

MARIE HAMMER

ON SOME  
ORIBATIDS FROM VITI LEVU,  
THE FIJI ISLANDS

Det Kongelige Danske Videnskabernes Selskab  
Biologiske Skrifter 16, 6



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### Synopsis

A total of 83 species of oribatids from the Fiji Islands are treated in the present paper. Of these species, 43 are new to science – 8 new genera are established. The 40 previously described species are listed in the table on page 52. Several of these 40 species have a virtually world-wide distribution, while others occur especially in the warmer regions of the southern hemisphere. Besides occurring in the Fiji Islands, a few also occur in West Africa, e. g. *Allonothrus russeolus* and *Oribatella schoutedeni*. This scattered occurrence, which also applies to many of the species listed in the table, may be explained by our still very scanty knowledge of the distribution of the oribatids.

The oribatid fauna of the Fiji Islands are largely a mixture of species from all the areas bordering on the Pacific and from islands in the Pacific. It is surprising that none of the many new genera from New Zealand which are so far endemic to this country, have been found on the Fiji Islands, as New Zealand is the closest greater territory to the Fiji Islands.

## Preface

The material for the present investigation was collected during a week's stay at Viti Levu, the Fiji Islands, in the latter part of October 1962. I collected the material in order later to be able to compare the oribatid faunas of the Fiji Islands and New Zealand and perhaps in this way to obtain a more thorough understanding of conditions of spreading and distribution in this part of the world. Unfortunately time did not permit me to make thorough investigations of the oribatid fauna on the Fiji Islands. Collections were made in two localities at Corolevu on the western part of the south coast and in a rain forest at an altitude of about 400 metres, about 30 miles north of Suva.

For assistance with collecting in the rain forest I should like to offer Mr. P. O'CONNOR, Senior Entomologist at the Dept. of Agriculture, Suva, and his assistant my most cordial thanks.

At Corolevu oribatids were collected partly in a "meadow" at a short distance from the Hotel Corolevu, and partly from withered leaves on a cliff or a bank at the mouth of a river overgrown with mangrove. In the rain forest they were collected from moss and leaves on the forest floor, from moss on living and dead tree trunks, and from moss on stones in a brook. Furthermore, outside the forest from moss on the banks of a man-made canal in a park.

In spite of the very unfavourable and dry conditions near Corolevu, 52 species were found in this locality. On the other hand, the moist biotopes of the rain forest, where there were expectations of rich finds, yielded only 43 species. In all 83 species were collected.

Of these a large number are new species. Others constitute a mixture of species with representatives from nearly all the territories bordering on the Pacific, as will appear from what follows.

I should like to offer my warm thanks to the Carlsberg Foundation for their financial support towards the preparation of the material, and to the Rask-Ørsted Foundation for their financial support towards the translation into English. In addition, I am deeply indebted to the late Mr. N. HANSLUND, M.A., who assisted me with the translation.

*Fredensborg, 6th August 1969.*

MARIE HAMMER



### List and Descriptions of the Species Found

In this list I have followed the same principles as in Balogh's: A Synopsis of the World Oribatid (Acari) Genera, 1965.

#### Hypochthonoidea BALOGH, 1961

*Eohypochthonius gracilis* (Jacot); fig. 1.

*Hypochthonius gracilis* Jacot, 1936, p. 251, fig. 9.

Length about 0.27 mm. Colour light brown.

The specimen from Viti Levu is a little smaller than indicated by JACOT (0.31 mm. long) and the branches of the pseudostigmatic organs are a little longer. The notogastral hairs do not overlap as illustrated by JACOT.

Suva: One specimen in thin moss on a rotting tree trunk in the rain forest.

*Malacoangelia remigera* Berlese.

— — — — —, 1913, p. 101, Table VII, fig. 86.

Corolevu: Many specimens in mouldering leaves under trees on a slope above the mangrove.

#### Phthiracaroida GRANDJEAN, 1954

*Hoplophthiracarus kugohi* Aoki.

— — — — —, 1959a, p. 17, fig. 12.

Corolevu: One specimen in dead leaves on a slope with trees above the mangrove.

Suva: Two specimens in dead leaves on the forest floor.

*Hoplophorella cucullata* (Ewing).

*Hoploderma cucullata* Ewing, 1909, p. 133, Pl. VI, fig. 35.

Corolevu: One specimen in very thin moss on a root under trees above the mangrove.

*Steganacarus craterifer* n.sp.; fig. 2.

Length of aspis approximately 0.27 mm.

— — notogaster — 0.46 mm.

— — — diagonally 0.42 mm.

— — genital plates 0.11 mm.

— — anal plates 0.10 mm.

Colour brown between the craters, the craters being light brown.

Aspis. The aspis is highly arched with a long and very broad crest, fig. 2 a. The latter is bifid. The two parts are rounded distally, where the short spine-shaped rostral hair is situated. Between the two branches of the crest there is a light, round spot. The interlamellar and the lamellar hairs, which are situated in a transverse row between the pseudostigmatic organs, are very short and thick. The pseudostigmatic organ is slightly curved, a little broader distally and unilaterally barbed here, fig. 2 b. Large and deep pits cover almost the whole surface of the aspis. Along the posterior border of the latter there are in the middle four longitudinal rows of pits, farther laterally on either side four undulating lines.

Notogaster. Along the anterior border there is a narrow collar, which is not elevated. There are 14 pairs of broad, leaf-shaped hairs with a middle rib. The hairs end distally in a thin tip, fig. 2 c,d,e. The sides of the notogaster are covered with large deep pits like craters, which appear light brown surrounded by a darker pigmentation. On the dorsum the pits are smaller and the surroundings are a lighter colour.

Genital-anal region. The genital plates are a little longer than the anal plates, fig. 2 f. There are six pairs of genital hairs. In the middle of the anal plates there is a round area, half of it on each plate. Along the medial border of the plate there are four hairs at almost the same mutual distance. Of the two anterior hairs, which issue at the end of a long pore, one is directed posteriorly, the other anteriorly. Both are broad, leaf-shaped. The two posterior hairs are narrower. Near the anterior border of the anal plate there is a fifth hair. The anal plates are densely pitted, the round area faintly pitted. All tarsi are monodactylous.

Suva: One specimen in dead, rather dry leaves on the floor of the rain forest.

#### Perlohmannioidea GRANDJEAN, 1958

*Epilohmannia multisetosa* n.sp.; fig. 3.

Length about 0.70 mm. Colour light brown.

Propodosoma. The rostrum is rounded and is a greyish colour. Across the rostrum there is a belt with short, longitudinal stripes. The rostral hairs, which are situated rather close together, almost reach the tip of the rostrum. They are barbed. Between the rostral hairs and the lamellar hairs there is a narrow transverse line, which is broken in the middle. The lamellar hairs are situated halfway between this line and the anterior border of the hysterosoma, far laterally. They are barbed and less than half as long as their mutual distance. They are directed medially. The mutual distance of the interlamellar hairs is longer than that of the lamellar hairs. They are located close to the pseudostigmata. They are erect, longer than the lamellar hairs, and distinctly barbed. The pseudostigma has a very small opening, which is directed outwards. Inside the small cup several small cells can be seen. The pseudostigmatic organ is thread-shaped. Soon after leaving the cup it makes a bend forwards. The distal part is slightly curved and for most of its length set with small bristles, especially



along its anterior border. The pseudostigmatic organs are only a little shorter than their mutual distance. The exopseudostigmatic hair is short.

Hysterosoma. The hysterosoma is egg-shaped with a broad, rounded anterior margin and slightly pointed posteriorly. There are 13 pairs of faintly barbed notogastral hairs, which are almost equally long, c3 being a little shorter, 2f much shorter. The latero-abdominal gland can be seen off c2.

Ventral side. Fig. 3a shows the main features of the ventral side. A longitudinal line separates the epimeres from the two sides. Epimere I is triangular and broad, Epimere II and Epimere III are narrow, and Epimere IV is very large. In all the epimeres very distinct muscle fibres can be seen radiating from the longitudinal middle line towards the acetabula. The genital and the anal fields are separated by a transverse suture. The genital field is a little broader than the anal field. There are eight pairs of genital hairs, viz. five along the medial border and three farther laterally. The number of aggenital hairs is variable. In one specimen there were eight pairs, fig. 3a, in another specimen there were eight on one side, twelve on the other, fig. 3b. There are three pairs of anal hairs and three pairs of adanal hairs, all are moderately long and faintly barbed, when laid bare they overlap.

Legs. Fig. 3c,d, and e show Leg I, Leg II, and Tibia and Tarsus IV, respectively. The hairs are long and barbed. Tarsus IV, which is very long, has a strong ventral spine distally and several very stiff setae. All the tarsi are monodactylous.

The number of solenidia is:

	Leg I	II	III	IV
Tarsus	2	2	0	0
Tibia	1	1	1	1
Genu	1	2	1	1
Femur	0	0	0	0

Fig. 3 f shows the maxilla and the palp. The latter has only two joints but a short transverse line indicates a former separation. Fig. 3 g shows the mandible, which is very strong. Fig. 3 h shows the surroundings of Leg II as seen from inside. The serrate lateral boundary is the outer margin of Epimere II, which is shown also in fig. 3 i, as seen in a ventral view. The lateral border of Epimere I has a strong, transversally striated boundary, the striation being present also farther medially. Epimere II is decorated with a network of long, irregular meshes, being at the same time striated. The serrate outer boundary of Epimere II can be seen only when laid bare.

Suva: Two specimens in a thin layer of moss on a tree.

*Javacarus kühnelti* Balogh; fig. 4.

— — — — —, 1961 a, p. 31, figs. 39–40.

Length about 0.65 mm. Colour light brown.

The specimen from Corolevu differs a little from BALOGH's species from Java. The pseudostigmatic organs have 10 secondary branches, BALOGH illustrates seven only.

The light spots of the notogaster are perhaps a little bigger and form a pattern, which is slightly different from that of *J. kühneli*.

Corolevu: One specimen in stiff, green grass in a "meadow" with pasturing cattle near a river.

#### Nothroidea GRANDJEAN, 1954

*Masthermannia mammillaris* Berlese.

— — — — —, 1913, p. 100, Table VIII, fig. 92.

Corolevu: One specimen in dry leaves on a slope above the mangrove.

*Cyrthermannia luminosa* n.sp.; fig. 5.

Length about 0.50 mm. Colour dirty brown.

