

NOTES ON THE LISTROPHOROID MITES OF NEW GUINEA (ACARINA: LISTROPHOROIDEA)¹

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Abstract: A collection of listrophoroid mites (Listrophoroidea) belonging to the Bishop Museum, Honolulu, and collected from mammals in New Guinea was studied. This collection contains 23 species and 2 subspecies, of which 2 species are described as new. Complete descriptions and illustrations are provided for 9 species and 2 subspecies briefly described in a preliminary note by Fain (1975). The species treated belong to 7 genera, 6 in the family Atopomelidae and 1 in the Chirodiscidae. This report brings the total number of species of Listrophoroidea known from New Guinea to 43 and the number of genera to 13, all belonging to the Atopomelidae and Chirodiscidae.

The present work deals with a collection of listrophoroid mites (Listrophoroidea) collected on various mammals in New Guinea by the scientific staff of the Bishop Museum, Honolulu.

The listrophoroid mites of New Guinea have been studied during recent years by Gunther (1940), Domrow (1958) and Fain (1971, 1972a, 1974). Of a total of 28 species recorded by these authors from this region, 23 are endemic and 5 are represented also in Australia. These belong to 11 genera, of which 4 are endemic and 7 are known also from Australia. All are members of the family Atopomelidae.

The collection of the Bishop Museum comprises 23 species and 2 subspecies of which 2 species are new. Nine species and 2 subspecies were briefly described in a preliminary note (Fain 1975) without figures. The descriptions are completed here and illustrations for these species are given. The species treated here belong to 7 genera; 6 are in the family Atopomelidae and 1 in the family Chirodiscidae.

Including the new taxa recorded in the present paper, the total number of species of Listrophoroidea known from New Guinea is now 43, the number of genera 13 (TABLE 1). So far, no representatives of the 2 other families of Listrophoroidea, Myocoptidae and Listrophoridae, have been discovered in New Guinea.

In the descriptions, measurement of body length includes the gnathosoma; the width is the maximum width of the body.

Holotypes, allotypes and most paratypes of the new species are deposited in the Bishop Museum.

Host nomenclature follows Laurie & Hill (1954),

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except as modified by more recent vertebrate works. Geographic coordinates for collection localities are provided in TABLE 2.

Family ATOPOMELIDAE Gunther, 1942
Genus **MURICHIRUS** Fain, 1971

Murichirus is now represented by 15 species, of which 12 are endemic to New Guinea, 2 are endemic to Australia and 1 is represented in both areas.

Murichirus is the only genus in the Atopomelidae that is found on both murid rodents (13 species) and marsupials (2 species). This lack of host specificity within the genus might probably be explained by the observation that in New Guinea murids and marsupials have coexisted for a long period, which has made possible the exchange of parasites.

Murichirus is divided into 2 subgenera: *Murichirus* Fain, 1971 and *Murichiroides* Fain, 1971. Only the typical subgenus is represented in the present collection. Since only the males provide good morphological characters for the identification of the species, the key to the subgenus *Murichirus*, given below, is based upon males. Females are generally much more difficult to separate.

KEY TO ♂♂ OF *Murichirus* (*Murichirus*) FAIN³

1. Posterior part of opisthonotum with numerous scales. Opisthosoma long. Posterior legs relatively small...
.....**moschati** (Domrow, 1961)
- Posterior part of opisthonotum without scales. Opisthosoma short. Posterior legs much inflated... 2
2. Body 756 μm long. Coxa III tapering posterolaterally into a narrow, straight process. Nearly all dorsal striations strongly oblique or longitudinal.....
.....**maximus** Fain, 1975
- Body not longer than 450 μm . Coxa III of different shape. Dorsal striations mainly transverse..... 3
3. Coxa III prolonged posterolaterally into a flat, slightly striated, curved, crescent-shaped process..... 4
- Coxa III either without process or with a short posterolateral, uncurved process 8
4. Opisthogaster striated, without scales. Ventral surface of femur IV with 2 small toothlike processes; ventral surface of genu IV with a small, apical toothlike process.....**simplex**, n. sp.
- Opisthogaster striated and with several well-developed scales. Ventral processes of femur IV variable..... 5
5. Ventral surface of femur IV with 2 stout ventral processes: one subbasal, triangular in shape and direct-

³♂♂ of *M. (M.) ornatus* Fain and *M. (M.) longior* Fain are unknown.

TABLE 1. List of the species of Listrophoroidea of New Guinea.

SPECIES	HOST	ORDER, FAMILY AND SUB-FAMILY OF HOST	LOCALITY:†† AND REFERENCE (NO REFERENCE=PRESENT WORK)
Family Atopomelidae			
Genus <i>Murichirus</i> Fain, 1971			
Subgenus <i>Murichirus</i> Fain, 1971			
<i>melomys</i> Fain, 1972a	** <i>Melomys rufescens</i> Alston	RODENTIA Muridae, Murinae	New Britain (Fain 1972a), Mt Missim (NG)
	<i>Rattus ruber</i> Jentink	Muridae, Murinae	Mt Missim (NG)
<i>pogonomys</i> Fain, 1972a	** <i>Pogonomys vates</i> Thomas	Muridae, Murinae	Maden (Brit. New Guinea) (Fain 1972a)
* <i>enoplus</i> (Domrow, 1956)	<i>Anisomys imitator</i> Thomas	Muridae, Murinae	Arabori (NG), Kudjeru (NG), Mt Giluw (P), Kagaba (P)
	<i>Rattus niobe</i> Thomas	Muridae, Murinae	W of Mendi (P)
	"Super Giant rat" (prob. <i>Hyomys goliath</i> or <i>Mallomys rothschildi</i>)	?	Mt Giluwe (P)
<i>leopardi</i> Fain, 1974	** <i>Melomys platyops fuscus</i> Rümmler (= <i>Melomys</i> sp.)***	Muridae, Murinae	Sentani (WI) (Fain 1974)
<i>scorteus</i> Fain, 1974	** <i>Melomys platyops fuscus</i> Rümmler (= <i>Melomys</i> sp.)***	Muridae, Murinae	Sentani (WI) (Fain 1974)
<i>coriaceus coriaceus</i> Fain, 1974	** <i>Rattus exulans browni</i> (Alston) (= <i>Rattus exulans</i> Peale)***	Muridae, Murinae	Sentani (WI) (Fain 1974)
	<i>Melomys platyops fuscus</i> Rümmler (= <i>Melomys</i> sp.)***	Muridae, Murinae	Sentani (WI) (Fain 1974)
<i>coriaceus gratus</i> Fain, 1974	** <i>Melomys levipes mollis</i> (Thomas) (= <i>Melomys</i> sp.)***	Muridae, Murinae	Ertzberg (WI) (Fain 1974)
	<i>Melomys rubex</i> Thomas	Muridae, Murinae	Bulldog Rd (P)
	<i>Melomys moncktoni</i> Thomas	Muridae, Murinae	Mt Kaindi (NG)
<i>longior</i> Fain, 1974	** <i>Melomys platyops fuscus</i> Rümmler (= <i>Melomys</i> sp.)***	Muridae, Murinae	Sentani (WI) (Fain 1974)
<i>maximus</i> Fain, 1975	** <i>Uromys anak</i> Thomas	Muridae, Murinae	Bulldog Rd (P)
<i>coxatus</i> , n. sp.	** <i>Melomys rubex</i> Thomas	Muridae, Murinae	Bulldog Rd (P), Mt Kaindi (NG)
	<i>Melomys moncktoni</i> Thomas	Muridae, Murinae	Mt Kaindi (NG)
<i>simplex</i> , n. sp.	** <i>Melomys rubex</i> Thomas	Muridae, Murinae	Murmur Pass (P)
<i>ornatus</i> Fain, 1972a	** <i>Pseudocheirus forbesi</i> Thomas	MARSUPIALIA Phalangeridae, Phalan- gerinae	English New Guinea (Fain 1972a)
Subgenus <i>Murichiroides</i> Fain, 1971			
* <i>parahydromys</i> Fain, 1971	** <i>Parahydromys asper</i> Thomas	RODENTIA Muridae, Hydromyinae	East Papua (Fain 1971, 1972a)
<i>pseudohydromys</i> Fain, 1971	** <i>Pseudohydromys murinus</i> Rümmler	Muridae, Hydromyinae	Central New Guinea (Fain 1971, 1972a)
Genus <i>Austrochirus</i> Womersley, 1943			
Subgenus <i>Austrochirus</i> Womersley, 1943			
<i>perameles</i> Fain, 1971	<i>Perameles moresbyensis</i> Ramsay	MARSUPIALIA Peramelidae	Port Moresby (P) (Fain 1971)
Subgenus <i>Austrochiroides</i> Fain, 1970			
* <i>mcmillani</i> Domrow, 1961	**Bandicoot	MARSUPIALIA Peramelidae	Maprik area (NG) (Domrow 1961)
	<i>Peroryctes raffrayanus</i> (Milne-Edwards) (= <i>Perameles raffrayana</i> Milne-Edwards)	Peramelidae	Huon Gulf (NG) (Fain 1972a)
	<i>Echymipera kalubu</i> (Lesson) [= <i>Perameles cockerelli</i> (Ramsay)]	Peramelidae	New Britain, Haveri (P), Weyland Range (WI) (Fain 1972a), Ambogo R (P), Mt Missim (NG), Geelvink Bay (WI), Nabire (P), Kauli Ck (P), Mooly Ck (P), Wau (NG), Sandy Ck (P), Biak Town (WI)
	<i>Echymipera kalubu</i> (Lesson) (= <i>Echymipera</i> sp.)***	Peramelidae	Sentani (WI) (Fain 1974)
	† <i>Anisomys imitator</i> Thomas	RODENTIA Muridae, Murinae	Arabori (NG)

Table 1 (continued)

