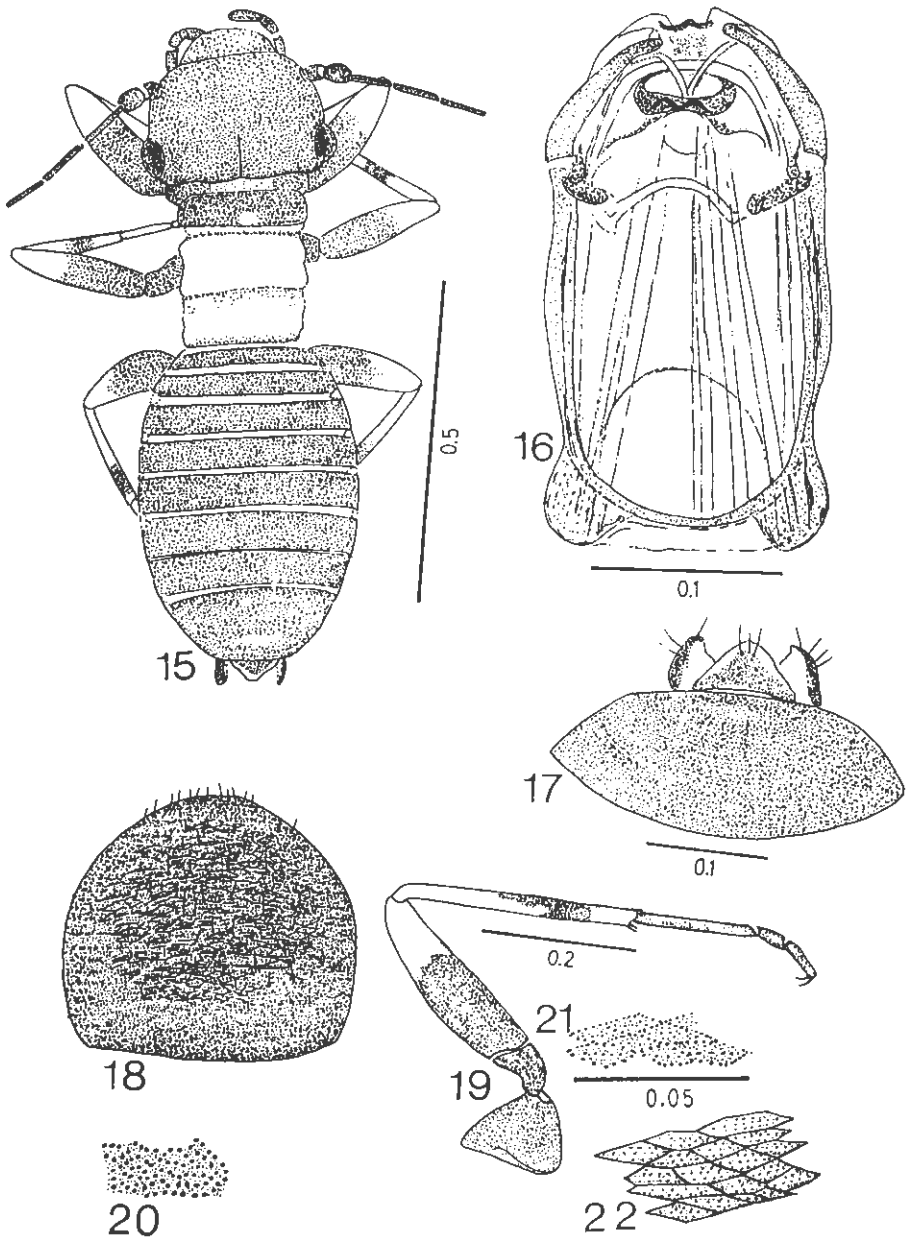
Figs. 1-4. *Tapinella bicolorata* n. sp. (♀). 1. Dorsal view. 2. Subgenital plate. 3. Right paraproct, right gonapophyses, epiproct and clunium. 4. Right gonapophyses. Scales in mm. Figure 2 to scale of figure 3.



Figs. 5-10. *Tapinella vittata* n. sp. 5. Dorsal View, (♀) 6. Side View (♀) 7. Spermatheca, (♀) 8. Subgenital plate, (♀) 9. Clunium, gonapophyses, paraprocts and epiproct, (♀) 10. Right gonapophyses, (♀). Scales in mm. Figure 5 to scale of figure 6. Figure 7 to scale of figure 10.



Figs. 11-14. *Tapinella vittata* n. sp. 11. Dorsal view of male 12. Apophyses of clunium, (♂) 13. Phallosome, (♂) 14. Dorsal view of *Tapinella vittata* forma *semicircularis* (♂). Scales in mm.



Figs. 15-22. *Pachytroctes ixtapaensis* García Aldrete, (♂) 15. Dorsal view. 16. Phallosome. 17. Clunium, paraprocts and epiproct. 18. Hypandrium. 19. Right hind leg. 20. Sculpture of vertex. 21. Sculpture of 4th tergite. 22. Sculpture of hypandrium. Scales in mm. Figure 18 to scale of figure 19. Figures 20 and 22 to scale of figure 21.