Propodosoma. The rostral hairs are short and thick, probably not bifid. The lamellar and the interlamellar hairs are smooth, bifid with a moderately long anterior part and a very short posterior spur. The distance between the lamellar hairs is much shorter than that between the interlamellar hairs. The pseudostigmatic organs are short, rounded, hairy clubs. On either side of the propodosoma there is a semicircular ridge, which laterally surrounds the pseudostigma, and behind the interlamellar hairs a broad U-shaped ridge on the posterior border of which there are two backwards directed processes like those in *Nanhermannia elegantula* Berl. The sculpture in the anterior part of the propodosoma is irregular with deep, often confluent pits. Posteriorly the pits are smaller and more regular. Between the pits the integument is densely punctate.

Hysterosoma. The hysterosoma is broadest across the middle. Its anterior border is straight. The posterior end is narrow with an incurvation in the middle of the posterior border. The notogastral hairs are bifid and shaped like the lamellar and the interlamellar hairs with a rather long smooth hair and a short posterior spur, fig. 5 a. In the integument there are light irregular spots of different sizes, fig. 5 b. Along the border of the spots there are luminous dots (hence the specific name).

Suva: A great number in thin moss on a tree trunk in the rain forest.

*Malacnothrus variosetosus* n.sp., fig. 6.

Length about 0.30 mm. Colour dirty, light brown, the anterior two thirds of the propodosoma is a darker colour than the posterior third.

Propodosoma. The anterior half of the propodosoma is narrow with almost parallel sides. There is a strong projection between Leg I and Leg II. The lamellar ridges, which are broadest in their anterior half, apparently continue to the tip of the rostrum after bending slightly medially. The rostral hairs are thick, short, and barbed. The lamellar hairs, which are situated medially to the lamellar ridges, are thin, smooth, and shorter than their mutual distance. The interlamellar hairs are likewise smooth and no longer than the lamellar hairs. The middle field is densely punctate. Across

its middle two curved punctate lines can be seen and behind them two oblong spots with a coarser punctation.

Hysterosoma. The hysterosoma has parallel sides, a straight anterior border, and a rounded posterior end. The middle field is bordered by broad, parallel ridges with faint, transverse lines. Also the ridges farther posteriorly are broad and transversally striated. The notogastral hairs are of two kinds, viz. partly short, thick, unilaterally barbed spines, partly much longer, very thin, and smooth hairs. Most of the hairs belong to the first kind. E2, h1, h2, and ps3 belong to the thin, smooth kind.

Ventral side. The epimeric hair formula is: 3-1-3-3, fig. 6a. Most of the hairs are absent. There are six pairs of thin genital hairs, which are situated in the anterior two thirds of the plates. Their length increases towards the posterior pair, which is twice as long as the first. The adanal hairs, which are situated on the posterior half of the plates, are very long and project beyond the posterior border of the hysterosoma. Anal hairs have not been observed. Ps3 is thin and smooth, ps2 thick and barbed.

This species is in many ways similar to *Malaconothrus plumosus* Willm. 1931, p. 247, figs. 8-10, from Java, but can be distinguished from the latter by its broader rostrum, its two kinds of notogastral hairs, and the much shorter interlamellar hairs. Suva: Two specimens in thin moss on a tree trunk in the rain forest.

*Malaconothrus hexasetosus* n.sp.; fig. 7.

Length about 0.38 mm. Colour yellowish, light brown.

Propodosoma. The anterior part is narrow, not even half as broad as the posterior part. The projection between Leg I and II is rounded. The lamellar ridges are almost equally broad throughout with a rounded tip. In some specimens a narrow translamellar line can be seen between the ridges. The rostral hairs are as long as their mutual distance, thin, and smooth. The lamellar and the interlamellar hairs are like the rostral hairs. A dense punctation can be seen in the anterior part of the middle field; in the posterior part behind the interlamellar hairs the punctation is finer and indistinct.

Hysterosoma. The sides are parallel, the anterior border slightly convex, and the shoulder corners rounded. The middle of the posterior end projects as a small rounded tail. The notogastral hairs are erect, thin, and smooth. Most of them are of moderate length but seem short due to their erect position. Six of them, viz. cl, dl, and el are, however, considerably longer, approximately as long as the distance between the hairs dl and el. This can best be seen in a lateral view, fig. 7a. The integument is beautifully pitted with a fine punctation in between. The pits become smaller towards both ends of the hysterosoma, disappearing finely. There are no longitudinal ridges.

Ventral side. Mentotectum with a "nose-like" projection anteriorly. The epimeric hair formula is: 3-1-3-3. The genital plates have six pairs of genital hairs, which are situated on the anterior two thirds of the plates. The genital hairs are smooth, increasing in length towards the posterior end. The three pairs of adanal hairs are also smooth

and moderately long. Ps2 and ps3 are like the adanal hairs. The very small anal hairs are located at a level a little behind ad3.

Corolevu: 10 specimens in moss and dead leaves on a slope above the mangrove.  
Suva: One individual in moss on a tree trunk in the rain forest.

*Trimalaconothrus crassisetosus* Willm. var. *fijiensis* n.var.; fig. 8.

*Trimalaconothrus crassisetosus* Willm. 1931, p. 252, figs. 17–19.

Length about 0.495 mm. Colour light brown.

The length of the variety is exactly the same as that of the main form from Sumatra. In the size, in the shape of the lamellar ridges, in the long rough setae of the hysterosoma there is a great similarity between the main form and the variety, but they differ in several ways. The variety can be distinguished from the main form by its smooth integument (the main form is foveolate both in the propodosoma and in the hysterosoma), and by the appearance of the lamellar and the interlamellar hairs, which are not so long and not so rough as illustrated by WILLMANN. Furthermore the long notogastral hairs are not thin at their bases. All the notogastral hairs are barbed. In the middle of the hysterosoma there are two longitudinal ridges and farther laterally two more indistinct ridges, all of which are absent in the main form.

The ventral side, which has not been illustrated by WILLMANN, is shown in fig. 8 a. The epimeric hair formula is: 3-1-3-3. There are five long and smooth genital hairs, all of which are situated in the anterior two thirds of the plates at almost the same mutual distance. The adanal hairs are much shorter than the genital hairs, thick and barbed. The anal hairs, which can be seen off ad2, are hardly discernible. Ps3 is moderately long and barbed. The tarsi are tridactylous.

However, the variety *fijiensis* may represent an independent species as there are many differences between the main form and the variety.

Suva: Five specimens in wet *Polytrichum* a few cm. above a brook.

*Allonothrus russeolus* Wallwork; fig. 9.

— — — — —, 1960 a, p. 571, figs. 4–5.

Length about 0.56 mm. Colour brown.

The specimen from the Fiji Islands agrees in most features with *A. russeolus* from Ghana. There are only small differences. The two oblique, dark ridges in the middle of the propodosoma meet as shown by WALLWORK, but a dense, dark punctation in front of them forms a dark brown point, so that the ridges apparently meet in a pointed tip. The alveoles on the dorsum are separated by thin, light lines on the brown ground, and the alveoles are of different sizes.

Corolevu: One adult and a few nymphs in a moist "meadow" with stiff, green grass and pasturing cattle near a river.

## Hermannelloidea DUBININ, 1954

*Plasmobates hyalinus* n.sp.; fig. 10.

Length about 0.345 mm. Colour light brown.

Propodosoma. The whole surface is completely hidden under a strong layer of secretion. Very characteristic of this species are two hyaline membranes, one on either side of the tip of the rostrum, projecting beyond the latter. On the projecting tip of the membrane the rather thick and curved rostral hair is situated. The dorsal side of the rostrum between the membranes is at a lower level than the roughly sculptured part behind it. The integument on the rostrum is smooth. In the middle of the elevated area in front of the pseudostigmata there are two low keels between which and laterally to which there are longitudinal rows of pits of different sizes. The sculptured middle field is bordered laterally by a smooth ridge, which posteriorly runs laterally to the pseudostigma, then straight backwards to the posterior border of the propodosoma. A more superficial ridge runs in a curve from a short distance in front of the interlamellar hairs laterally to the pseudostigma, and then to the posterior border of the propodosoma, but more medially than the first-mentioned ridge. There is no sculpture on the posterior part of the propodosoma. The interlamellar hairs are absent. The pseudostigmatic organs, which are as long as their mutual distance, are thread-shaped, distally set with minute bristles and ending in a thin tip.

Hysterosoma. The hysterosoma is circular, its middle is elevated. The sculpture consists of pits of different sizes. The pits are not arranged regularly. The space between the pits varies, usually it is big. The lateral tubes are long, narrow, directed forwards. Only five pairs of notogastral hairs, situated on short apophyses, have been observed, viz. one laterally at some distance in front of the lateral tube, three on the posterior border, and one apophysis without a hair laterally to those on the posterior border, removed a little from the border. The three hairs on the posterior border are situated on a curved ridge, which can be seen in a ventral view, fig. 10a. The hairs are very small, shorter than the apophysis.

Ventral side. The genital and the anal fields are approximately equally long, separated by a short distance. There are six pairs of genital hair pores, hairs being absent. Surrounding the outer border of the anal plates there is an irregular semilunar thickening. The short anal hairs are situated close to this thickening. Ad3 is close to the pore for the aggenital hair, preanal. Ad2 is situated off the anterior anal hair. Ad1 is absent. Iad is very long and is located at the latero-anterior corner of the field. Faint pits can be seen on the ventral plate. In front of Leg II there is a big tooth, a smaller one in front of Leg III.

Systematic position. *Plasmobates hyalinus* is related to *P. pagoda* Grdjn. 1929, p. 411, Pl. III, figs. A–F, Pl. IV, figs. A–F, from Martinique. It can be distinguished from the latter by its hyaline rostral processes, and by its very long pseudostigmatic organs. Corolevu: Two adults and a nymph in dead, moist leaves on a slope above the mangrove.

*Hermanniella punctulata* var. *columbiana* Berlese.

— — — — —, 1910, p. 224, fig. 59.

Corolevu: One specimen in dry leaves on a slope with trees above the mangrove.

#### Liодоidea BALOGH, 1961

*Liodes ramosus* n.sp.; fig. 11.

Length about 0.94 mm. Colour reddish-brown.