	† <i>Melomys rufescens</i> Alston	Muridae, Murinae	Mt Missim (NG)
	†“Long-tailed rat”	Muridae, Murinae	Dawai R (P)
<i>womersleyi</i> Fain, 1972a	** <i>Isoodon macrourus moresbyensis</i> (Ramsay) (= <i>Perameles moresbyensis</i> Ramsay)	MARSUPIALIA Peramelidae	Port Moresby (P) (Fain 1972a)
	<i>Peroryctes raffrayanus</i> (Milne-Edwards)	Peramelidae	SW of Kabwum (NG)
Genus <i>Phalangerobia</i> Fain, 1972		MARSUPIALIA	
* <i>ovata</i> Fain, 1972a	** <i>Phalanger orientalis intercastellanus</i> Thomas	Phalangeridae, Phalangerinae	New Guinea (Fain 1972a)
Genus <i>Sclerochiroides</i> Fain, 1970		MARSUPIALIA	
* <i>mirabilis</i> Fain, 1970	** <i>Peroryctes raffrayanus</i> (Milne-Edwards)	Peramelidae	Huon Gulf (NG) (Fain 1970, 1972a), Bulldog Rd (P), Kassam (NG)
	<i>Peroryctes longicauda</i> (Peters & Doria)	Peramelidae	Bulldog Rd (P)
Genus <i>Dasyurochirus</i> Fain, 1970		MARSUPIALIA	
Subgenus <i>Dasyurochirus</i> Fain, 1970			
<i>inermis</i> Fain, 1971	** <i>Antechinus hageni</i> Laurie	Dasyuridae, Phascogalinae	Hagen Range (NG) (Fain 1971)
<i>leprosus</i> Fain, 1971	<i>Neophascogale lorentzi</i> (Jentink)	Dasyuridae, Phascogalinae	Mt Giluwe (P)
<i>radovskiyi</i> Fain, 1975	** <i>Dasyurus albopunctatus</i> Schlegel	Dasyuridae, Phascogalinae	Mt Kaindi (NG) (Fain 1975)
Subgenus <i>Dasyurochiroides</i> Fain, 1972a		MARSUPIALIA	
* <i>gracilis</i> Fain, 1972a	** <i>Antechinus hageni</i> Laurie	Dasyuridae, Phascogalinae	Hagen Range (NG) (Fain 1972a)
Genus <i>Petaurobia</i> Fain, 1971		MARSUPIALIA	
* <i>papua</i> Fain, 1971	** <i>Petaurus papuanus</i> Thomas	Phalangeridae, Phalangerinae	Mt Eiori (WI) (Fain 1971)
Genus <i>Campylochirus</i> Trouessart, 1893		MARSUPIALIA	
Subgenus <i>Campylochiroides</i> Fain, 1971			
<i>pseudocheirus</i> Fain, 1972a	** <i>Pseudocheirus forbesi</i> Thomas	Phalangeridae, Phalangerinae	English New Guinea (Fain 1972a)
	<i>Pseudocheirus mayeri</i> Rothschild & Dollman (= <i>Pseudocheirus</i> sp.)***	Phalangeridae, Phalangerinae	Jiwika (WI) (Fain 1974)
<i>caparti</i> Fain, 1974	** <i>Pseudocheirus mayeri</i> Rothschild & Dollman (= <i>Pseudocheirus</i> sp.)***	Phalangeridae, Phalangerinae	Jiwika (WI) (Fain 1974)
<i>petauricola</i> Fain, 1972a	** <i>Petaurus papuanus</i> Thomas	Phalangeridae, Phalangerinae	Mt Eiori (WI) (Fain 1972a)
Genus <i>Campylochiroopsis</i> Fain, 1972		MARSUPIALIA	
<i>micrura</i> Fain & Domrow, 1974	<i>Pseudocheirus mayeri</i> Rothschild & Dollman (= <i>Pseudocheirus</i> sp.)***	Phalangeridae, Phalangerinae	Jiwika (WI) (Fain 1974)
<i>misonnei</i> Fain, 1974	** <i>Pseudocheirus mayeri</i> Rothschild & Dollman (= <i>Pseudocheirus</i> sp.)***	Phalangeridae, Phalangerinae	Jiwika (WI) (Fain 1974)
Genus <i>Distoechurobia</i> Fain, 1972		MARSUPIALIA	
* <i>anomala</i> Fain, 1972a	** <i>Distoechurus pennatus</i> Peters	Phalangeridae, Phalangerinae	Morobe (NG) (Fain 1972a)
Genus <i>Cytostethum</i> Domrow, 1956		MARSUPIALIA	
Subgenus <i>Metacytostethum</i> Fain, 1971			
<i>longitarsus</i> Fain, 1972a	** <i>Echymipera kalubu</i> (Lesson) [= <i>Perameles cockerelli</i> (Ramsay)]	Peramelidae	Haveri (NG) (Fain 1972a)
<i>mediosquamatum</i> Fain & Domrow, 1975	** <i>Thylogale brunii</i> (Schreber)	Macropodidae, Macropodinae	Kaminibus (NG) (Fain & Domrow 1975)
	<i>Dorcopsulus vanheurni</i> (Thomas)	Macropodidae, Macropodinae	Wau Ck (NG)
	“ <i>Dorcopsula</i> ”	?	Lower Merauke R (WI)
<i>prosquamatum</i> Fain & Domrow, 1975	** <i>Thylogale brunii</i> (Schreber)	Macropodidae, Macropodinae	Kaminibus (NG) (Fain & Domrow 1975)
	Wallaby	Macropodidae, Macropodinae	Wau Ck (NG)

Table 1 (continued)

<i>asquamatum</i> Fain, 1975	** <i>"Dorcopsula"</i>	Macropodidae, Macropodinae	Lower Merauke R (WI) (Fain 1975)
	<i>Dorcopsulus vanheurni</i> (Thomas)	Macropodidae, Macropodinae	Wau Ck (NG)
<i>wilsoni</i> Fain, 1975	** <i>Dorcopsulus vanheurni</i> (Thomas)	Macropodidae, Macropodinae	Murmur Pass (NG) (Fain 1975)
	Wallaby	Macropodidae, Macropodinae	Wau Ck (NG)
<i>murmurensis</i> Fain, 1975	<i>Dorcopsulus vanheurni</i> (Thomas)	Macropodidae, Macropodinae	Murmur Pass (NG) (Fain 1975)
Genus <i>Neolabidocarpus</i> Gunther, 1942			
	* <i>buloloensis</i> Gunther, 1940	MARSUPIALIA Macropodidae, Macropodinae	Bulolo (NG) (Gunther 1940)
Genus <i>Listrophoroides</i> Hirst, 1923			
Subgenus <i>Listrophoroides</i> Hirst, 1923			
<i>brachypyx</i> Fain, 1974	** <i>Melomys platyops fuscus</i> Rümmler (= <i>Melomys</i> sp.)***	RODENTIA Muridae, Murinae	Sentani (WI) (Fain 1974)
	Rodent	?	Kebar Valley (WI)
<i>bilineatus</i> Fain, 1975	** <i>Melomys</i> sp.	Muridae, Murinae	Murmur Pass (NG) (Fain 1975)
<i>obliquelineatus</i> Fain, 1975	** <i>Rattus</i> sp. <i>Rattus leucopus</i> Gray <i>Rattus ruber</i> Jentink	Muridae, Murinae Muridae, Murinae Muridae, Murinae	Javarere (P) (Fain 1975) Mt Lamington (P) Mt Lamington (P)
Subgenus <i>Marquesania</i> Womersley, 1943			
<i>cucullatus</i> (Trouessart, 1893)	<i>Rattus rattus</i> L. <i>Rattus exulans browni</i> (Alston) (= <i>Rattus exulans</i> Peale)	RODENTIA Muridae, Murinae Muridae, Murinae	Sentani (WI) (Fain 1974) Sentani (WI) (Fain 1974), Bulolo (NG), Vogelkop (WI), Slate Ck (P)
	<i>Rattus</i> sp. Domestic rat	Muridae, Murinae Muridae, Murinae	Javarere (P) Mooly Ck (P)
	<i>Melomys platyops fuscus</i> Rümmler (= <i>Melomys</i> sp.)***	Muridae, Murinae	Sentani (WI) (Fain 1974)
	<i>Echymipera</i> sp.	MARSUPIALIA Peramelidae	Sentani (WI) (Fain 1974)
<i>papuanus papuanus</i> Fain, 1970	<i>Rattus</i> sp. <i>Melomys rubex</i> Thomas (= <i>Melomys</i> sp.)***	RODENTIA Muridae, Murinae Muridae, Murinae	Ertzberg (WI) (Fain 1974) Ertzberg (WI) (Fain 1974)
	<i>Rattus leucopus</i> Gray	Muridae, Murinae	Mt Lamington (P)
<i>papuanus crenatus</i> Fain, 1975	** <i>Rattus ruber</i> Jentink	Muridae, Murinae	Mt Missim, Wau, Bulolo R (NG), Star Mts (P) (Fain 1975 and present work), Finschhafen (NG)
	<i>Melomys rufescens</i> Alston	Muridae, Murinae	Mt Missim (NG), Hospital Creek (NG)
	<i>Melomys moncktoni</i> Thomas	Muridae, Murinae	Mt Kaindi (NG)
<i>papuanus interpolatus</i> Fain, 1975	** <i>Rattus niobe</i> Thomas	Muridae, Murinae	Ertzberg (WI) (Fain 1974), Bulldog Rd, Saruwaged, Murmur Pass, Mt Kaindi, (NG), Mt Giluwe (P) (Fain 1975 and present work), Kerigomna, Marafunga (NG)
	<i>Rattus verecundus</i> Thomas	Muridae, Murinae	Mt Missim (NG)
	<i>Melomys moncktoni</i> Thomas	Muridae, Murinae	Mt Kaindi (NG)
Family Chirodiscidae			
Genus <i>Labidocarpellus</i> Fain, 1976			
<i>papuanus</i> (Fain, 1975)	** <i>Dobsonia</i> sp. or <i>Pteropus</i> sp.	MEGACHIROPTERA Pteropidae	Kota Radja (WI) (Fain 1975)
<i>dobsonia</i> (Fain, 1975)	** <i>Dobsonia moluccensis</i> Quoy & Gaimard	Pteropidae	Javarere (P) (Fain 1975)

*Type-species of genus or subgenus.

**Type-host.

***Host trivial names given here for the first time for hosts cited by Fain (1974).

†Probably accidental host.

††(WI)=West Irian=NW+SW New Guinea; (P)=Papua=SE New Guinea; (NG)=NE New Guinea.

TABLE 2. List of New Guinea collection localities cited for hosts of Listrophoroidea.

Ambogo River, 40 m, 08°48'S, 148°15'E (SE)*
Arabori, 22 km SE of Chuave, 2300 m, 06°14'S, 145°15'E (NE)
Biak Town (Biak I), 5–20 m, 02°10'S, 132°56'E (NW)
Bulldog Road, 19 km S of Edie Creek, 2405 m, 07°48'S, 146°27'E (NE)
Bulolo River, 780 m, 07°12'S, 146°39'E (NE)
Chimbu Val., 1800 m, 06°01'S, 144°56'E (NE)
Dawai River, Japen I (low), 01°45'S, 136°15'E (NW)
Edie Creek, 15 km SW of Wau, 2000–2400 m, 07°19'S, 146°41'E (NE)
Eliori, Mt [?=Mt Eiori, Japen I, 610 m, 01°48'S, 136°15'E (NE)]
Ertzberg, 2400–3400 m, 04°08'S, 137°05'E (NW)
Finschhafen, 10–30 m, 06°34'S, 147°51'E (NE)
Geelvink Bay, Oransbari, 10–40 m, 02°30'S, 135°20'E (NW)
Giluwe, Mt, 2200–4000 m, 06°02'S, 143°51'E (SE)
Hagen, Mt (town), 1650 m, 05°51'S, 144°10'E (NE)
Haveri, 09°25'S, 147°35'E (SE)
Hollandia [now Jayapura], 0–200 m, 02°32'S, 140°42'E (NW)
Hospital Creek, vic. Wau, 1150–1300 m ±: see Wau
Huon Peninsula, 07°00'S, 147°25'E (NE)
Javarere, 20 km E of Sogeri, 600 m, 09°25'S, 147°26'E (SE)
Javarere, Cave no. 2 and 3, 450 m, 09°32'S, 147°26'E (SE)
Jiwika, 1600 m, 04°01'S, 138°48'E (NW)
Kabwum, 1000 m, 06°28'S, 146°58'E (NE)
Kagaba, Mt Giluwe, 40 km NE of Mendi, 2800 m, 05°51'S, 143°46'E (SE)
Kaindi, Mt, 3 ± km SW of Wau, 1500–2300 m, 07°21'S, 146°43'E (NE)
Kaminibus [?=Kaminibit, nr Chambri Lakes (Sepik), 04°17'S, 143°21'E (NE)]
Kassam Pass, 1350 m, 06°18'S, 145°52'E (NE)
Kauli Creek, 1200 m, 07°21'S, 146°46'E (SE)
Kebar Valley, Vogelkop, W of Manokwari, 550 m, 00°52'S, 134°05'E (NW)
Kerigomna, 3050 m, 05°58'S, 145°07'E (NE)
Kota Radja: see Hollandia
Kudjeru, S of Wau, 2100 m, 07°30'S, 146°44'E (NE)
Lamington, Mt, 400 m, 08°50'S, 148°08'E (SE)
Maden [?=Madang, 1–10 m, 05°13'S, 145°50'E (NE)]
Maprik, 150–160 m, 03°37'S, 143°04'E (NE)
Marafunga, 2500 m, 05°58'S, 145°08'E (NE)
Mendi, 5 km W, 1660–2000 m, 06°10'S, 143°40'E (SE)
Merauke River (lower), 96 km (60 mi.) up from mouth, 08°15'S, 140°42'E (SW)
Missim, Mt, base of, NE of Wau, 800–2000 m, 07°20'S, 146°43'E (NE)
Mooly Creek, 1040 m, 07°20'S, 146°43'E (NE)
Murmur Pass, 10 km NNE of Tambul, 2700 m, 05°45'S, 143°56'E (NE)
Nabire, S. Geelvink Bay, 0–30 m, 03°22'S, 135°29'E (NW)
New Britain, 06°00'S, 150°00'E
Oransbari, Vogelkop, NW Geelvink Bay, S of Manokari, 50 m, 01°21'S, 134°16'E (NW)
Port Moresby, 5 m, 09°29'S, 147°10'E (SE)
Sandy Creek, 1067 m, 07°18'S, 146°45'E (SE)
Saruwaged Range, 06°18'S, 146°55'E (NE)
Sentani, 75–1000 m, 02°36'S, 140°37'E (NW)
Slate Creek, 701 m, near Wau, 07°14'S, 146°30'E (NE)
Star Mts, Sibil Valley, 1245 m, 05°00'S, 141°00'E (NW)
Vogelkop: see Kebar Valley
Wau, 1000–1400 m, 07°20'S, 146°43'E (NE)
Weyland Range, 2000 m, 03°50'S, 135°50'E (NE)

*Quadrant of New Guinea.