Propodosoma. The rostrum is semicircular, and very broad. In front of Leg I the propodosoma suddenly widens. At this level a transverse ridge separates the rostrum from the posterior part of the propodosoma. In front of this ridge there is a narrow furrow. The rostral hairs are smooth, curved, and taper towards the tip. The lamellar hairs, which are situated on apophyses, are peachleaf-shaped and approximately as long as their mutual distance. The interlamellar hairs are much shorter, and also foliate. The pseudostigmatic organs are slender clubs set with coarse scales in longitudinal rows. A coarse reticulation covers most of the surface of the propodosoma, but is absent from the space between the furrow and the transverse ridge, and is faintly developed in the middle of the propodosoma. It is absent also in the surroundings of the pseudostigmata.

Hysterosoma. The hysterosoma, which is arched at the middle, is pear-shaped with a broadly rounded anterior end and a pointed posterior end. The latter ends in a short tail with two long apophyses on one of which there is a long hair, the end of which is broken. The hair is missing on the other apophysis. On either side of the tail there are two short apophyses, each with a short foliate hair, set with small scales. The sculpture consists of small dark tubercles between oblique lines, which run from the sides of the hysterosoma towards the middle and then forwards. A few tubercles as seen half in profile are shown in fig. 11 a. They are shown obliquely from the side in fig. 11 b. Each tubercle is surrounded by six luminous dots, which when focused at a lower level can be seen arranged regularly between canals that connect the tubercles (shown schematically in fig. 11 c).

Legs. The legs are very strong with strong apophyses carrying the hairs. Roughly, the latter are foliate, but some are narrow, others broad and some are peculiar by being very broad, hyaline, with a marginal thickening from which irregular branches issue; see fig. 11 d, which shows a hair from the medial side of Femur I. These branched hairs have given this species its name. There are three almost equally strong claws.

The whole mite is covered with a tough layer of secretion, which is especially thick on the legs.

Suva: One specimen in dead leaves on the floor of the rain forest.

*Pedrocortesella sexpilosa* (Ramsay).

— — — — —, Hammer, 1966, p. 48, fig. 60.

Corolevu: A few individuals in thin mosses on a root on a slope above the mangrove.

## Cepheoidea BALOGH, 1961 – Carabodoidea DUBININ, 1954

*Tegeozetes tunicatus* Berlese.

— — — — —, 1913, p. 91, Table VI, fig. 62.

Corolevu: One specimen in moist, rotting leaves under trees on a slope above the mangrove.

*Tegeocranellus laevis* (Berlese).

*Tegeocranus laevis* Berlese, 1904, p. 237.

*Tegeocranellus laevis* Berlese, 1913, p. 93.

Corolevu: One specimen in stiff, green grass in a "meadow" with pasturing cattle near a river.

*Tectocephus velatus* (Michael).

*Tegeocranus velatus*, Michael, 1884, p. 313, plate 21.

Corolevu: One specimen in mouldering leaves under trees on a slope.

Suva: One specimen in dry leaves on the forest floor.

*Gibbicephus? frondosus* (Aoki); fig. 12.

*Diplobodes frondosus* Aoki 1959a, p. 12, fig. 9.

Length about 0.685 mm. Colour dark brown.

The present species, of which only one specimen was found, cannot be identified with certainty as all the hairs of the dorsal side except the rostral hairs, the lamellar hairs, and one pseudostigmatic organ are broken. It agrees, however, so much with *G. frondosus* (Aoki) that if it does not represent this species it must be a variety of it. It differs in its longer rostral hairs, which almost meet in front of the rostrum, in the lack of a transverse ridge behind the interlamellar hairs, which, however, according to AOKI disappears after some time in BERLESE's fluid, and in the shape of the hairs, which apparently have a middle furrow and no middle rib. However, this interpretation may be wrong as details are difficult to see due to a layer of secretion covering the lateral borders of the hairs, fig. 12a. On the posterior part of notogaster there are round alveoles, which are not arranged in regular rows as shown by AOKI. Fig. 12b shows the mite in a lateral view. It appears that there are light, semi-transparent "windows" in the lamellae.

Ventral side. There are four pairs of genital hairs, which are two thirds as long as the plates. The adanal hairs are leaf-shaped, ending in a small tip, fig. 12c. Ad3 is preanal and situated laterally. Ad2 is situated off the middle of the anal field, ad1 off the posterior border of the latter.

Corolevu: One specimen in dead leaves on a slope above the mangrove.

## Eremaeioidea WOLLEY, 1956

*Basilobelba pacifica* n.sp.; fig. 13.

Length about 0.54 mm. Colour light brown to brown.

The present species differs from the two previously described *Basilobelba* species, viz. *B. retiarius* (Warb.) 1912, and *B. africana* Wallw. 1961 in several characteristics as is evident from the following.

**Propodosoma.** The rostral hairs, which are bent medially near the bases, are much thinner than the lamellar hairs. The latter, which are situated on short apophyses, at a much shorter mutual distance than the rostral hairs, are set with short minute barbs, especially on their proximal two thirds. They are almost equally thick throughout, only a little thinner at the tip. The rostrum is separated from the posterior part of the propodosoma by a strong, transverse ridge, on which the lamellar hairs are situated. It is broken in the middle. Laterally it turns sharply backwards, forming two strong, projecting teeth, one on either side of the rostrum. In the posterior part of the propodosoma a transverse bridge connects the pseudostigmata. The middle of it is well developed, then comes a part which is faintly developed; the lateral parts are strong. The rather short interlamellar hairs are located medially to the pseudostigmata. The pseudostigmatic organs are set with short, thick, depressed scales or bristles in their whole length and all the way round. They are almost as long as their mutual distance.

**Hysterosoma.** The anterior margin is straight or slightly concave, the latero-anterior borders are broadly rounded. After removing the tritonymphal scalp, in the posterior end of which there is an oblong opening, 7 pairs of notogastral hairs could be seen only. They are arranged as shown in fig. 13a.

**Ventral side.** The main characters are shown in fig. 13b. The distance between the gnathosoma and the genital field is very short. Apodema I is short and is situated obliquely. The hairs of the ventral plate are arranged asymmetrically. Their position is shown in fig. 13b. I am unable to see the lateral hairs of the epimeric region. The genital field is almost round. There are six pairs of genital hairs. The four anterior ones are situated close together, their pores almost touching. The anal field is oblong and larger than the genital field. The anal hairs are situated in the anterior half of the plates.

The mandibles are short and broad.

**Legs.** The hairs of the legs are narrow, leaf-shaped with a narrow middle rib and on the outer side set with minute bristles, fig. 13c. The claw of Tarsus I is almost straight, those of Tarsi II–IV much more strongly curved and shorter.

**Tritonymph.** The arms of the scalp are broader than in previously described species. The seta *cl* has not been observed, nor *c2*.

In the deutonymph the hairs *c1* and *c2* are present, fig. 13d. *La* and *lm* are represented by their pores only. The protonymph is shown in fig. 13e and the larva in fig. 13f.

The present species can be distinguished by the strong transverse ridge on the rostrum, the transverse bridge between the pseudostigmata, the coarse, densely barbed pseudostigmatic organs, the leaf-shaped hairs of the legs, and the broad arms of the tritonymphal scalp.

**Suva:** Five adults, six nymphs and a larva in a thin layer of moist moss on a tree trunk in the rain forest.



At Corolevu five specimens of *B. pacifica* were found in moss on a tree root. They differ slightly from the specimen from Suva described above by having coarser hairs on the legs, fig. 13g, and by the very broad opening in the tritonymphal scalp, fig. 13h.

*Fosseremus quadripertitus* Grandjean.

— — — — —, 1965, p. 343, figs. 1–8.

Corolevu: Three specimens in mouldering leaves on a slope with trees, above the mangrove.

*Eremulus curviseta* n.sp.: fig. 14.

Length about 0.32 mm. Colour light brown.

Propodosoma. The rostral and the lamellar hairs are equally long. The interlamellar hairs, which are unusually long, almost reach the lamellar hairs, and are as long as the latter. They are situated immediately behind a narrow transverse ridge, which is located between the longitudinal parts of the lamellar ridges. The distance between the latter is longest in the anterior half of the field. In the posterior part of the field between the lamellar ridges a few transverse rows of pits, each with 5–6, can be seen. There are furthermore a few pits in an oblique row on either side between the pseudostigma and the interlamellar hair and in the posterior part of the propodosoma. The pseudostigmatic organs are serrate flagellants.

Hysterosoma. The hysterosoma is oblong with a straight anterior border. At some distance behind the anterior border there is a broad belt of pits of different sizes, arranged more or less in oblique rows, each with two to three or four pits. The notogastral hairs, which are black, are strong and curved, tapering towards the tip.

Ventral side. In front of the genital field there is a broad, curved belt of deep pits. The aggenital hairs are branched. The medial one is situated closer to the anal field than to the genital field, almost off the anterior border of the anal field. The adanal hairs are ordinary hairs, and stronger and longer than the aggenital hairs. Ad3 and ad2 are situated laterally to the anal field, ad3 at only half the distance of that of ad2 from the anal field. Ad1 is located off the latero-posterior corner of the anal field.

Corolevu: Seven specimens in dead leaves on a slope above the mangrove.

Suva: One specimen in dead leaves in the rain forest.

*Eremulus truncatus* n.sp.; fig. 15.

Length about 0.46 mm. Colour light brown.

Propodosoma. The propodosoma is rather long and narrow as compared with the broad notogaster. The rostral hairs and the lamellar hairs are unusually long and as long as the parallel part of the lamellar ridges. The distance between the latter is approximately the same everywhere. The interlamellar hairs are almost as long as the lamellar hairs. Their tip is very thin. In front of the interlamellar hairs there is an irregularly curved ridge, the middle part of which is indistinct. In *Eremulus* there is

usually a transverse lamellar ridge from the pseudostigma to the longitudinally running part of the lamellar ridge. In this species this ridge is hardly discernible. No pits can be seen between the parallel lamellar ridges except along the medial border. Further laterally there are pits on either side of a curved line, and between the pseudostigmata there are many pits irregularly scattered. The pseudostigmatic organs are thick flagellants set with scattered short spines, which are not arranged in one row only.

*Hysterosoma*. The specific name of this species is due to its truncate shape, the posterior border being almost straight. The hysterosoma is as broad as it is long. Its anterior border is straight, and the anterior part of the hysterosoma is only half as broad as across the middle of the hysterosoma. Behind the anterior margin there is an oblong oval field bordered posteriorly and partly laterally by a belt of two rows of pits. The notogastral hairs, several of which are missing, are stiff, greyish, rather broad, broadest across the middle and pointed at the tip. They are approximately equally long. The second and the third medial pairs are displaced posteriorly, so that the middle of the notogaster is almost bare of hairs, cp. fig. 14.

Corolevu: One female in dry leaves on a slope above the mangrove.

*Sulcoribula* n.gen.

*Sulcoribula* is in many ways similar to *Cultroribula*, having a tripartite rostrum, converging and at the tip fused lamellae with cusps close together; clavate pseudostigmatic organs. Hysterosoma with shoulders. The ventral side differs by having two longitudinal lateral furrows (sulcus) which meet behind the anal field. The anal field is rhombic.

*Sulcoribula laticuspidata* n.sp.; fig. 16.

Length about 0.19 mm. Colour light brown.

*Propodosoma*. The propodosoma is very broad and rather short as compared with the hysterosoma. The tip of the rostrum is tripartite, the middle part being a short, small tip, which is surrounded by two short, lateral ridges the tip of which is directed forwards and medially. The rostral hairs are situated on the lateral ridges. They are very thin, smooth, and rather long. The lamellae, which are almost equally broad throughout, converge and meet, forming an inverted V-shaped space between them. The cusps, which are as broad as the lamellae, are parallel and so close together that there is hardly any space between them. Their lateral and medial sides are parallel and their anterior border is straight. The lamellar hairs, which are situated in the latero-anterior corner of the cuspae, are as long as the distance between their base to the anterior border of the hysterosoma. They are parallel, smooth, very thin at the tip. The interlamellar hairs are like the lamellar hairs. They are situated at a short distance in front of the anterior border of the hysterosoma and close to the lamellae. The pseudostigma is a large cup with the opening directed forwards and outwards. Only a small part of it is hidden below the hysterosoma. The pseudostigmatic organ is club-shaped, the whole organ being a little longer than half of the lamella including the cuspis and as broad as the latter. The club is hairy. A narrow tutorium can be seen on the lateral side of the propodosoma.

Hysterosoma. The hysterosoma is a little longer than broad. The posterior end is rounded. The anterior border is slightly convex with a low incurvation behind the pseudostigma and with a broad, slightly projecting shoulder. There are eight pairs of notogastral hair pores, the hairs being absent. They are situated as shown in fig. 16. Ta is on the shoulder. P1 and p3 have not been observed.

Ventral side, fig. 16 a. The ventral side is peculiar, having on either side a light furrow running for almost the whole length of the ventral side, the two furrows joining behind the anal field. Epimeres I are fused and so are Epimeres II. Epimeres III and Epimeres IV are separated by a sternal ridge. The large and broad genital field is surrounded by a chitinized frame. It is separated from the anal field by a distance scarcely half as long as half the width of a genital plate. No hairs have been observed on the ventral side. The genital plate has four pores, viz. one on the anterior border, one immediately behind it, but a little more laterally, and two along the lateral sides on the posterior half of the plate. There may be more hair pores, as it is extremely difficult to see them. The aggenital pore is situated at the latero-posterior corner of the genital field. The anal field, which is longer than the genital field, is rhombic. The anterior anal pore is situated farther from the anterior end than the posterior one is removed from the posterior end. Ad3 is located at a level in front of the anterior anal pore and behind the aggenital pore. Ad2 and ad1 are rather close together near the latero-posterior side of the anal field. Tectop. I is well developed. Tectop. IV is a short broad tooth.

The legs are short. All tarsi monodactylous.

Corolevu: Five specimens in a thin layer of moss on a root on a slope above the mangrove.

#### Oppioidea BALOGH, 1961

##### *Fijirella* n.gen.

Very similar to *Eremella* Berlese, 1913, but with 11 pairs of notogastral hairs. Pseudostigmatic organ clavate, ending in a thin thread. Three pairs of aggenital hairs. Legs short with swollen joints. Monodactylous. Mandibles and palps weakly developed.

##### *Fijirella mollis* n.sp.; fig. 17.

Length about 0.28 mm. Colour light brown.

The hysterosoma is egg-shaped, slightly narrower anteriorly. Its anterior border is almost straight. The middle of the notogaster with a reticulate pattern, the meshes being of very different sizes and shapes. Along the border of the notogaster the pattern is indistinct with small radiating meshes. There are 11 pairs of notogastral hairs, nine of which are marginal, two medial, viz. one immediately behind the anterior border, the other in the middle of the dorsum. These two pairs are short ordinary setae, whereas the marginal setae are like small downy catkins.

Propodosoma. The propodosoma is broadest across the middle, narrow posteriorly. Behind Leg I there is a deep incurvation, mainly formed by a projecting tooth in front

of Leg II. There is a narrow transverse ridge immediately in front of the pseudostigmata and the interlamellar hairs. The latter are short and thick, often covered by secretion. In the middle of the propodosoma there is a reticulate field bordered anteriorly by the narrow translamella, laterally by narrow costulae, which posteriorly merge into one with somewhat broader short curved ridges. The latter do not reach the transverse ridge in front of the pseudostigmata. The rostral and the lamellar hairs are smooth and moderately long. The pseudostigma is a deep cut opening outwards and backwards. The pseudostigmatic organ has a short, slender, clavate head on a long thin stalk. The head ends distally in a thin thread, which is bent dorsally. Ventral side. There is no sternal plate. The sejugal apodemata do not meet in the middle line. Laterally they end in a tooth. Epimeric hair formula: 3-1-3-4. The genital and the anal fields are separated, the marginal zones surrounding them touching. There are five pairs of genital hairs. The long forwardly-directed hairs on fig. 17a are situated on the anterior border of the frame and represent 4a. There are three pairs of aggenital hairs and three pairs of adanal hairs, all of them of approximately the same length. The anal plates are considerably longer than the genital plates. The two anal hairs are situated far laterally outside a rhombic field covering the medial parts of the plates. The ventral plate is faintly and irregularly reticulate. Legs. The legs are short and the femora are clavate, the tibiae short and swollen. Fig. 17b shows Tibia and Tarsus I. As all outlines are covered by secretion, I cannot see every detail with certainty for which reason some of the hairs are drawn with broken lines.

Fig. 17c shows the infracapitulum and fig. 17d two sketches of the mandible, which is membranous, very faintly developed and hardly fitted for chewing, ending in a few pointed branches. Fig. 17e shows a sketch of the palp. BERLESE (1913) did not illustrate nor mention the ventral side of the two *Eremella* species, viz. *E. vestita* and *E. induta*, which he established from Java, while CSISZAR (1962) illustrated only the genital plates with one close-lying aggenital hair of *E. kozsabi* from Hungary.

The ventral side of *Eremella induta* has later been illustrated by BALOGH and MAHUNKA (1966), and from this it appears that *Eremella* has only one aggenital hair. *Fijiarella* has three aggenital hairs, and these together with a larger number of notogastral hairs justify the establishment of the new genus.

Corolevu: 16 specimens in moss on a tree trunk and in dead leaves above the mangrove.

*Suctobelba variosetosa* Hammer.

— — — — —, 1961, p. 43, fig. 35.

Corolevu: A few specimens in dead leaves on a slope with trees above the mangrove. Suva: One specimen in thick moss on a rotting tree trunk; one in leaves on the forest floor.

*Suctobelba fijiensis* n.sp.; fig. 18.

Length about 0.12 mm. Colour ochreish light brown.

The present species belongs to a group of *Suctobelba* species, which have a short pointed rostrum, the rostral hairs not distinctly composed of a brush-shaped proximal

part and a setaceous distal part, the lamellar knob narrow, pseudostigmatic organs with a smooth club, and the hysterosoma with complicated structures on its anterior border. To this group belong amongst others *S. complexa* Ham. 1958, p. 46, fig. 48, *S. ornatissima* Ham. 1958, p. 47, fig. 49, both from the Andes Mountains, *S. mirabilis* Balogh 1958, p. 16; fig. 20, 1961 b, and *S. hamifera* Balogh 1958, p. 16; fig. 21, 1961 b, the latter two from Angola, Africa. These species have apparently no lateral teeth as usual in *Suctobelba*, and it may be necessary to establish a new genus for these species.

*S. fijiensis* is closely related to *S. mirabilis* Balogh, both having two irregular keels on the dorsum with a light spot between the keels. The space in front of the lamellar knob has a coarse, incomplete reticulation, which is present in most of the species belonging to the above-mentioned group. The lamellar knob, which is broadest posteriorly off the hair pores, is connected with the medial side of the pseudostigma by a lamellar ridge. The interpseudostigmatic ridges have a well developed posterior lobe opposite the anterior end of the dorsal keels. The pseudostigmatic organs are slender, greyish clubs. Lamellar and interlamellar hairs are absent.

Hysterosoma. On the anterior border there are four teeth, viz. two lateral ones and the slightly pointed anterior end of the keels. Between the latter two faint, oblique lines run backwards, medially meeting at some distance in front of the light spot. From the latero-anterior corner of the hysterosoma a transverse ridge runs medially, making a bend below the dorsal keel, then proceeding backwards and disappearing below the keel. There are 10 pairs of rather short notogastral hairs, p1 and p2 being visible in a ventral view only. Ta is situated at some distance laterally to the dorsal keel and in front of the transverse lateral ridge. In *S. mirabilis* Balogh ta is situated on the lateral side of the dorsal keel and the notogastral hairs as well as the dorsal keels are much longer.

Ventral side, fig. 18a. On the fused Epimeres III–IV a thick secretion with folds seems to cover the integument. There are five genital hairs, viz. three near the median border at the anterior end and two in the middle line at the posterior end of the plates. The anal hairs are located in the posterior half of the plates. Ad3 is situated far laterally at a level in front of the aggenital hair, ad2 off the anterior end of the anal field, and ad1 is postanal. The distance ad1–ad1 is as long as the width of the anal field. Iad has not been observed.

Suva: One specimen in thin, moist moss on a tree trunk in the rain forest.

*Suctobelba ponticulus* n.sp.; fig. 19.

Length about 0.195 mm. Colour light brown.