- ed perpendicularly to segment, the other apical and parallel to segment. Metapodosomal shield completely striated. Penis rather strong, flanked with 2 parallel punctate lines.....**leopoldi** Fain, 1974
- Ventral surface of femur IV either with 1 apical process or with 2 apical and a 3rd small, rounded basal process
6. Femur IV with 3 ventral processes: 1 apical, long, narrow and strongly pointed; 1 preapical, small and toothlike; 1 basal, small and rounded. Genu IV without process. Opisthonotum completely striated. Penis flanked with 2 punctate longitudinal lines
- coxatus**, n. sp.
- Femur IV with only 1 apical, rounded or truncate process. Genu IV with 1 apicoventral pointed process. Opisthonotum not striated in midline..... 7
7. Crescentic process of coxa III broad. Ventral process of femur IV broad and often truncate apically. Metapodonotal shield striate. Triangular punctate area present in front of penis. Body 430 µm long.....
- melomys** Fain, 1972a
- Crescentic process of coxa III small. Ventral process of femur IV smaller and rounded. Metapodonotal shield nonstriate. With an inverted Y sclerite in front of penis. Body 320–340 µm long.....
- pogonomys** Fain, 1972a
8. Penis cylindrical and very long (225 µm).....
- scorteus** Fain, 1972a
- Penis small, 2–3 × longer than wide..... 9
9. Penis bifid apically, surrounded by a U-shaped sclerite. Striated posterior margin of postscapular shield very narrow. Striations of metapodonotum directed obliquely. Without processes on ventral surface of genu and femur IV.....
- notomys** Fain, 1971
- Penis conical and not bifid apically and without U-shaped sclerite. Striated posterior margin of postscapular shield wider. Striations of metapodonotum directed transversely. With toothlike processes on genu of femur IV.....10
10. Body poorly sclerotized, 450 µm long. Setae *a e*, *a 3* and *l 5* relatively long (*l 5*=40–50 µm), much longer than penis
- enoplus** (Domrow, 1956)
- Body strongly sclerotized, 325–330 µm long. Setae *a e*, *a 3* and *l 5* shorter than penis
11. Ventral surface of femur IV with 2 apical or subapical teeth.....
- coriaceus coriaceus** Fain, 1974
- Ventral surface of femur IV with 1 small ventroapical tooth.....
- coriaceus gratus** Fain, 1974

Murichirus (Murichirus) enoplus (Domrow, 1956)*Austrochirus enoplus* Domrow, 1956*Murichirus (Murichirus) enoplus*: Fain, 1972a

This species was described from *Hydromys chryso-gaster reginae* in N. Queensland. It has also been recorded from 4 other rodents in the same area (Domrow 1956).

Material examined: ex *Anisomys imitator* (=Giant Rat) (BBM-NG 55086, 55104, 55106, 55107), 20 ♂♂, 12 ♀♀, nymphs, Chimbu Dist., Arabori, 22 km SE of Chuave, 2300 m, 24–25.XI.1967, M. Nadchatram, A. B. Mirza & P. M. Colman; (BBM-NG 97786), 2 ♂♂, 9 ♀♀, Kudjeru, S of Wau, 2134 m, 24.IX.1969, A. B. Mirza; (BBM-NG 97139), 11 ♂♂,

Mt Giluwe, Kagaba, 40 km NNE of Mendi, 2800 m, 18.IX.1968, A. B. Mirza. Ex "Super Giant Rat" (prob. *Hyomys goliath* or *Mallomys rothschildi*) (BBM-NG 97265), 1 ♂, 4 ♀♀, Mt Giluwe, 40 km NNE of Mendi, 2800 m, 26.IX.1968, R. Traub & E. B. Mann. Ex *Rattus niobe* (BBM-NG 60331), 1 ♂, 3 ♀♀, 5 km W of Mendi, S. Highlands Dist., 2000 m, 10.XII.1967, M. Nadchatram, A. B. Mirza & P. H. Colman.

Murichirus (Murichirus) coriaceus gratus
Fain, 1974

This subspecies was described from *Melomys* sp. in Ertzberg, New Guinea, 2400 m.

Material examined: ex *Melomys rubex* (BBM-NG 52299), 1 ♂, 1 ♀, Bulldog Rd, 19 km S of Edie Ck, 2405 m, 6-8.VII.1966, R. M. Mitchell; BBM-NG 52332-52333), 2 ♂♂, same data. Ex *Melomys moncktoni* (BBM-NG 52216), 1 ♂, Mt Kaindi, 19 km SW of Wau, 2300 m, 26.VI.1966.

Murichirus (Murichirus) melomys Fain, 1974

Described from *Melomys rufescens* in New Britain, New Guinea.

Material examined: ex possibly *Melomys rufescens* (BBM-NG 54682), 4 ♂♂, 2 ♀♀, Mt Missim, NE of Wau, 1250 m, 22.X.1967, M. Nadchatram, A. B. Mirza & P. H. Colman; (BBM-NG 21064), 1 ♀, Mt Missim, 13.I.1963, H. Clissold. Ex *Rattus ruber*, 1 ♂, 1 ♀, Mt Missim, NE of Wau, 1250 m, 24.X.1967.

Murichirus (Murichirus) coxatus Fain, n. sp.

FIG. 1-2

In the male of this species, coxa III presents a long, flat, crescentic process directed posterodorsally. This process exists also in 3 other species, *M. (M.) melomys* Fain, *M. (M.) leopoldi* Fain and *M. (M.) pogonomys* Fain. *M. (M.) coxatus* is distinguished from *M. (M.) leopoldi* in the male by the much smaller size and the rounded shape of the basal process of femur IV, by the much shorter length of the opisthogastral setae and by the poor development of the dorsal striation in the median part of the hysteronotum; in the female by the shorter opistho-

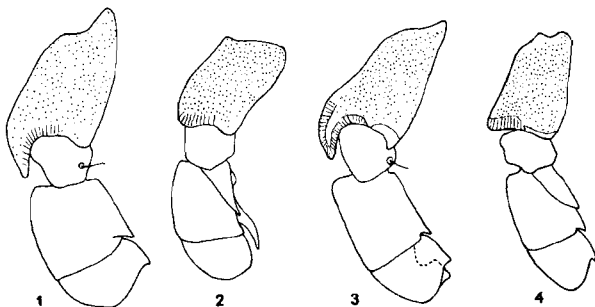


FIG. 1-4. Legs III and IV of ♂: (1-2) *Murichirus (M.) coxatus*, n. sp., (3-4) *Murichirus (M.) simplex*, n. sp.

soma, posterior legs and bursa. *M. (M.) coxatus* is distinguished from *M. (M.) melomys* in the male by the different shape of the processes of leg IV; in the female by the much shorter opisthosomal setae and the shorter posterior legs. *M. (M.) coxatus* is distinct from *M. (M.) pogonomys* in the male by the pointed shape of the apical process of femur IV, the absence of a process on genu IV and the presence of an inverted Y- or V-shaped sclerite in front of the penis.

♂ (FIG. 1-2). Length of holotype 360 μm, width 108 μm (in oblique view). Postscapular shield with a broad striated margin. Dorsum of hysterosoma punctate and striate. Striations barely visible or absent near middle of hysterosoma. Opisthosoma with ventral scales. Penis 12 μm long. All opisthosomal hairs short (less than 20 μm). Legs III thicker than legs IV. Femur IV bearing ventrally a very small, rounded basal process, 1 small preapical pointed process and 1 strong apical process. Genu IV without distinct processes.

♀. Allotype 375 μm long, 105 μm wide. Propodosomal shields and dorsal surface of hysterosoma heavily sclerotized. Hysteronotum

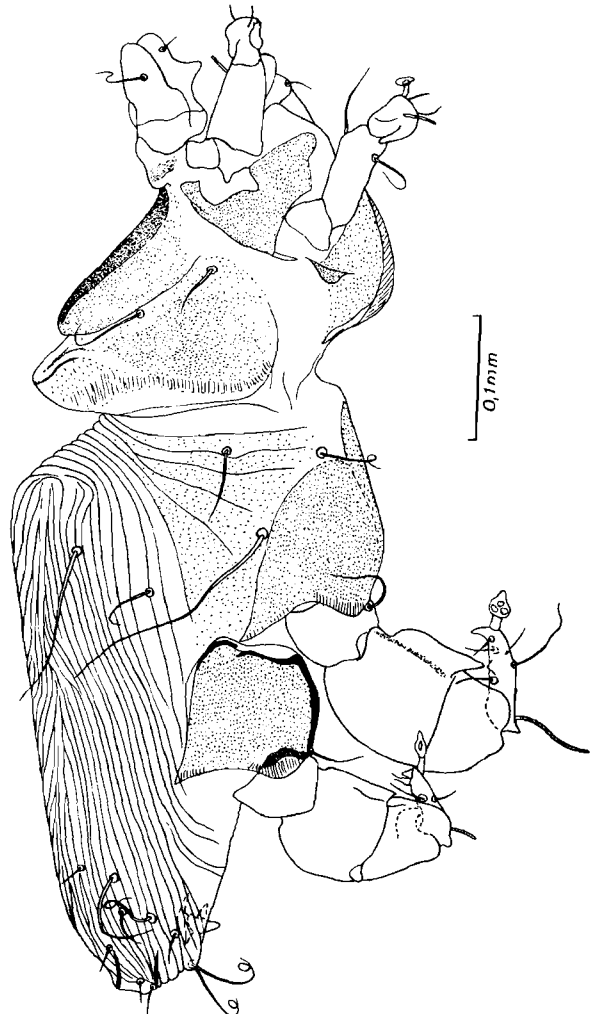


FIG. 5. *Murichirus (M.) maximus* Fain: holotype ♂.

tum entirely punctate and striate, resembling that of *M. coriaceus* but differing from it by shorter length of opisthosomal setae.

Material examined: Holotype ♂ (BISHOP 10,729): PNG(NE): Bulldog Rd, 19 km S of Edie Ck, 2405 m, ex *Melomys rubex* (BBM-NG 52235), 2.VII.1966, R. Mitchell. Paratypes: 2 ♂♂, 2 ♀♀, same data as holotype; 13 ♂♂, 10 ♀♀, allotype ♀, ex *Melomys rubex* (BBM-NG 52332, 52333, 52299, 52378), same locality as holotype, 6–9.VII.1966, R. Mitchell; 1 ♂, 6 ♀♀, ex *Melomys rubex* (BBM-NG 52203, 52223, 52215), Mt Kaindi, 19 km SW of Wau, 2300 m, 24–27.VII.1966, R. Mitchell; ex *Melomys moncktoni* (BBM-NG 52205, 52216), 7 ♀♀, Mt Kaindi, 19 km SW of Wau, 2300 m, 24.VII.1966, R. Mitchell.

***Murichirus (Murichirus) simplex* Fain, n. sp.**

FIG. 3–4

In the male of this species, coxa III presents a crescent-shaped process. This character is shared by 4 other species, *M. (M.) leopoldi*, *M. (M.) melomys*, *M. (M.) pogonomys* and *M. (M.) coxatus*. It is

distinguished from these species by the complete absence of scales on the opisthogaster.

♂ (FIG. 3–4). Holotype 357 μm long, 101 μm wide (in lateral view). Body strongly sclerotized. Striated margin of postscapular shield well developed. Dorsum of hysterosoma entirely striated. Opisthoventer striated, without scales. Penis 15 μm long. Opisthosomal hairs measure 27 μm at maximum. Femur IV with 2 flat, small teeth on ventral surface. Genu IV with a short apicoventral process.

♀. Allotype 390 μm long, 11 μm wide (in lateral view). Very close to the ♀ of *M. coxatus*, from which it may be distinguished by the longer bursa (125 μm , 90 μm in *M. coxatus*) and stronger sclerotization of body.

Material examined: Holotype ♂ (BISHOP 10,727), allotype ♀: PNG(NE): moss forest, Murrumbidgee Pass, 10 km NNE of Tambul, 2700 m, ex *Melomys rubex* (BBM-NG 97418), 1.X.1968, A. B. Mirza.

***Murichirus (Murichirus) maximus* Fain, 1957**

FIG. 5–7

This species is distinguished from others of the genus in both sexes by the great length of the *h*

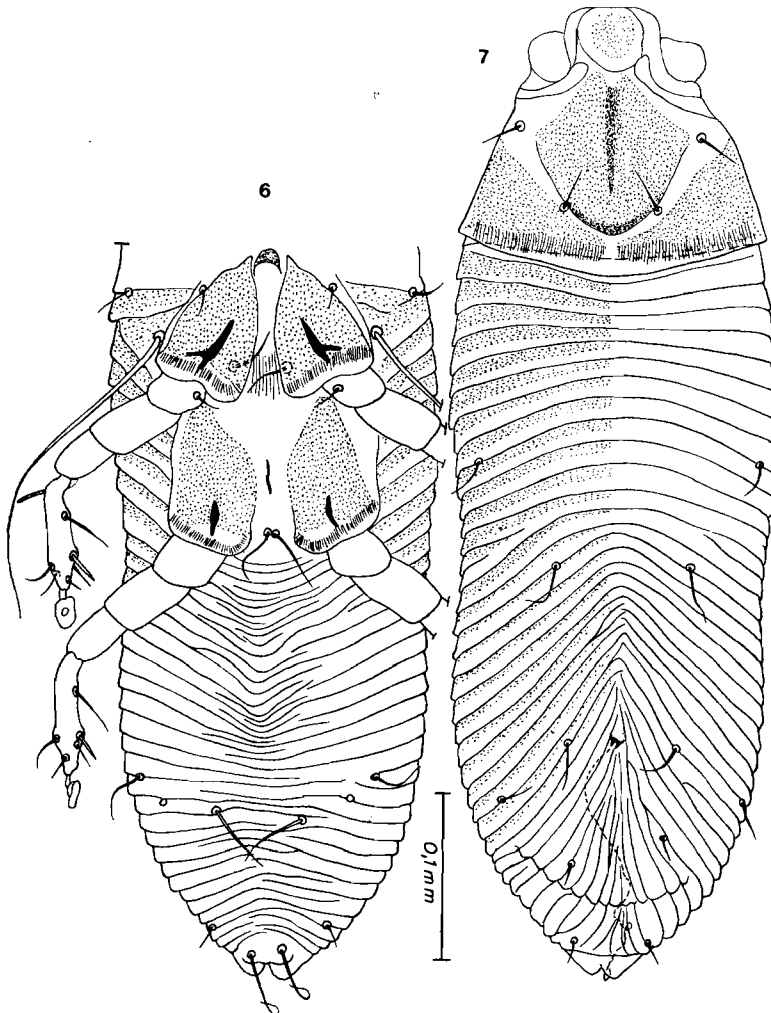


FIG. 6–7. *Murichirus (M.) maximus* Fain: allotype ♀ (6) venter, (7) dorsum.

setae; in the male by the large body size, the structure of the cuticular striations, which are mainly directed longitudinally, and the shape of the legs.

♂ (FIG. 5). Holotype 756 µm long, 300 µm wide (in lateral view). Cuticle of dorsal surface of hysterosoma completely striated longitudinally or obliquely, only the anterior 6 or 7 striations transverse. Opisthosoma short. Coxae III-IV strongly developed and prolonged posterodorsally into a narrow triangular point. Legs III-IV much inflated. Tarsi I without suckers. A pedunculate sucker present on legs II-IV. Penis short and thick, flanked by 2 longitudinal sclerites.

♀ (FIG. 6-7). Allotype 630 µm long and 190 µm maximum wide (in ventral view). Postscapular shield interrupted in midline, with a well-developed striated posterior margin. No hysterosomal shields but dorsally cuticle slightly punctate. Anterior striations of dorsal surface of hysterosoma transverse; on posterior 1/2 striations oblique. Ventral surface of opisthosoma with numerous but barely visible striations. Coxae III with a small triangular prolongation. Legs I without suckers, other legs with a pedunculate sucker. Legs III-IV well developed. Bursa copulatrix opens dorsotermally, genital papilla very small.

Material examined: ex *Uromys anak* (BBM-NG 52362), holotype ♂ (BISHOP 10,728), allotype ♀, 5 nymphs paratypes: PNG(NE): Bulldog Road, 19 km S of Edie Ck, 2405 m, 8.VII.1966, O. R. Wilkes.

Genus **AUSTROCHIRUS** Womersley, 1943

Subgenus **AUSTROCHIROIDES** Fain, 1970

Austrochirus (Austrochiroides) mcmillani
Domrow, 1961

This species was described from an unidentified bandicoot in New Guinea and reported subsequently in New Guinea on *Echymipera kalubu* (= *Perameles cockerelli*), *Echymipera kalubu* as *Echymipera* sp., and *Peroryctes raffrayanus* (= *Perameles raffrayana*) (see Fain 1972a, 1974).

Material examined: ex *Echymipera kalubu* (BBM-NG 24992), 4 ♂♂, 5 ♀♀, Ambogo R, vic. Popondetta, 40 m, 27.V.1966, P. J. Shanahan; (BBM-NG 53953), 6 ♂♂, 7 ♀♀, 7 nymphs, W of Bulolo, 780 m, 13.VIII.1967; (BBM-NG 54353), 1 ♂, 3 ♀♀, 1 nymph, same data except 24.VIII.1967; (BBM-NG 20631), 2 ♀♀, Kauli Ck, 3.X.1962, H. Clissold; (BBM-NG 20635), 2 nymphs, Mooly Ck, 4.X.1962; (BBM-NG 21037, 21118, 21119, 21129), 3 ♂♂, 5 ♀♀, 2 nymphs, Mt Missim, 1219 m, 8.I.1963; (BBM-NG 20545), 1 ♀, 1 nymph, Wau Ck, 1.IX.1962, H. Clissold; (BBM-NG 27574), 1 ♀, 1219 m, 31.III.1963, P. J. Shanahan; (BBM-NG 20143), 1 ♂, Sedlacek; (BBM-NG 21162), 2 ♀♀, vic. Wau, Sandy Ck, 1005-1066 m, H. Clissold; (BBM-NG 22238, 22249, 22252, 22259, 22260), 4 ♂♂, 10 ♀♀, Geelvink, Oransbari, 4-12.I.1963, L. P. Richards; (BBM-NG 21720), 1 ♀, Nabire, N. Wilson; (BBM-NG 22511), 1 ♀, Biak Town (= Biak I), 19.III.1963;

(BBM-NG 28565), 1 ♂, Wau, Nakata Ridge, 1524 m, 16.VII.1963, P. J. Shanahan; (BM-NG 717), 2 ♀♀, Vogelkop, Kebar Val., 168 m, 4-31.I.1962, S. & L. Quate. Ex *Anisomys imitator* (BBM-NG 55104), 1 N, Arabori, Chimbu Dist., 2300 m, 25.XI.1967, M. Nadchatram, A. B. Mirza & P. H. Colman; ex "Long-tailed rat" (BBM-NG 22050), 1 ♀, Japen I, Dawai R, 29.X.1962, L. P. Richards. Ex *Melomys rufescens* (BBM-NG 21049), 1 ♂, 1 nymph, Mt Missim, 1524 m, 9.I.1963, H. Clissold.

Austrochirus (Austrochiroides) womersleyi
Fain, 1972

This species was known previously only from the type-host, *Isoodon macrourus moresbyensis* (Ramsay) (= *Perameles moresbyensis*), Port Moresby.

Material examined: ex *Peroryctes raffrayanus* (BBM-NG 52735, 52642), 7 ♀♀, Saruwaged Range, SW of Kabwum, 2880 m, 2-3.VIII.1966, N. Wilson, O. Wilkes & R. Mitchell.

Genus **DASYUROCHIRUS** Fain, 1970

Subgenus **DASYUROCHIRUS** Fain, 1972

Dasyurochirus (Dasyurochirus) leprosus Fain,
1971

This species was described from *Myrmecobius fasciatus* from southwestern Australia.

Material examined: ex *Neophascogale lorentzi* (BBM-NG 97225, 97191), 3 ♂♂, 4 ♀♀, 5 nymphs, Kagaba, 40 km NE of Mendi, 2800 m, 21-23.IX.1968, A. B. Mirza.

Dasyurochirus (Dasyurochirus) radovskyi
Fain, 1975 FIG. 8-9

In this species the postscapular shield is very short, as in *Dasyurochirus longipilis* Fain and *D. inermis* Fain. *D. radovskyi* is, however, clearly distinguishable from these species in the female by the more anterior placement of the genital papilla, the greater length of the posterior legs, and the stronger reduction of the postscapular shield. The male is distinguished from that of *D. major* Fain & Domrow, 1973 by the shorter length of the postscapular shields, the presence of triangular lobes on the posterior extremity of the body, the much smaller body size, the greater length of the penis, and the different shape of the subapical hairs of tibiotarsi III.

This species is named after the prominent acarologist Dr F. Radovsky, Bishop Museum, Honolulu.

♂ (FIG. 8). Holotype 363 µm long, 126 µm wide (in lateral view). Postscapular shield in the form of a very narrow and poorly sclerotized transverse band recurved forwards in its internal part. Anterior part of hysteronotum with 7 long striations, posterior part with rounded scales. Posterolateral regions of opisthosoma with a shield longer than wide. Posterior extremity of the body with 3 (or ? 4) triangular, flaplike pro-

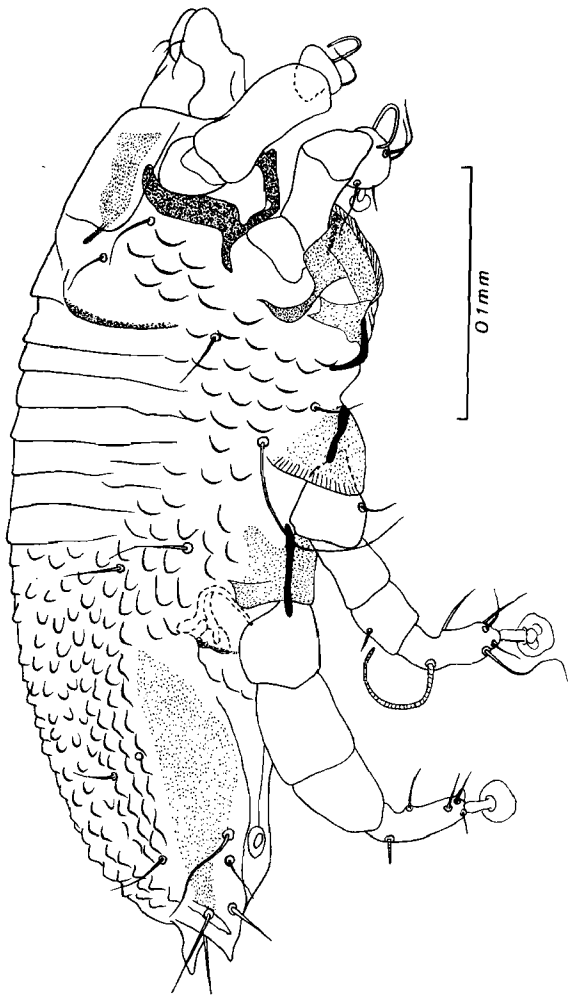


FIG. 8. *Dasyurochirus radovskyi* Fain: holotype ♂.

jections. Penis at level of coxae IV, narrow, relatively long and curved at an angle of about 100°. Posterior legs well developed.

♀ (FIG. 9). Allotype 405 μm long, 153 μm wide (in lateral view). Propodosomal shields and anterior part of hysterosoma as in ♂. Opisthosoma covered with scales, those of dorsum smaller and less numerous than those of lateral and ventral parts. Genital papilla opening dorsally, at 100–120 μm in front of anus.

Material examined: ex native cat, *Dasyurus albopunctatus* (BBM-NG 54647), holotype ♂ (BISHOP 10,732), allotype ♀, 1 ♂ paratype, 1 nymph paratype: PNG(NE): Mt Kaindi, rain forest, 1900 m, 13.X. 1967, P. H. Colman.

Genus **SCLEROCHIROIDES** Fain, 1970

Sclerochiroides mirabilis Fain, 1970

The type-host of this species is *Peroryctes raffrayanus* (= *Perameles raffrayana*); the type-locality, Huon Gulf, New Guinea.

Material examined: ex *Peroryctes raffrayanus* (BBM-NG 52360), 8 ♂♂, 8 ♀♀, 7 nymphs, Bulldog Rd.,

19 km S of Edie Ck, 2405 m, 8.VII.1966, O. R. Wilkes; (TMP 1197), 2 ♀♀, Kassam, 3.XI.1959, T. C. Maa. Ex *Peroryctes longicauda* (♂) (BBM-NG 52346), 1 ♂, 2 ♀♀, 1 nymph, Bulldog Rd, 8.VII.1966, R. Mitchell.