Propodosoma. On the tip of the rostrum there is on either side a long forwardly-directed tip as in *S. falcata* Forssl. Besides this there are two equally long lateral teeth separated by a broad and deep incision, fig. 19a. All of them can be seen in a dorsal view. On the dorsal side of the rostrum there are a few small tubercles. The lamellar knob is rounded and closed, the posterior border being faintly chitinized. In front of the lamellar knob there is a small ridge. The lamellar hairs, which are situated off the middle of the knob, are rather short. The lamellae, which are well developed, reach the

posterior border of the lamellar knob. The interpseudostigmatic ridges are broad with an anterior tip and are broadly rounded posteriorly. They are separated from the pseudostigmata by a good distance. Interlamellar hairs have not been observed, but a pore can be seen near the anterior tip of the interpseudostigmatic ridges. The pseudostigma has a broad lobe on its posterior border opposite the lateral tooth on the anterior border of the hysterosoma. The pseudostigmatic organ has a long, flat, and slender head, which tapers towards the tip and which in its whole length is set with short, black bristles. It is directed outwards and then medially in a broad curve. Hysterosoma. Behind the anterior border there is an H-shaped figure like a bridge (hence its specific name). Its middle is a straight, narrow, transverse ridge on either side of which there is a broad anterior tooth which continues backwards for a short distance as a keel. The lateral tooth opposite the lobe on the pseudostigma is more pointed than the medial tooth. It forms a dorsal keel, too. Behind the H-shaped figure there is a round, light spot. There are 9 pairs of notogastral hairs, the hairs being very different in length as well as in shape. The anterior ones, ta, ti, and te are ordinary smooth, and short setae, whereas ms, r3, r2, and r1 are long and feathered, overlapping. P1 and p2, which can be seen best in a ventral view, are short and smooth. Ventral side. Only five pairs of genital hairs could be seen. Of these the anterior one is very long while the others are short, fig. 19b. Ad3 and ad2 are situated rather far laterally, ad3 on a level in front of the aggenital hair, ad2 off the anterior border of the anal field. Ad1 is located off the posterior half of the side of the field. All the hairs of the ventral side are smooth.

Systematic position. *S. ponticulus* is related to *S. semiplumus* Bal. & Mah. 1967, p. 48, figs. 27–28 from Vietnam, but it can be distinguished from the latter by its long rostral teeth, the presence of lamellar ridges, Tectop. IV without tubercles, the presence of a transverse ridge between the medial notogastral teeth, the much longer feathered notogastral hairs, and the different position of the latter.

Corolevu: Several specimens in dead leaves on a dry slope above the mangrove.

*Suctobelbila dentata* (Hammer).

*Rhyncobella dentata* Hammer, 1961, p. 46, fig. 37.

Corolevu: Three individuals in mouldering leaves under trees on a slope above the mangrove.

*Suctobelbila squamosa* (Hammer).

*Rhyncobella squamosa* Hammer, 1961, p. 47, fig. 38.

Suva: One specimen in moist leaves on the rain forest floor.

*Machuella ventrisetosa* Ham. var. *robusta* n.var., fig. 20.

*Machuella ventrisetosa* Hammer 1961, p. 70, fig. 59.

Length about 0.18 mm. Colour brownish.

The Fiji specimens differ from the main form by their much longer and stronger notogastral hairs, by the larger pseudostigmatic clubs, and by having two longitudinal lines on each side of the dorsum, issuing from the anterior border of the hysterosoma.

The rostral and the lamellar hairs are distinctly barbed. Between the interlamellar hairs there are four light spots.

Fig. 20a shows the ventral side.

Corolevu: Four specimens in dry moss and bark on a tree trunk overgrown with epiphytes.

*Dampfiella similis* n. sp.; fig. 21.

Length about 0.465 mm. Colour brown.

Propodosoma. The rostrum, which is rounded, has a membranous plate on either side of the tip. The rostral and the lamellar hairs are unilaterally barbed. The interlamellar hairs are situated medially to the pseudostigmata. They are very small. The exopseudostigmatic hair pore can be seen in front of the pseudostigma. The hair is absent. The pseudostigmatic organs are club-shaped and apparently smooth. The light spots between the pseudostigmata are arranged in two longitudinal rows. Further laterally there is a small cluster of spots. "Cuvette dorsale" (GRDJN. 1964) can be seen in front of Acetabulum II.

Hysterosoma. The hysterosoma is twice as long as it is broad. It is very narrow immediately behind the pseudostigmata, whereafter it widens, and then becomes again slightly narrower immediately behind a lateral projection, after which it again becomes broader. The 10 pairs of notogastral hairs are all alike, short and smooth, but stiff. Ta is situated off the small lateral projection, te immediately in front of im. Gl is located close behind im. The distance r3-p3 is shorter than p3-p2 and longer than p2-p1 and p1-p1. The two latter being equally long. Along the lateral border there is a faint line on which ti, ms, and r2 are situated. "Cuvette du notogaster" can be seen behind ta. Ventral side. Apodemata II are fused and form a broad, brown band. The ventral "cuvette" can be seen at the end of the latter, fig. 21 a. Most of the epimeric hairs are absent. Also the genital hairs are absent, and so are the aggenital hairs and ad3 and ad2. Only the pores can be seen. Ad1 and the anal hairs are present. Ad3 is preanal and is situated at a short distance only from the latero-anterior corner of the anal field, ad2 is situated off the middle of the field, and ad1 behind the field at a mutual distance equal to ad1-ad2.

The mandible is rather long and narrow in its anterior half, being much broader behind the seta cha, fig. 21 b. Fig. 21 c shows the infracapitulum. Leg I is shown in fig. 21 d. The claw has a small outer tooth.

Systematic position. The present species is in several characteristics similar to *D. prostrata* Aoki (1965 a), but can be distinguished from the latter by the pseudostigmatic organs, which are rounded, smooth clubs (in *D. prostrata* they are slender and barbed), by the different position of the notogastral hairs, by the appearance of the ventral side, and of the mandibles, which are shorter in *D. prostrata*, and by the shape of the solenidion.

Suva: Three specimens in dead, rather dry leaves on the forest floor.

*Dampfiella dubia* n. sp.; fig. 22.

Length about 0.60 mm. Colour light brown.

This species is very similar to the preceding one and differs only in a few features.

**Propodosoma.** The anterior half of the propodosoma is very narrow. It widens suddenly in front of Leg I. Along the anterior half of this narrow part a more or less membranous plate surrounds the rostrum. The rostral hairs and the lamellar hairs are curved and unilaterally barbed. The interlamellar hairs are short and smooth. The exopseudostigmatic hairs are hardly discernible. The pseudostigmatic organs are clavate, pointed at the tip, and the club is set with minute bristles. The dorsal "cuvette" (cud) is not so deep and distinct as in *D. similis*. Double taenidies (GRDJN. 1964, p. 698) can be seen running from the pseudostigma to Acetabulum I.

**Hysterosoma.** This species is like the preceding species, narrow immediately behind the pseudostigmata, and has a slight lateral projection off ta. The notogastral hairs, 10 pairs, are arranged almost like those of *D. similis*, but the hairs are not alike, the marginal ones being stiff and spine-like and considerably longer than the others, which are thin and slightly curved. P1 and p2 are a little longer than p3 and r3. Te is situated immediately in front of im. Along the lateral border there is a faint line, which is almost parallel to the sides of the hysterosoma.

**Ventral side.** It is hardly possible to see any difference between the ventral side of *D. dubia* and that of *D. similis*. There are three pairs of genital hair pores. The setae ad1 are as long and strong as those on the posterior border of the dorsal side of the hysterosoma, fig. 22 a.

Fig. 22 b shows the anterior end of *D. dubia* in profile. The dorsal and the ventral "cuvettes" can be seen behind Tectop. I, and behind the pseudostigma the notogastral "cuvette". Over the dorsal "cuvette" there is an air sac connected with tracheae (broken line). A similar sac is located below the notogastral "cuvette".

The mandible, which is illustrated in fig. 22 c, is rather long and narrow, especially the anterior half in front of the seta cha. The seta chb could not be seen. Fig. 22 d shows the infracapitulum, which differs from that of *D. similis* by having no articulation between the basal and the distal part. This is characteristic of *Beckiella* (GRDJN. 1964). The rutella apparently forms a canal for sucking, which is characteristic of *Beckiella*. Figs. 22 e, f, and g show Leg I, II, and IV, respectively. There may be more hairs than illustrated, which I have missed. The claw of all tarsi has several small teeth on the outer border.

**Discussion.** *D. similis* and *D. dubia* are much alike in almost every respect apart from the infracapitulum, which has an articulation in *D. similis*, but not in *D. dubia*. The mandibles are long and narrow in both, but in neither of them do the mandibles belong to the peloptoid type as in *Beckiella*. The hair chb, which is absent in *Dampfiella*, and present in *Beckiella*, has not been observed in either of the two species. I do not think that the difference in the building of the infracapitulum is sufficient to place these two species within different genera. *D. similis* and *D. dubia* are probably transitions between



*D. procera* Selln. (1931) with the short, strong mandible, infracapitulum with an articulation, and three pairs of genital hairs, and *Beckiella cejansis* (Beck) (1962b) with elongated, peloptoid mandible, infracapitulum without articulation and four pairs of genital hairs. If additional transitional forms are found, it may be doubtful whether the genus *Beckiella* can be maintained.

Corolevu: Five specimens in dead, dry leaves on a slope above the mangrove.

*Dolicheremaeus fijiensis* n. sp.; fig. 23.

Length about 0.395 mm. Colour light brown.

According to Aoki's key for the identification of the species belonging to the genus *Dolicheremaeus* (1967), the present species is closest related to *D. papuensis* Aoki, but differs by having smooth genital plates (in *D. papuensis* they are striated), and to *D. elongatus* Aoki, which has smooth genital plates. It can be distinguished from the latter by its broad hysterosoma, its much smaller size (*D. elongatus* 0.505–0.620 mm. long) and by iad, which is situated obliquely to the anal field (in *D. elongatus* iad is parallel to the anal field).

Propodosoma. The rostral and the lamellar hairs are unilaterally barbed, the lamellar hairs are the stronger. They are situated close to the lateral side of the lamellae. The anterior part of the lamellae in front of the lamellar hair diverges distally. The lamellae are parallel for most of their length, diverging posteriorly. The posterior part has a sharp dorsal keel, the anterior part behind the lamellar hairs is transversally wrinkled and is a little irregular in shape. The interlamellar hairs are shorter than the lamellar hairs. They are more or less erect. Between the interlamellar hairs there is a dense punctation in oblique streaks. The dorsal pseudostigmatic plates cover the whole pseudostigma. The latter opens latero-anteriorly. The pseudostigmatic organ is spindle-shaped, smooth. On one specimen the head of the pseudostigmatic organ is a little swollen and the tip appears slightly bifid (left side in fig. 23). The exopseudostigmatic hair, which can be seen in a lateral view only, is minute, fig. 23a. The four prodorsal condyles are of nearly equal size. They are all rounded and equally spaced from one another, as regards the tip. The two middle ones are, however, so broad that they almost touch at their bases.

Hysterosoma. The hysterosoma is oval apart from the anterior straight border. The integument has a fine and dense punctation. The four condyles on the anterior margin are subequally spaced from one another, the distance between the middle ones being shorter than that between the middle one and the lateral one. The median condyles are as long as they are broad, the tip being square and irregular. The lateral condyles are broadly triangular. There are 10 pairs of notogastral hairs, which are rather long, stiff, blunt at the tip, and smooth. P1, p2, p3, and r2 are a little longer than the others. Im and g1 are located laterally to ti.

Ventral side, fig. 23b. Apodemata II meet in the middle line. Epimeres II are fused. The sternal plate is developed only between the fused Epimeres III–IV. Epimeric

hair formula: 3-1-3-3. 1a, 2a, 3a, 4a, and 4c are shorter than the remainder. The genital field is broadest anteriorly. It is smooth.

The anal field has parallel sides. The anal hairs are as long as the width of the anal plates. The distance ad3-ad3 is only a little longer than ad2-ad2. The anal hairs are smooth. Iad is situated obliquely to the anal field, its anterior end almost touching the side of the field.

Legs. Type of ultimate hairs: L-L-L-L. Solenidium  $\omega_1$  on Tarsus I slightly curved, blunt at the tip,  $\omega_2$  a little thinner, tapering into a thin, hook-shaped tip. The famulus is almost half as long as  $\omega_1$ , swollen distally, fig. 23c.

Corolevu: Four specimens in dead leaves on a slope above the mangrove.

*Oppiella nova* (Oudms.) (= *neerlandica* auct.).

*Oppia neerlandica* (Oudms.), WILLMANN, 1931, p. 128, fig. 132.

Corolevu: A few specimens in dead leaves on a slope above the mangrove.

Suva: A few specimens in thin moist mosses on a rotting tree trunk and in dead leaves on the forest floor.

*Oppia arcualis* (Berlese).

*Damoeosoma arcuale* Berlese, 1913, Redia IX, p. 89, Tb. VII, fig. 69.

The specimens from the Fiji Islands agree better with the specimen illustrated by BALOGH & MAHUNKA from Vietnam, 1967, p. 45, Plate III, figs. 17-18, than with BERLESE's figure, as the pseudostigmatic organ has three very long, distal hairs, as found also in the specimens from Vietnam, whereas BERLESE illustrates only two. According to BALOGH & MAHUNKA, variations in the number and length of apical hairs of the pseudostigmatic organ lie within the specific limits, an opinion which I share with them. In the specimens found in New Zealand there are only two apical hairs on the pseudostigmatic organ.

Corolevu: Found frequently among dead, dry leaves on a slope above the mangrove.

*Oppia exiguus* n. sp.; fig. 24.

Length about 0.21 mm. Colour ochreish light brown.

Propodosoma. The anterior half of the propodosoma is narrow, conical. The rostrum is rounded. The rostral hairs, which are situated on the dorsal surface, are smooth and about twice as long as their mutual distance. The lamellae are broken and only their anterior ends are distinct. A translamella connects the lamellae. There are no cusps. The lamellar hairs are thin, smooth, shorter than their mutual distance, and apparently shorter than the rostral hairs. They are situated on the rounded corner where the lamella and the translamella meet. The interlamellar hairs are minute. Between the latter there are four light spots, and in front of the interlamellar hair a more laterally located spot. The pseudostigmatic organs have a round, dark, dish-shaped head on the end of a comparatively long stalk. On the posterior border of the pseudostigma a small knob can be seen. Along the posterior border of the propodoso-

ma, parallel to the anterior border of the hysterosoma, there is a narrow ridge, the middle of which disappears between the light spots.

Hysterosoma. The hysterosoma is narrow, being one and a half times longer than it is broad. Its anterior end projects slightly. On either side of the anterior border there is a small tooth, which corresponds to the knob on the pseudostigma. The notogastral hairs, 10 pairs, are short and thin.

Ventral side. Apodemata II are separated by a broad plate, fig. 24a. The sejugal apodemata form a broad transverse belt, on the posterior border of which there is on either side a lobe on which the hair 3a is situated. The fused Epimeres III–IV from the two sides are separated by a broad sternal plate. The genital plates have four pairs of hairs, only. Ad3 is preanal and is situated far laterally and rather far anteriorly, too. Ad2 is located off the sides of the anal field and ad1 is postanal. Iad is very long and is situated obliquely to the anal fields off the latero-posterior corner of the latter, which is an unusual position so far posteriorly. The projection between Leg III and Leg IV is short.

Legs. Tibia I has a short anterior process, on which the long solenidion is situated. Corolevu: Two specimens in dead leaves on a slope above the mangrove.

*Oppia lanceosetoides* n. sp.; fig. 25.

Length about 0.295 mm. Colour light brown.

Propodosoma. The most characteristic feature of this species is two slightly curved longitudinal lines, one on either side of the light spots between the interlamellar hairs. The rostral hairs, which are situated rather far posteriorly, are smooth and about as long as their mutual distance. Lamellae absent. The lamellar hairs are a little shorter than their mutual distance. A faint line runs backwards from the base of the lamellar hair and at some distance in front of the latter there is a faint transverse line. The interlamellar hairs are minute. On the posterior border of the pseudostigma there is a small lobe. The pseudostigmatic organs, which are almost equally thick throughout, are slightly curved and the end unilaterally set with minute bristles, fig. 25a.

Hysterosoma. The hysterosoma is only a little longer than broad. Below the anterior border there is in the middle a small projecting tip. The notogastral hairs, 10 pairs, which are equally thick throughout, except at the base which is slightly dilated, fig. 25c, are slightly curved. On their distal half they are unilaterally barbed. They have the same appearance as the pseudostigmatic organs, but are shorter. Ta is absent, but its pore can be seen behind the pseudostigma. Ventral side. The ventral side is shown in fig. 25b. Ad3 is situated rather far anteriorly and laterally, ad2 off the anterior half of the anal field, and ad1 is postanal. Iad is small and parallel to the side of the anal field. This species is closely related to *Oppia lanceoseta* Balogh, 1959a, p. 96, fig. 9. The latter can be distinguished by its very long notogastral hairs, which also are dilated at the base.

Corolevu: One specimen in dead dry leaves on a slope above the mangrove.

Suva: Seven specimens in wet *Polytrichum* on a rock in a brook just above water level.

*Ramusella chulumaniensis* (Ham.) var. *curtipilus* n. var.; fig. 26.

*Oppia chulumaniensis* Hammer 1958, p. 57, fig. 66.

Length about 0.245 mm. Colour yellowish.

The specimens from the Fiji Islands are very similar to the main form from Bolivia, but can be distinguished from the latter by their much shorter notogastral hairs and by the position of these. In the main form the distances ti-ti, ms-ms, r2-r2, and r1-r1 are equally long, in the variety the distance r2-r2 is longer, and r1-r1 is shorter than in the main form. The number of branches of the pseudostigmatic organ is nine in the variety (fig. 26a), in the main form it varies from 7 to 10, the number of branches never being constant in this kind of pseudostigmatic organs. The disk of the pseudostigmatic organ is broader in the variety, longer and narrower in the main form. Fig. 26b shows the ventral side.

Apodemata II are narrow and separated by a broad sternal plate. In front of the sejugal apodemata there are two rounded lobes. The fused Epimeres III-IV are bordered by a darker brim. Apodemata III are very short and narrow. Behind them a light spot or opening can be seen.

Since these differences are only slight and I cannot evaluate their significance, I prefer to establish a new variety rather than a new species.

Suva: Three specimens in thin, moist moss on a tree trunk in the rain forest.

*Amerioppia Woolleyi* Ham., fig. 27.

*Amerioppia Woolleyi* Ham. 1968, p. 31, fig. 34.

In the specimens from the Fiji Islands the setae r1 are somewhat shorter than the corresponding ones in the specimens from New Zealand.

Corolevu: Several specimens in moss and dead leaves on a slope above the mangrove.

Suva: A single specimen in thin moss on a tree trunk in the rain forest.

*Amerioppia vicina* n. sp.; fig. 28.

Length about 0.245 mm. Colour light brown.

*A. vicina* can be distinguished from the so far described *Amerioppia* species by the position of the setae r2, which are situated rather close together (*vicinus*).

Propodosoma. The pseudostigmatic organs are long, thin clubs, which are broadest near the tip. They are set with minute bristles.

Hysterosoma. The hair ta has not been observed. Ti, te, ms, r3, r2, and r1 are approximately equally long, r1 perhaps a little shorter. P1 is almost twice as long as p2, and p2 is longer than p3. The distance r2-r2 is not much longer than r1-r1.

Ventral side. On the anterior border of the sejugal apodemata immediately behind the hair 2a there is a brown rounded lobe, fig. 28a.

Corolevu: One specimen in thin moss on a tree root above the mangrove.

Suva: A great number in dead leaves on the floor of the rain forest.

*Globoppia (Aeroppia) pauciseta* n. sp.; fig. 29.

Length about 0.44 mm. Colour light brown.

Propodosoma. The rostral, the lamellar, and the interlamellar hairs are strong, barbed, and moderately long. The rostral hairs are inserted laterally as in *Globoppia* and not on the dorsal surface of the rostrum as usual in *Aeroppia*. The lamellar hairs are situated on the end of reduced costulae and at rather a large mutual distance. In *Aeroppia* the lamellar hairs are situated close together. Between the interlamellar hairs six light spots can be seen and above them there are two dark lines. The pseudostigmatic organ is large, dark, and pear-shaped. It is broadest distally. Its margin is clear, the inner area being black.

Hysterosoma. The hysterosoma is only a little longer than broad. Its anterior margin is very broad. Ta is absent. There are eight long and barbed notogastral hairs, which probably represent ti, te, ms, and r2. Of these te is almost twice as long as the others. The distances ms-ms and r2-r2 are equally long and almost twice as long as ti-ti. The hairs p1 are parallel, air-filled, narrow spindle-shaped, and as long as their mutual distance. P2 and p3 are hardly discernible.