Genus **CYTOSTETHUM** Domrow, 1956

Subgenus **METACYTOSTETHUM** Fain, 1971

The subgenus *Metacytostethum* is restricted to potoroine and macropodine members of the kangaroo family (Marsupialia: Macropodidae). It contains 16 species (Fain 1972a, Fain & Domrow 1975, Fain 1975); 6 species have been described from New Guinea.

In Bishop Museum material 5 species belonging to this genus have been identified; the 6th species

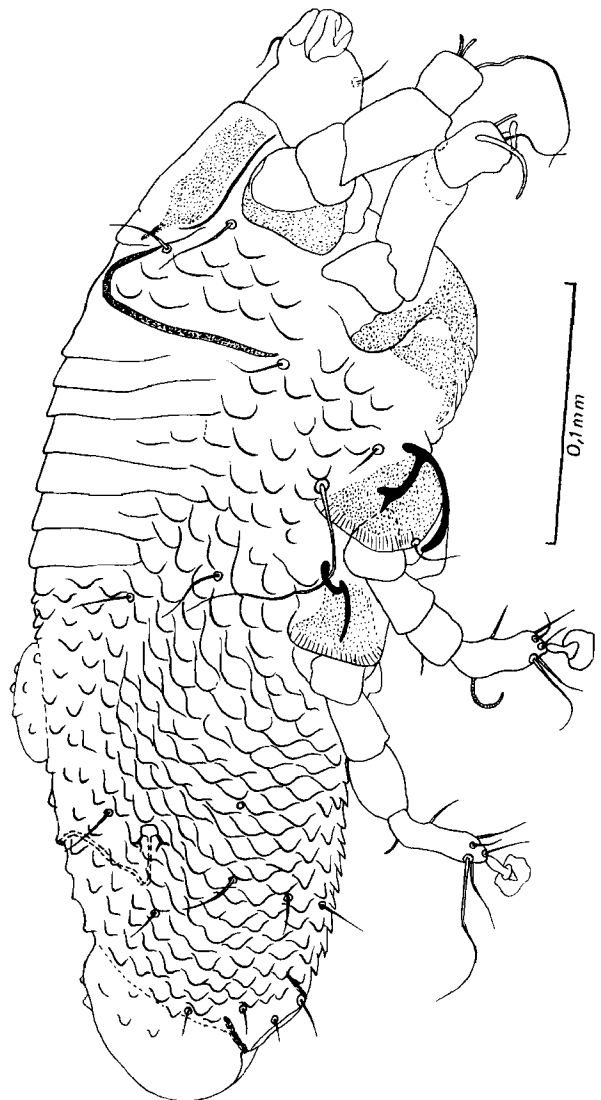


FIG. 9. *Dasyurochirus radovskyi* Fain: allotype ♀.

known from New Guinea, *C. (M.) longitarsus* Fain & Domrow, 1975, was not seen.

Cytostethum (Metacytostethum) mediosquamatum Fain & Domrow, 1975

The type series was described from *Thylogale brunii* from Kaminibus, close to Maprik (NE New Guinea).

Material examined: ex *Dorcopsulus vanheurni* (BBM-NG 20451), 1 ♀, Wau Ck, 1524 m, 16.III.1963, P. J. Shanahan. Ex "*Dorcopsula*" (label data) (TMP 2206), 10 ♂♂, 21 ♀♀, 2 nymphs, Lower Merauke R, 5.XI.1960, T. C. Maa.

Cytostethum (Metacytostethum) prosquamatum Fain & Domrow, 1975

This species was described from the same host

and locality as *C. (M.) mediosquamatum*.

Material examined: ex wallaby (BBM-NG 20451), 1 ♀, Wau Ck, 1524 m, 16.III.1963, P. J. Shanahan.

Cytostethum (Metacytostethum) asquamatum Fain, 1975

FIG. 10-11

This species is represented only by females and nymphs. It is a stout species with a well-sclerotized opisthotal shield and it belongs to the same group as *C. (M.) prosquamatum* Fain & Domrow, *C. (M.) mediosquamatum* Fain & Domrow and *C. (M.) postsquamatum* Fain & Domrow. However, it is clearly distinguished from these species by the absence of any scales on the opisthotal shield.

♀ (FIG. 10-11). Holotype body length, 603 μm, width 261

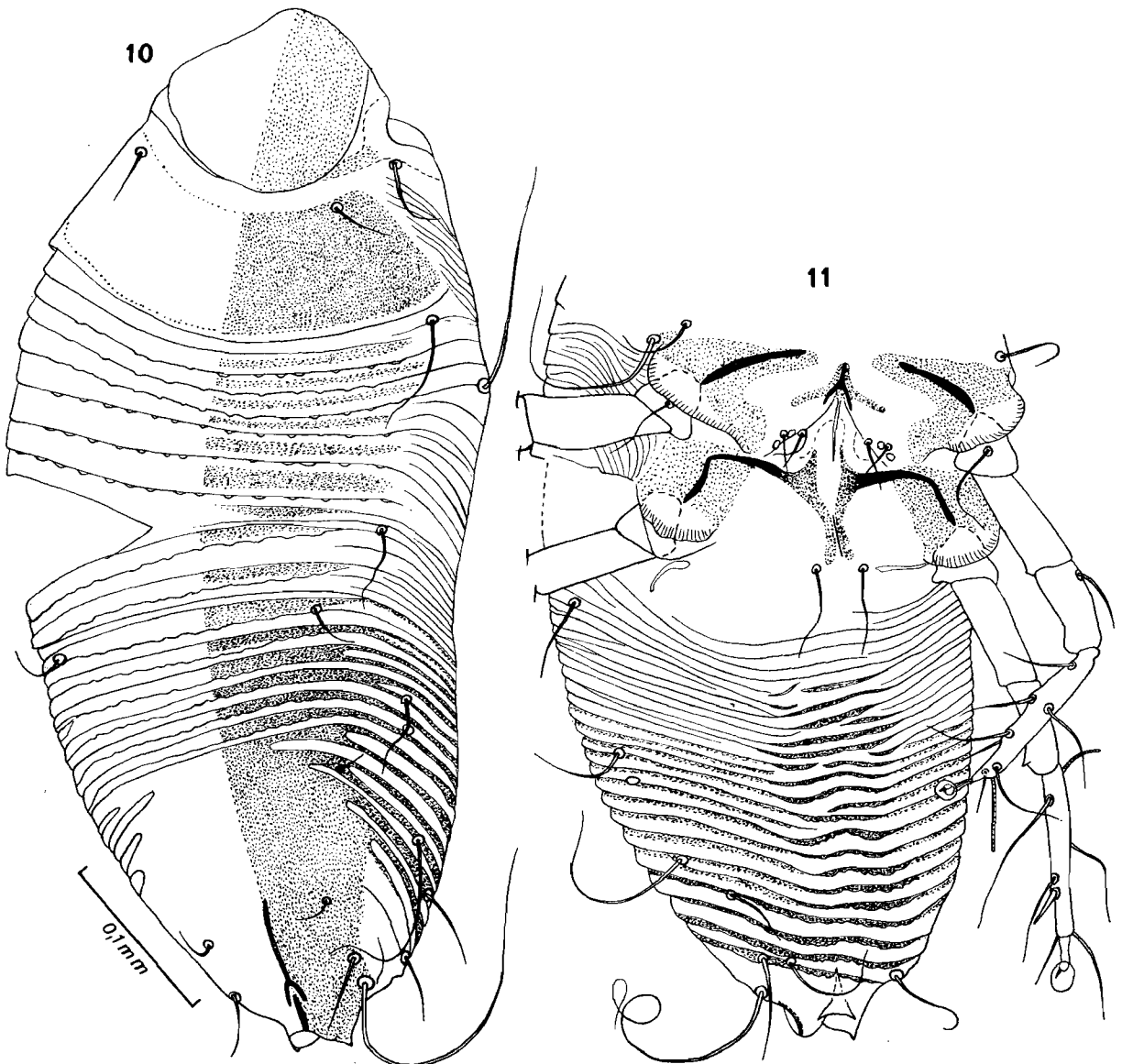


FIG. 10-11. *Cytostethum (Metacytostethum) asquamatum* Fain: holotype ♀ (10) dorsum, (11) venter.

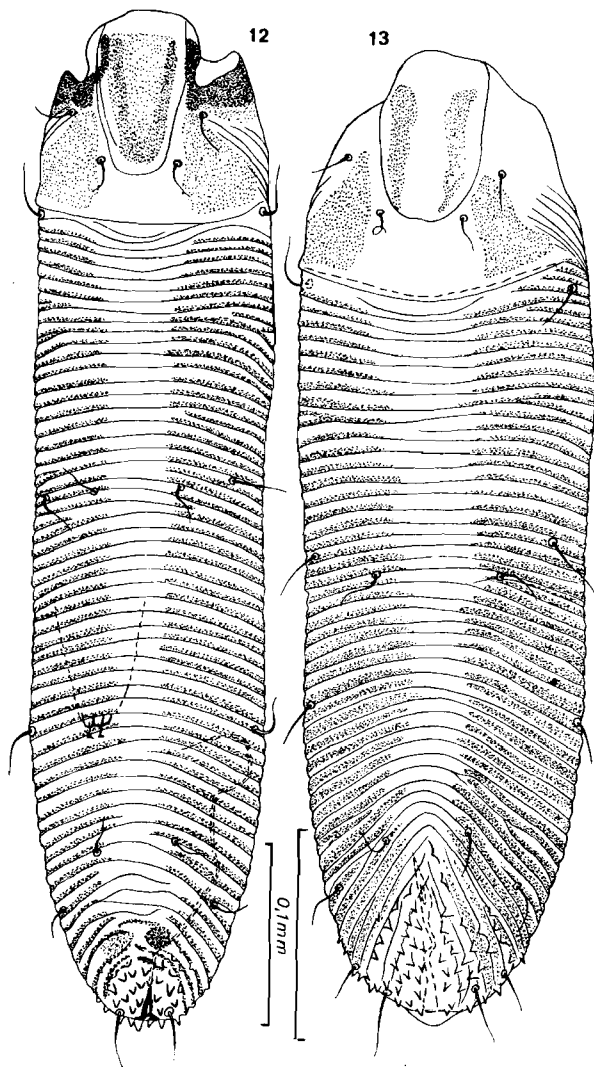


FIG. 12-13. (12) *Cytostethum (Metacytostethum) wilsoni* Fain: holotype ♀, dorsum. (13) *Cytostethum (Metacytostethum) murmurensis* Fain: holotype ♀, dorsum.

µm. Propodosomal shields, anterior part of hysterosoma and ventral surface as in *C. (M.) prosquamatum*. Opisthotal shield same shape as in *C. (M.) prosquamatum* but completely devoid of scales. Posterior extremity excavated as in *C. (M.) prosquamatum* but broader. Posterolateral hairs of ventral surface of body distinctly longer than in *C. (M.) prosquamatum*. Posterior legs long, reaching posterior extremity of body. Tarsus IV bears a ventral subapical spine stronger than in *C. (M.) prosquamatum*.

Material examined: ex "*Dorcopsula*" (TMP 2206), holotype ♀ (BISHOP 10,735) and 9 paratype ♀♀: IRIAN: New Guinea(SW): Lower Merauke R, 60 m up from mouth, 5.XI.1960, T. C. Maa. Ex *Dorcopsulus vanheurni* (BBM-NG 20450), 1 ♀ paratype: PNG(NE): Wau Ck, 1524 m, H. Clissold.

Cytostethum (Metacytostethum) wilsoni Fain, 1975 FIG. 12, 14

This species is known only from females. It resembles *C. (M.) inerme* Fain & Domrow in the

shape of the anterior dorsal shields and the absence of opisthotal shields. It is, however, distinguished from that species by the presence of cuticular scales in the posterior part of the body, dorsally and ventrally.

This species is named after Dr Nixon Wilson, who collected some of the mites in this study.

♀ (FIG. 12, 14). Holotype 605 µm long (gnathosoma included), 132 µm wide. Prescapular shield U-shaped; with 2 widely separated postscapular shields. Hysterosoma very long and narrow and regularly striated. Anus ventroterminal. Dorsally with few (15 to 30) cuticular scales confined to postanal region; ventrally scales, very few in number, confined to median part of posterior 1/3 of opisthosoma. Bursa very long, its proximal part ending in a long saclike spermatheca, its distal part forming a small sclerotized vestibule which opens dorsally close to anus.