Ventral side. The epimeres are all bordered medially by a broad margin. The margin of Epimeres II touch, whereas there is a furrow between Epimeres I and between the fused Epimeres III-IV. Between Apodemata II there is a broad plate. The genital plates have in their anterior border two semicircular indentations. Of the five genital hairs three are situated on the anterior half of the plate along the medial border, two posteriorly along the lateral border. The latter are twice as long as the former. The two anal hairs are situated far laterally. The aggenital hair and the three adanal hairs are situated in a broad curve laterally to and in front of the anal field.

There can hardly be any doubt that the species described belongs to *Globoppia*. The lateral position of the rostral hair, the rather long distance between the lamellar hairs situated on reduced costulae, and the reduced number of notogastral hairs together with the different length of the latter are characteristic of *Globoppia*. The air-filled setae p1, due to which the genus *Aeroppia* was created, is not apparently a generic character, but so far it is still too early to decide whether *Aeroppia* must be abolished. Corolevu: One specimen in thin moss on a tree root above the mangrove.

*Cheloppia* n. gen.

The name *Cheloppia* indicates that this genus has enormously long chelicera or mandibulae. Posteriorly they reach as far as the anterior border of the pseudostigmata. The chewing part is very short.

Propodosoma and hysterosoma separated. Lamellae, lamellar hairs, and interlamellar hairs present. Pseudostigmata with a posterior lobe. Pseudostigmatic organ branched. Anterior border of hysterosoma with a small lateral tooth. 9 pairs of notogastral hairs. Five pairs of genital hairs. One pair of aggenital hairs, two pairs of anal hairs, and three pairs of adanal hairs. Iad parallel to the side of the anal field. Legs as in *Oppia*. Tibia I with a distal process. Monodactylous.

*Cheloppia hyalina* n. sp.; fig. 30.

Length about 0.175 mm. Colour whitish.

Propodosoma. The propodosoma is as long as the hysterosoma, fig. 30 a. Its sides are parallel. The rostrum is apparently broad and rounded, but as it is hyaline I am unable to see its anterior border with certainty. The same is the case with the rostral hairs; they can be seen in profile, fig. 30 a. The lamellae are narrow, slightly undulating, about equally broad throughout. The lamellae are connected by a narrow trans-lamella. There are no cusps. The lamellar hairs are thin and short. On either side of a cradle-like structure the interlamellar hairs can be seen. The cradle-like figure surrounds six light spots. The pseudostigma is a deep, open bowl, which opens outwards. On its lateral border there is a ridge, on the posterior end of which there is a lobe corresponding to a small lateral tooth on the anterior border of the hysterosoma. The pseudostigmatic organ has an oblong, flat head on the outer border of which six branches radiate, fig. 30 a.

Hysterosoma. The hysterosoma has almost parallel sides, the posterior end is broadly rounded, and the latero-anterior borders are rounded, too. Opposite the lobe on the pseudostigma there is a small lateral tooth. There are 9 pairs of notogastral hairs, ta being missing. The hairs are equally thick throughout apart from the tip, which is slightly thickened and bent. The hairs are arranged more or less in transverse rows. Ventral side. Apodemata II are narrow ridges, which reach the broad, but faintly chitinized sternal plate, fig. 30 b. The sejugal apodemata, which form a broad, transverse belt, have on their anterior border a broad, but faintly chitinized lobe. The posterior part of the sternal plate between the fused Epimeres III–IV is more strongly chitinized than the anterior part and bordered by faint ridges. Some of the epimeric hairs have probably not been seen because of their minute size. The genital field is slightly pointed anteriorly. There are five pairs of small and thin genital hairs. The anal field is considerably larger than the genital field. There are two pairs of short and thin anal hairs, which are situated in the middle of the plates. Ad3 is preanal, situated laterally to and a little posteriorly to the aggenital hair. Ad2 is located off the middle of the side of the anal field, and ad1 is postanal. Iad is long and parallel to the side of the anal field, off ad2.

Legs. The legs are like those of *Oppia* with clavate femora. Tibia I with a narrow, distal process with the solenidion, fig. 30 a. All the tarsi are monodactylous. As I am unable to dissect the only specimen found without spoiling it, it is impossible to describe the legs further. The mandibles are extremely long and narrow with short cheliceres. The palp is proportionately very big. The infracapitulum is hyaline and details cannot be discerned.

Suva: One specimen in thin moss on a tree trunk in the rain forest.

## Hydrozetoidea BALOGH, 1961

*Hydrozetes lemnae* (Coggi).

— — — — —, Grandjean 1948, p. 328, figs. 2–3.

Suva: Several individuals in wet mosses along the bank of a canal in a park.

## Ameronothroidea BALOGH, 1961

*Licneremaeus polygonalis* n. sp.; fig. 31.

Length about 0.175 mm. Colour light dirty brown.

The latero-anterior borders of the notogaster meet at an almost straight angle immediately behind the transverse ridge, which connects the S-shaped lateral ridges of the propodosoma. The light spots of the notogaster are arranged as shown in fig. 31. Several of the spots are angular and closely fitted together like polygons (hence the specific name). Along the border of the notogaster the spots are round or oblong. By this polygonal shape of the spots this species can be distinguished from the four previously described species (*L. licnophora* Mich. 1882, *L. discoidalis* Willm. 1930, *L. exornatus* Grdhn. 1931, and *L. prodigiosus* Schuster 1958).

On the posterior part of the notogaster there is a curved line along which the posterior spots are situated. This line is present, too, in *L. prodigiosus* Schuster. There are 12 pairs of hairs, 4 median and 8 lateral pairs. The two anterior median pairs are directed backwards, the third pair medially and the fourth outwards.

Propodosoma: Besides the above-mentioned transverse ridge connecting the S-shaped lateral ridges, there are two more transverse ridges, viz. one in front of the lamellar hairs and an incomplete one halfway between the other two. Both the rostral and the lamellar hairs are well developed and are approximately as long as the notogastral hairs. The interlamellar hairs are much shorter. The pseudostigmatic organ is a round disk surrounded by a brim of secretion. There is apparently an indentation distally, fig. 31 a. In fig. 31 the pseudostigmatic organ is probably drawn directly from above. Ventral side, fig. 31 b: The ventral plate is reticulate, the pattern, however, being absent on a broad margin round the genital and the anal plates. There are five pairs of genital hairs, viz. three on the anterior border and two on the posterior part. There are two pairs of anal hairs and two pairs of adanal hairs (only the pores can be seen). In front of the genital field there is a semicircular chitinous ring which opens posteriorly. In *L. prodigiosus* there is in this place two short backwards directed processes, one on either end of a curved ridge. All tarsi have three claws the middle of which is the stronger.

Of the five *Licneremaeus* species so far known, *L. polygonalis* seems to be closest related to *L. prodigiosus*, the two species having the following characteristics in common: an anteriorly pointed notogaster, a posterior curved ridge on the notogaster and a semicircular ring in front of the genital field.

Corolevu: Four specimens in moss and dead leaves on a slope above the mangrove.

*Scapheremaeus bicornutus* n. sp.; fig. 32.

Length about 0.315 mm. Colour dirty, light brown.

Propodosoma. Two elevated, broad ridges with a deep furrow between them represent the lamellar ridges. Their anterior third projects like long horns or apophyses, on the end of which the short lamellar hair is situated. The apophyses are connected by a narrow ridge or translamella on which they are situated. Farther anteriorly another transverse ridge can be seen running across the whole width of the rostrum. The rostral hairs are thin and smooth. Between the pseudostigmata there is an irregular dark ridge with spurs towards the anterior border of the hysterosoma and with irregular dark spots in front of it. The space lateral to the lamellae and the dorsal surface of the rostrum is faintly reticulate. The pseudostigmatic organ has a pear-shaped, black head, which is directed forwards. Tectopedium II is rounded, not angular as in most *Scapheremaeus* species.

Hysterosoma. The shoulder edge projects a little and forms a small tip. The outer margin of the hysterosoma is smooth. A light furrow forms the border between the middle field and the marginal field. The middle field is surrounded by a dark ridge, which is set with dark tongues on its outer border. The surface of the middle field has deep round alveoles, usually arranged in clusters, each with a number from four to six-eight alveoles, the clusters being separated by dark pigmented secretion grains. The pale area on the anterior part of the marginal field is posteriorly halfway surrounded by a dark ridge. The marginal field has irregular, radiating dark lines, which at the outer border end in brown tongues. There are 14 notogastral hairs. In the marginal field there is one on either side of the shoulder projection, and one a little farther posteriorly. The latter is a lighter colour. A fourth hair is situated on the outer border of the middle field in the posterior fourth of the latter. On the posterior border of the hysterosoma there are six hairs. The hairs, which are situated on apophyses, have a dark ball-shaped head, which is shorter than the apophysis.

Ventral side. The distance between the genital and the anal field is as long as the width of the genital plate. The aggenital hair is located off the latero-posterior corner of the genital field, i.e. far anteriorly and close to the latter. There are six pairs of genital hairs and two pairs of anal hairs. Iad is situated off the anterior third of the anal field. Ad1 are postanal and situated rather close together, ad2 at the latero-posterior corner of the plates and ad3 at a level a short distance behind iad, but a little farther laterally. The distance ad1-ad2 is approximately the same as ad2-ad3. Legs. Tarsi II-IV dorsally with a long erect hair ending in a short spatular head. Tibia I with a thick, dark club-shaped hair situated on its dorsal surface behind the distal process. The tarsi are all tridactylous, the lateral claws being extremely thin. Suva: Four specimens on *Hibiscus* sp., found at the quarantine station Washington, D.C. No. 63-25628.



*Scapheremaeus arcuatus* n. sp.; fig. 33.

Length about 0.40 mm. Colour light brown to brown.

Propodosoma. The rostral hairs are very short and thin. In the middle of the propodosoma there is a middle field on the anterior border of which two low apophyses for the lamellar hairs can be seen. The lamellar hairs, however, are absent. The anterior part of the middle field in front of a narrow transverse line is reticulate; behind this line there is an irregular, faint pattern. Between the pseudostigmata two thin lines, almost parallel to the anterior border of the hysterosoma, run medially, meeting a curved transverse ridge. Lamellar ridges are scarcely developed. They are represented by two undulating lines, which anteriorly end in the two lamellar apophyses. Farther laterally there is a sharp edge or ridge on the lateral side of which the integument is set with small round knobs. The pseudostigmatic organs are slender, black clubs, which are directed backwards. Tectopedium II is narrow, angular distally.