Material examined: ex *Dorcopsulus vanheurni* (BBM-NG 97322), holotype ♀ (BISHOP 10,734) and 1 paratype ♀: PNG(NE): Murmur Pass, 10 km NNE of Tambul, 2700 m, 30.IX.1968, A. B. Mirza. Ex wallaby (BBM-NG 20451), 1 paratype ♀, Wau Ck, 1524 m, 16.III.1963, P. J. Shanahan.

Cytostethum (Metacytostethum) murmurensis Fain, 1975 FIG. 13, 15

This species is represented only by the female holotype. It presents the same general aspect as *C. (M.) wilsoni* but the body is shorter, and the posterior body scales are more numerous and extend over more of the posteroventral surface.

♀ (holotype) (FIG. 13, 15). Length 495 µm, width 141 µm. Propodosomal shields as in *C. (M.) wilsoni* except that prescapular shield formed by 2 paramedian and separate shields. Cuticular scales of posterior part of dorsum more triangular than in *C. (M.) wilsoni* and their apices directed obliquely and inside. Ventrally, scale area broader and extends more laterally. Bursa indistinct in its anterior part and posteriorly strongly sclerotized and inflated.

Material examined: ex *Dorcopsulus vanheurni* (BBM-NG 97322), holotype ♀ (unique) (BISHOP 10,733): PNG(NE): Murmur Pass, 10 km NNE of Tambul, 2700 m, 30.IX.1968, A. B. Mirza.

Genus **LISTROPHOROIDES** Hirst, 1923

The genus *Listrophoroides* contains numerous species, all confined to tropical countries (Fain 1970).

Domrow (1958) synonymized the genus *Marquesania* Womersley, 1943 (type-species: *Listrophoroides expansus* Ferris, 1932) with *Listrophoroides* Hirst, 1923 (type-species: *Listrophoroides aethiopicus* Hirst, 1923). This was accepted by Fain (1972a, b) who divided the genus *Listrophoroides* into 10 subgenera, the taxon *Marquesania* being placed in synonymy with the typical subgenus.

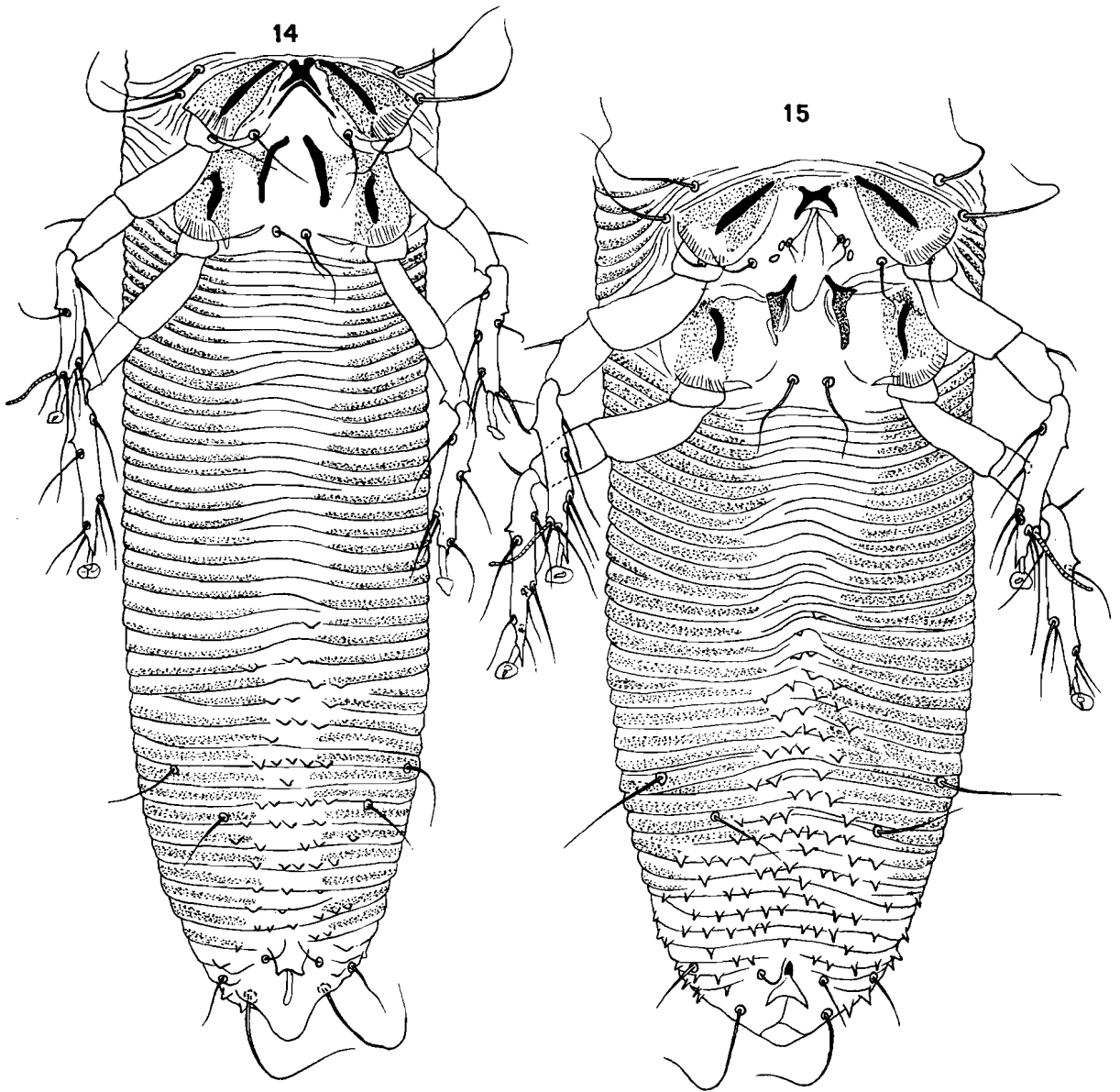


FIG. 14-15. (14) *Cytostethum (Metacytostethum) wilsoni* Fain: holotype ♀, venter. (15) *Cytostethum (Metacytostethum) murmurense* Fain: holotype ♀, venter.

The discovery of several new species from the Oriental Region makes necessary the reevaluation of some subgeneric characters in this genus. I think now that the taxon *Marquesania* should be reestablished as a subgenus of *Listrophoroides*, with the following characters: legs III and IV in both sexes inserted on the lateral surfaces of the body; body flattened; epimera II widely separated in the midline; striated coxae II (pilicolous grooves) widely separated from each other by a punctate area; and female with a median punctate shield on the opisthogaster. This subgenus is distinguished from

the typical subgenus by the large size of the striated pilicolous grooves of coxae II, which extend to the lateral surfaces of the body, and by the presence on the apices of femora I of a wide, flattened process directed apically. In *Listrophoroides (Listrophoroides) aethiopicus* Hirst, 1923, the type of the genus *Listrophoroides*, the striated grooves of coxae II are narrow and separated from the lateral margins of the body by a punctate area and femora I do not bear a process.

It is interesting to note that so far only the subgenera *Listrophoroides* s. str. and *Marquesania* have

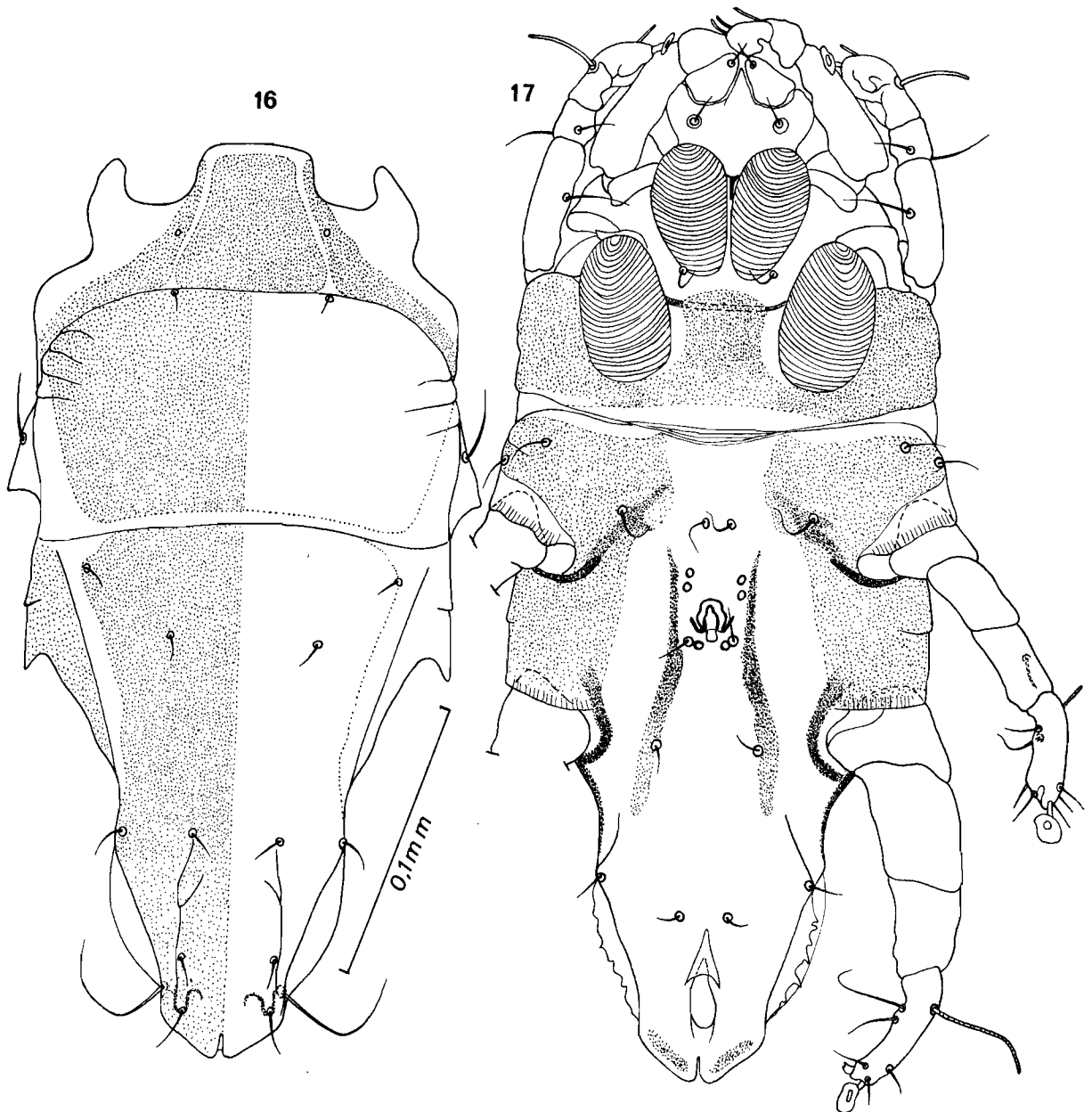


FIG. 16-17. *Listrophoroides* (*L.*) *bilineatus* Fain: holotype ♂ (16) dorsum, (17) venter.

been found in the Oriental and Australian Regions, the 9 other subgenera being confined to Africa south of the Sahara and Madagascar.

Subgenus *LISTROPHOROIDES* Hirst, 1923

Listrophoroides* (*Listrophoroides*) *brachypyx
Fain, 1974

This species was described from *Melomys* sp. in Sentani, West Irian (alt. 80 m).

Material examined: ex unidentified rodent (BM-NG 718), 1 ♂, Kebar Valley, W of Manokwari, Vogelkop, 550 m, 11.I.1962, S. & L. Quate.

Listrophoroides* (*Listrophoroides*) *bilineatus
Fain, 1975 FIG. 16-17

This species is represented only by the holotype male. It is characterized by the presence on lateral margins of the opisthosoma of a row of small chitinous teeth.

♂ (holotype) (FIG. 16, 17). Length 358 μ m, maximum width 160 μ m. Postscapular shield without pattern of lines or pits, except for 3 or 4 short lines situated laterally on anterior 1/2 of shield. Hysterosomal shield without pattern. Posterior 2/3 of lateral margins of opisthosoma with a row of small transparent teeth. Posterior extremity with a very small median incision. Penis small, situated between legs III and IV and flanked laterally by 2 long, longitudinal punctate bands

divergent posteriorly. Legs IV distinctly thicker and longer than legs III. Solenidion tibiotarsal IV long. Gnathosoma wider than long.

Material examined: ex *Melomys* sp. (BBM-NG 97311), holotype ♂ (unique) (BISHOP 11,084): PNG (NE): Murrumbidgee Pass, 10 km NNE of Tambul, 2700± m, 29.IX.1968, A. B. Mirza.

Listrophoroides (*Listrophoroides*) obliquelineatus Fain, 1975, **n. status** FIG. 18-19

Listrophoroides (*Marquesania*) *papuanus* obliquelineatus Fain, 1975

This species has been erroneously attached to the subgenus *Marquesania* as a subspecies of *Listrophoroides* (*Marquesania*) *papuanus*. I think now that it is a valid species in the typical subgenus.

This species is characterized by the linear ornamentation on the dorsum. On the postscapular shield, the lines are located only in the lateral regions and along the anterior border of the shield; these lateral lines are very short and directed obliquely. Holotype female 495 µm long and 205 µm wide. Opisthosoma 175 µm wide. Allotype male 470 µm long and 207 µm wide (FIG. 18, 19).

Material examined: ex *Rattus* sp. (BBM-NG 60283-85), holotype ♀ (BISHOP 10,731), 1 ♀ and 2 ♂ paratypes: PNG(SE): Javarere, 20 km E of Sogeri, 600 m, 4.XI.1968, N. Wilson & M. Natchatram. Ex *Rattus leucopus* (BBM-NG 25178), 2 ♂, 2 ♀ paratypes, Mt Lamington, vic. Ambogo R, 500 m, 4.VII.1966, P. J. Shanahan. Ex *Rattus ruber* (BBM-NG 25124), 4 ♀ paratypes, Mt Lamington, vic. Ambogo R, 500 m, 29.VI.1966, P. J. Shanahan.

Subgenus **MARQUESANIA** Womersley, 1943, **n. status**

This subgenus contains 3 species: *L. (M.) cucullatus* (Trouessart, 1893), *L. (M.) papuanus* Fain, 1972 and *L. (M.) queenslandicus* Womersley, 1943. Only the first 2 species have been found in New Guinea.

Listrophoroides (*Marquesania*) cucullatus (Trouessart, 1893), **n. status**

Listrophorus cucullatus Trouessart, 1893

Listrophoroides expansus Ferris, 1932.—Domrow, 1958.—Zumpt, 1961

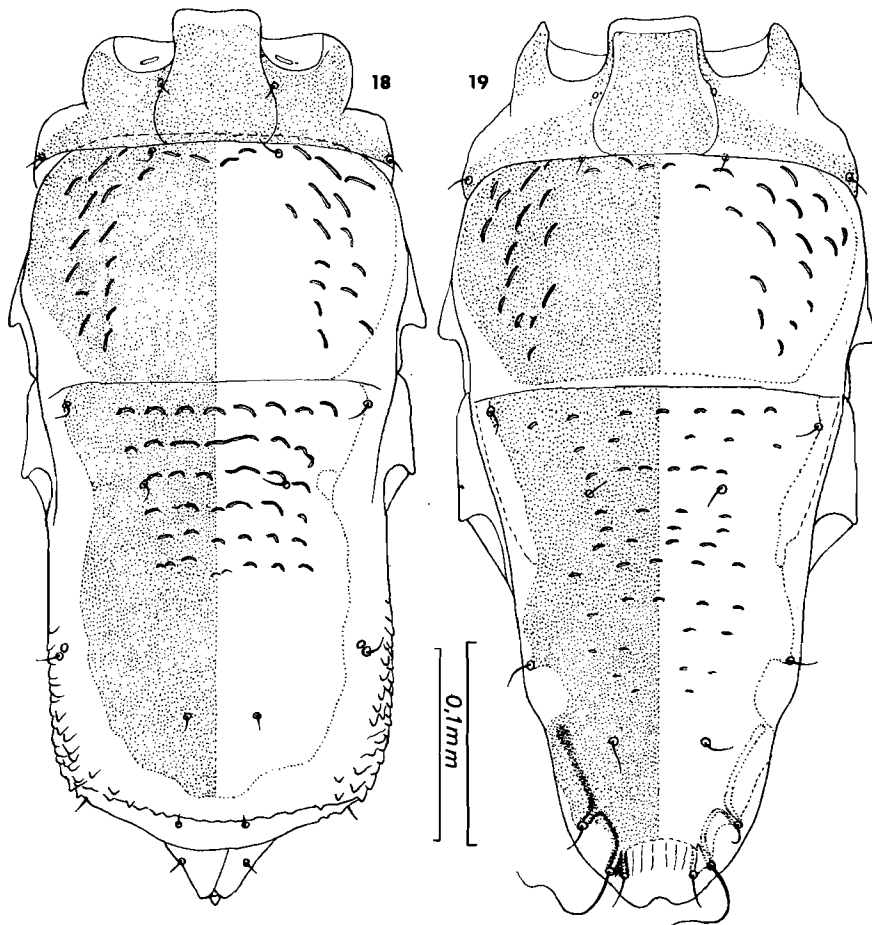


FIG. 18-19. *Listrophoroides* (*Listrophoroides*) *obliquelineatus* Fain: (18) ♀, dorsum; (19) ♂, dorsum.

Listrophoroides tragardi Radford, 1940.—Domrow, 1958

Marquesania expansa: Womersley, 1943

Listrophoroides cucullatus: Fain, 1970

Listrophoroides (Listrophoroides) cucullatus: Fain, 1972b; 1974

Fain (1972b) redescribed and figured this species and discussed its synonymy.

The type specimens were found on *Rattus norvegicus* from an undetermined region of Asia. This species is also known from the same host and from *Rattus rattus* in Africa, South America, Marquesas Is and Maldive Is. Recently it was reported from New Guinea on *Rattus rattus*, *Rattus exulans*, *Melomys* sp. and *Echymipera* sp. (see Fain 1972a, 1974).

Material examined: ex *Rattus exulans* (BBM-NG 55652, 55656), 1 ♂, Bulolo, 750 m, 21–22.XI.1968, R. Traub, M. Nadchatram & A. B. Mirza; (BM-NG 640–672), 5 ♀♀, Vogelkop, Kebar Val., W of Manokwari, 550 m, 6.I.1962, S. & L. Quate; (BBM-NG 20364), 1 ♀, Slate Ck, 701 m, 6.III.1963, H. Clissold. Ex *Rattus* sp. (BBM-NG 60283–85), 1 ♀, Javarere, 20 km E of Sogeri, 600 m, 4.XI.1968, N. Wilson & M. Nadchatram; ex unidentified rodent, 1 ♂, Vogelkop, 4–31.I.1962, S. & L. Quate; ex domestic rat (BBM-NG 20621), 3 ♀♀, Mooly Ck, 28.IX.1962, H. Clissold.

***Listrophoroides (Marquesania) papuanus* Fain, 1970, n. status**

Listrophoroides papuanus Fain, 1970; 1972b

Listrophoroides (Listrophoroides) papuanus: Fain, 1974

The type-host is *Conilurus penicillatus*, the type-locality Groote Eylandt, northern Australia.

In New Guinea, Fain (1974) recorded this species from *Melomys* sp., *Rattus niobe* and *Rattus* sp. (alt. 2400 to 3400 m).

This species presents some morphological differences in relation to hosts or localities. These differences seem to be constant and Fain (1975) accorded these populations subspecies rank.

***Listrophoroides (Marquesania) papuanus papuanus* Fain, 1970**

Material examined: ex *Rattus leucopus* (BBM-NG 25178), 1 ♂, 1 ♀, 2 nymphs, Mt Lamington, vic. Ambogo R., 500 m, 4.XII.1966, P. J. Shanahan.

***Listrophoroides (Marquesania) papuanus interpolatus* Fain, 1975** FIG. 20

This subspecies is, by some characters, intermediate between *L. (M.) cucullatus* (Trouessart) and *L. (M.) papuanus* Fain; however, it is closer to the 2nd species.

In this subspecies, the 2 punctate bands behind the genital organ are much closer to each other and in the shape of an inverted V, while in the typical

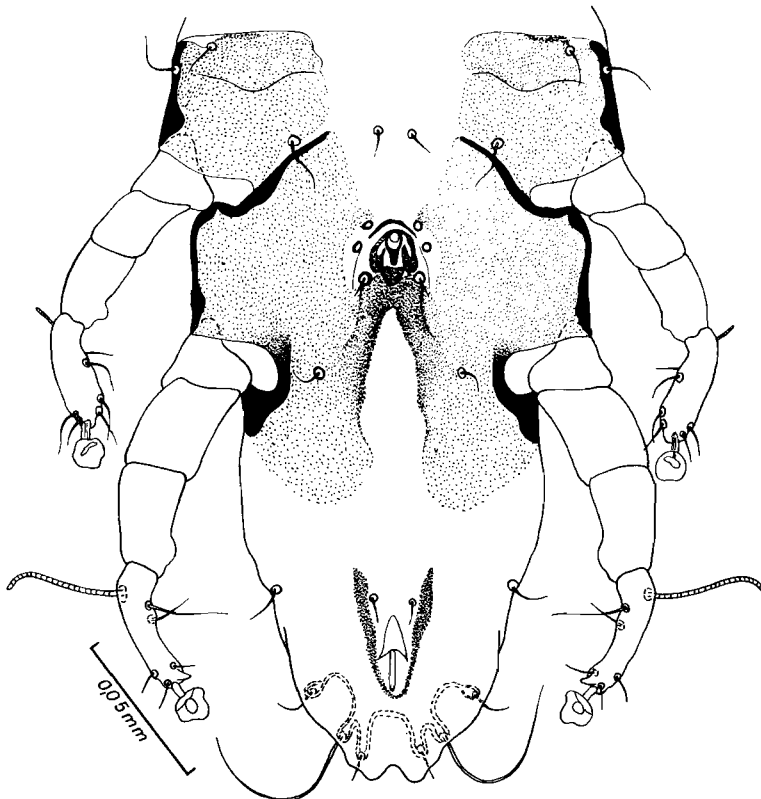


FIG. 20. *Listrophoroides (Marquesania) papuanus interpolatus* Fain: holotype ♂, hysterosoma in ventral view.

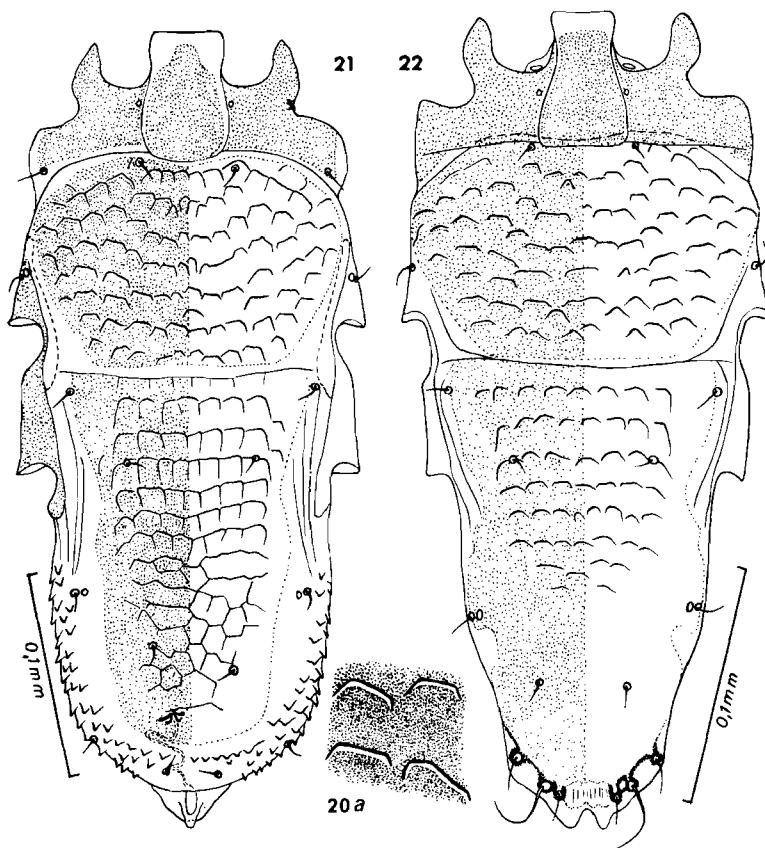


FIG. 21-22. *Listrophoroides* (*Marquesania*) *papuanus crenatus* Fain: (21) holotype ♀, dorsum; (22) allotype ♂, dorsum; (22a) (incorrectly labeled as 20a on figure) structure of the post-scapular shield of the ♀.

subspecies these bands form an inverted U. Moreover, the median sclerotized band immediately behind the genital organ is longer than in the typical form but much shorter than in *L. (M.) cucullatus* (FIG. 20). In the female the line pattern of the dorsal shields recalls that of *L. papuanus papuanus*.

The specimens recorded from *Rattus niobe* by Fain (1974) as *L. papuanus* also belong to *interpolatus*. The holotype was described from *Rattus niobe* from West Irian.

Material examined: ex *Rattus niobe* (BBM-NG 54919-54930), 3 ♂, 4 ♀ paratypes, Bulldog Rd, 19 km S of Edie Ck, 5.XI.1967, M. Nadchatram, A. B. Mirza & P. H. Colman; (BBM-NG 52236, 52252, 52272, 52335, 52663), 4 ♂, 16 ♀ paratypes, same locality, 2405 m, 2-7.VII.1966, R. M. Mitchell; (BBM-NG 52625-26, 52775, 52803), 4 ♂, 8 ♀ paratypes, Saruwaged Range, 32 km SW of Kabwum, 2880 m, 1-8.VIII.1966, R. M. Mitchell & O. R. Wilkes; (BBM-NG 97426), 2 ♂ paratypes, Murmur Pass, 2700 m, 1.X.1968, R. Traub & E. B. Mann; (BBM-NG 97434), 1 ♀ paratype, same locality, 2.X.1968, A. B. Mirza & M. Nadchatram; (BBM-NG 52224), 1 ♀, 1 nymph, Mt Kaindi, 19 km SW of Wau, 2300 m, 27.VI.1966, R. M. Mitchell; (BBM-NG 55559, 55570), 1 ♂, 4 ♀ paratypes,

Marafunga, 2500 m, 11.XI.1968, R. Traub & A. B. Mirza; (BBM-NG 55598), 3 ♂, 2 ♀ paratypes, Kerigomna, 3050 m, 14.XI.1968, R. Traub & A. B. Mirza; (BBM-NG 60623), 4 ♂♂, 4 ♀♀, Mt Giluwe, 3 km fr. Kagaba Camp, 40 km N of Mendi, 3000 m, 23.XII.1967, M. Nadchatram & A. B. Mirza. Ex *Rattus verecundus* (BBM-NG 24635), 7 ♂♂, 6 ♀♀, Mt Missim, 1300 m, 21.III.1960, P. J. Shanahan. Ex *Melomys moncktoni* (BBM-NG 52217), 1 ♂, 3 ♀ paratypes, Mt Kaindi, 19 km SW of Wau, 2300 m, 26.VI.1966, R. M. Mitchell.

***Listrophoroides* (*Marquesania*) *papuanus crenatus* Fain, 1975** FIG. 21-22

This subspecies is distinguished from the typical form in the female by the presence on the dorsal shields of a pattern of short lines in the shape of an inverted U (crenel-like) and in the male by the shape of the dorsohysterosomal shield, which is not distinctly narrowed on its posterior 1/2. Other characters as in the typical form. Holotype female 420 μm long and 165 μm wide. Maximum width of opisthosoma 135 μm. Allotype male 370 μm long and 145 μm wide (FIG. 21, 22).

Material examined: ex *Rattus ruber* (BBM-NG 54706-09), holotype ♀ (BISHOP 10,730), PNG(NE):

base of Mt Missim, NE of Wau, 1200 m, 24.X.1967, P. H. Colman; (BBM-NG 54724-25), allotype ♂, 26.X.1967, M. Nadchatram, A. B. Mirza & P. H. Colman; (BBM-NG 21060-61), 13.I.1963, P. Temple & H. Clissold; (BBM-NG 21008), 1.I.1963, H. Clissold; (BBM-NG 54661-62, 54669), 21.X.1967, P. H. Colman; (BBM-NG 54671-73, 54677-54681, 54684-54687), 1250 m, 21-23.X.1967, M. Nadchatram, A. B. Mirza & P. H. Colman; (BBM-NG 54706, 54709-54711), 1200 m, 29.X.1967, P. H. Colman; (BBM-NG 54717), 1200 m, 25.X.1967, A. B. Mirza; (BBM-NG 54724, 54725, 54727), 1200 m, 26.X.1967, M. Nadchatram, A. B. Mirza & P. H. Colman; (BM-NG 100-114, 117, 180, 189, 198, 199, 207, 208, 210, 217, 220, 227), 5 ♂♂, 10 ♀♀, Star Mts, Sibil Val., 1245 m, 19-31.X-1.XI.1961, L. & S. Quate; (BBM-NG 28582), 2 paratype ♀♀, Wau, 1066 m, 21.VII.1963, H. Clissold; (BBM-NG 61032-35), 10 paratype ♀♀, 1200 m, 2.II.1968, A. B. Mirza; (BBM-NG 21034), 1 paratype ♀, 1.I.1963, H. Clissold; (BBM-NG 20149), 1 paratype ♀, 1200 m, 26.V.1962, J. H. Sedlacek; (BBM-NG 95157), 2 ♂♂, 2 nymphs, 17.I.1967, P. H. Colman; (BBM-NG 20316-17), 2 ♂, 3 ♀ paratypes, Bulolo

R, 914 m, 23.II.1963, H. Clissold; (BBM-NG 27569), 3 paratype ♀♀, Wau Ck, 1524 m, 29.III.1963, P. J. Shanahan; (BBM-NG 95157), 1 ♂, 1 ♀ paratype, Big Wau Ck, 1220 m, 17.I.1967, P. H. Colman; (BBM-NG 27649), 1 ♂, Finschhafen, 30 m, 11.IV.1963, H. Clissold; (BBM-NG 54663), 5 ♂, 6 ♀ paratypes, NE of Wau, base of Mt Missim, 1250 m, 21.X.1967, P. H. Colman. Ex *Melomys rufescens* (BBM-NG 21063, 21047, 21062), 5 ♀ paratypes, Mt Missim, 9-13.I.1963, H. Clissold; (BBM-NG 21157), 1 ♂ paratype, Hospital Ck, vic. Wau, 1097 m, 29.I.1963, H. Clissold. Ex *Melomys moncktoni* (BBM-NG 52205), 1 ♀ paratype, Mt Kaindi, 19 km SW of Wau, 2300 m, 24.VI.1966, R. M. Mitchell; ex several other hosts (birds, marsupials, a snake), probably accidental (\pm 50 specimens ♂♂ or ♀♀).

Family CHIRODISCIDAE Trouessart, 1892

Genus **LABIDOCARPELLUS** Fain, 1976

Labidocarpellus papuanus (Fain, 1975), **n. comb.** FIG. 23-25, 28

Pteropiella papuana Fain, 1975

♀ (FIG. 23-25). Holotype 610 μ m long, 255 μ m wide (in

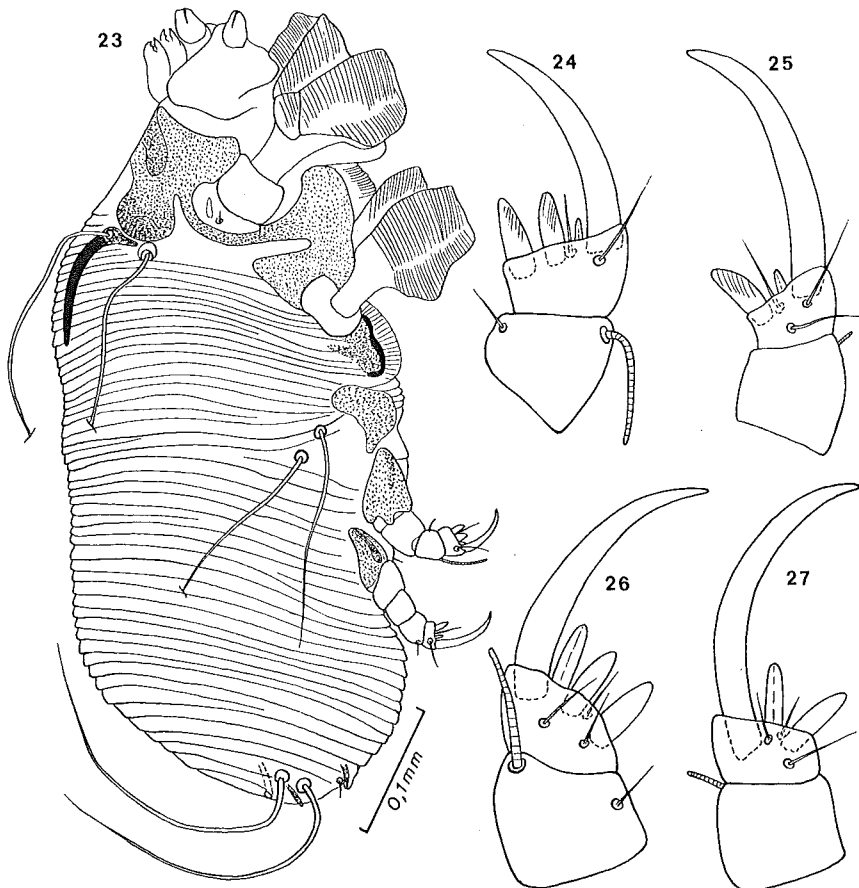


FIG. 23-27. (23-25) *Labidocarpellus papuanus* (Fain): (23) holotype ♀; (24) leg III; (25) leg IV. (26-27) *Labidocarpellus dobsonia* (Fain): ♀ (26) leg III, (27) leg IV.



FIG. 28. *Labidocarpellus papuanus* (Fain): allotype ♂.

lateral view). No true membranous crista. Prescapular shield strongly divided in midline, its maximum length measured laterally 96 μm . Postscapular shield 90 μm long. Approximately 50 striations along midline, 10–12 situated in region of postscapular shield. Bursa opens immediately behind anus. The *sc i*, *sc e*, *h* and *sh* incomplete in holotype; in paratypes, 120–150 μm long. Posterior extremity bears 2 very long hairs, 200–250 μm long. Posterior legs rather small. Tarsi III bearing an apical curved spine (=modified hair), 2 short rounded spines, 3 fine setae and a short and narrow conical formation which is vestige of sucker peduncle. Tarsi IV as tarsi III but with only 1 rounded spine.

♂ (FIG. 28). Allotype 450 μm long, 225 μm maximum wide (in lateral view). Prescapular shield 80 μm long (laterally). Postscapular shield 75 μm long. Pygidial shield small. Three pairs of setae at posterior border of body, 2 short and 1 very long. Legs III–IV as in ♀ but larger. Apical spines of tarsi III and IV 38–40 μm and 46–53 μm long, respectively.

Material examined: ex *Dobsonia* sp. or *Pteropus* sp. (BBM-NG 55752), holotype ♀ (BISHOP 10,736) and 13 paratype ♀♀, allotype ♂ and 16 paratype ♂♂, 12 nymphs, IRIAN: New Guinea(NW): Kota Radja, Jayapura (=Hollandia), 20 m, 16.VI.1960, C. Terpstra.

***Labidocarpellus dobsonia* (Fain, 1975), n. comb.**

FIG. 26–27

Pteropiella dobsonia Fain, 1975

This species is known only from the female. It

is distinguished from *L. papuanus* by the following characters: (1) postscapular shield longer, prescapular shield shorter; (2) great development of the ambulacral peduncles on tarsi III and IV, which are as long or longer than the rounded cylindroconical tarsal spines; and (3) the different shape of the prescapular shield, which is more rounded posterolaterally.

♀ (holotype) (FIG. 26, 27). Length 500 μm maximum, width 210 μm (in lateral view). Posterior extremity of body slightly contracted. Prescapular shield 75 μm long (maximum length laterally). Postscapular shield 108 μm long. The 2 posterolateral parts of prescapular shield more rounded than in *L. papuanus*. Tarsi III and IV without suckers but each with a strongly developed peduncle which is as long or longer than the conical striated spines carried by these tarsi; peduncle narrower and more transparent than spines but not striated.

Material examined: ex *Dobsonia moluccensis* (BBM-NG 60273), holotype ♀ (BISHOP 10,737), PNG(SE): Papua, Cent. Dist., Javarere, Cave no. 2 and 3, 3.XI.1968, N. Wilson.

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