Hysterosoma. The anterior border is rounded. Shoulder corners are very small. The outer border is smooth and the posterior end is broadly rounded. The middle field is apparently highly arched, the middle being at a higher level than the lateral parts. There is rather a broad and deep furrow between the middle field and the marginal field. This furrow is irregular with clusters of alveoles cutting into it from both sides. In the middle field there are three irregular longitudinal furrows; in the two lateral furrows two pairs of hair pores can be seen, viz. one a little in front of the middle of the hysterosoma, the second in the posterior fourth. The hairs are absent. The sculpture consists of oblong alveoles most of which are arranged so that their medial border is at a higher level than their lateral border, which apparently means that the surface slopes towards the sides. Some are at a deeper level. In the marginal field there are also alveoles, but they are fainter, more indistinct, with chitinous wrinkles interfering. On the posterior border there are four hardly discernible hairs.

Ventral side. An irregular reticulation covers the whole ventral surface. The distance between the genital and the anal field is as long as the width of a genital plate. The aggenital hair is located at the latero-posterior corner of the genital field. Ad3 is near the latero-anterior corner of the anal field, ad1 and ad2 are postanal and situated rather close together.

Legs. There are no dark spatular or club-shaped hairs on the tibiae or tarsi as in the preceding species. All tarsi are monodactylous.

Suva: One specimen in wet *Polytrichum* on a rock, about 1–2 cm. above the water level in a brook in the rain forest.

*Seteremaeus* n. gen.

*Seteremaeus* is very similar to *Scapheremaeus*. Hysterosoma with a middle field and a marginal field. Pseudostigma a very small cup, not much broader than the thick seta-shaped pseudostigmatic organ. Interlamellar hairs present. Tectop. II rounded, continuing backwards. Coxa III with three thick, soft setae. Ventral side with a large projection between Legs III and IV.

*Seteremaeus spinosus* n. sp.; fig. 34.

Length about 0.40 mm. Colour dirty brown.

Propodosoma. The propodosoma is as broad as the hysterosoma. The rostrum is broad, triangular. The rostral hairs are short and thick. In the middle of the propodosoma there is a middle field bordered laterally by two longitudinal lamellar ridges, the lateral edge of which is distinct, the medial border indistinct. The lamellar hairs, which are short, spine-shaped, are situated between the anterior end of these ridges. Farther laterally there is on either side another ridge. A broad, dark, curved ridge, which is parallel to the anterior border of the hysterosoma, connects the pseudostigmata and forms the posterior border of the middle field. Behind the pseudostigmata it continues backwards, disappearing below the lateral sides of the hysterosoma. A short ridge situated in front of the pseudostigma continues for a short distance laterally, and then disappears. The interlamellar hairs, which are short spines, are located between the pseudostigma and the lamellar ridge. The pseudostigma is a very small cup, its opening not much bigger than the base of the pseudostigmatic organ. The latter is a thick, blackish bristle (seta). This tapers evenly towards the tip, which is blunt. The pseudostigmatic organs are approximately half as long as their mutual distance. In the area behind the broad, curved ridge there are two faint lines running from the pseudostigma to the middle of the anterior border of the hysterosoma. Behind these lines there are two short spines! (?). Tectop. II is rounded distally. It is almost membranous with a strong, dark border.

Hysterosoma. The hysterosoma is oval. There is a middle field and a marginal field, the latter being slightly narrower at the posterior end. Behind the anterior border there is a light spot. The middle field, which is separated from the marginal field by a light narrow furrow, has a depression in its anterior border into which the light spot fits. The sculpture consists of small pits arranged regularly in rows in several directions. They appear brownish on the lighter surface. In the marginal field irregular, dark wrinkles radiate, and anteriorly furthermore some pits. There are 13 pairs of short spines, viz. five pairs in the middle field, six in the marginal field, and two on the posterior border, located ventrally. In the posterior part of the middle field there are two shallow depressions, one on either side of an elevated area.

Ventral side. Apodemata II are well developed. Between them there is a greyish, transverse plate, fig. 34a. The sejugal apodemata is a little shorter than Apodemata II, and Apodemata III is still shorter. The genital and the anal fields are separated by a distance as long as the genital plates. The anal field is almost twice as large as the genital field. There are six pairs of genital hairs, of which the anterior pair is very long, the others thin and short. They are situated along the medial margin. There are two pairs of anal hairs and three pairs of adanal hairs. Ad1 and ad2 are postanal, ad3 is situated behind iad, which is parallel to the lateral margin of the anal field. Between Leg III and Leg IV there is a broad Tectopedium IV.

Fig. 34b and c show Leg I and Tibia and Tarsus II, respectively. Both sketches are made of the legs in situ. The hairs of femur I are short thick spines. Genu I has

an outer long, thick, and soft hair. The tibiae are short. The hairs are partly short spines, partly long and soft setae. The tarsi with soft, broad hairs pointed at the tip. One strong claw. Coxa III has three long, soft and thick hairs of the same kind as that illustrated on Genu I. In figs. 34b and 34c not all the hairs could be seen, i.e., only one solenidion on Tarsus I, but as the only specimen found does not belong to me I was unable to dissect it to see more details.

Suva: One specimen collected on *Hibiscus* sp., found at the quarantine station Washington, D.C., No. 63-25628, together with *Scapheremaeus bicornutus* n. sp.

#### Microzetoidea BALOGH, 1961

*Microzetes auxiliaris* Grdjn. var. *pachyseta* n. var.; fig. 35.

Length about 0.175 mm. Colour light brown.

*Microzetes auxiliaris* Grandjean, 1936, p. 138, figs. 1-4.

The specimen from the Fiji Islands differs from the type by having longer and considerably thicker interlamellar hairs. The latter meet in front of the rostrum in a big curve. The spine-shaped lamellar hair is much thinner than shown by GRANDJEAN and the secondary bristles are better developed and reach for most of their length beyond the tip of the rostrum. The space between the lamellae is broader. Due to dirt, I could not show the harpoon-like structure between the lamellae.

Corolevu: One specimen in dead leaves on a slope above the mangrove.

#### Pelopoidea BALOGH, 1963

*Pelops monodactylus* Hammer.

— — — — —, 1966, p. 97, fig. 128.

Suva: Three specimens in dead leaves on the floor of the rain forest.

#### Oribatelloidea WOOLLEY, 1956

*Lamellobates palustris* Hammer.

— — — — —, 1958, p. 100, fig. 124.

Corolevu: A few specimens in stiff, green grass in a "meadow" with pasturing cattle near a river.

*Oribatella schoutedeni* Balogh; fig. 36.

*Oribatella schoutedeni* Balogh 1959a, p. 106, figs. 50-51, West Africa.

Length about 0.28 mm. Colour light brown.

The specimens from the Fiji Islands agree extremely well with BALOGH's description, except that p3 has not been observed in the specimens from the Fiji Islands.

As stated by BALOGH there is only one adanal hair, viz. ad1, and one anal hair, an1, fig. 36a. Genus I and Femur II with a strong tooth ventrally, fig. 36b, c. Genu II has a long stiff spine. Tarsi monodactylous.

Corolevu: Two specimens in rotting leaves.

## Ceratozetoidea BALOGH, 1961

*Punctizetes* n. gen.

As the name indicates, the whole surface of this mite, both the dorsal and the ventral side, is set with small luminous dots. Lamellae present. Translamella indicated. Rostral and lamellar hairs long, interlamellar hairs short and brush-shaped. Pseudostigmatic organs clavate. Areae porosae hardly discernible. 10 pairs of notogastral hairs. Four pairs of genital hairs, one pair of aggenital, two pairs of anal, and three pairs of adanal hairs. Monodactylous.

*Punctizetes penicillifer* n. sp.; fig. 37.

Length about 0.28 mm. Colour light brown.

Propodosoma. The propodosoma is narrow and short as compared with the hysterosoma. The rostrum is triangular and pointed. The rostral hairs, which are situated laterally, are thin and barbed, and reach for half their length beyond the tip of the rostrum. The lamellae, which in a dorsal view cover the sides of the propodosoma, taper only slightly towards their tip. Their medial borders, which are parallel, have a strong thickening, which anteriorly ends in a kind of a cuspis, which, however, does not reach beyond the outer border of the lamellae. From the base of this "cuspis" a hardly discernible translamellar line runs medially. The lamellar hairs are considerably longer than their mutual distance, rather thin, and barbed. The interlamellar hairs are short and thick brushes (hence the specific name). The pseudostigmata are almost hidden below the anterior border of the hysterosoma. They open forwards and outwards, and they have a rounded lobe on their posterior border. The pseudostigmatic organs are thick, coarse clubs, which are set with spiny bristles, longest at the tip of the head.

Hysterosoma. The anterior border is arched and reaches halfway between the interlamellar hairs and the anterior border of the pseudostigmata. The anterior border of the pteromorphae is strongly withdrawing, the whole anterior border forming one long and low arch. The distal margin of the pteromorphae are bent centrally. The areae porosae are barely discernible, and only Aa and A3 could be seen. There are probably 10 pairs of notogastral hairs, although nine pairs only could be seen, p3 being absent or impossible for me to see. They are arranged a little irregularly and they are extremely difficult to see. The whole surface is decorated with irregularly scattered, small bright dots.

Ventral side, fig. 37 a. The sternal plate is narrow anteriorly widening into a triangular plate in front of the genital field. Apodemata II are well developed and the sejugal apodemata are a little longer than the former. Apodemata III do not quite reach the triangular sternal plate. There are four pairs of fine genital hairs, which are situated in a longitudinal row in the middle of the plates. One pair of aggenital hairs, two pairs of anal hairs, and three pairs of adanal hairs, all are short and thin. Ad3 is preanal, ad2 is situated off the latero-posterior corner and ad1 is postanal, but located almost behind the lateral sides of the anal field. The ventral side, apart from the triangular sternal

plate, is covered with bright dots, which are bigger than those of the dorsal side, and which on the ventral plate are arranged more or less in undulating, longitudinal rows. Legs. The legs are short. All the femora are decorated with dots.

Femur II has a broad ventral keel. All the tarsi are monodactylous.

Suva: One specimen in a thin layer of mosses on a tree.

#### Galumnoidea BALOGH, 1961

*Galumna flabellifera* Hammer.

— — —, 1958, p. 93, fig. 116.

Corolevu: A few specimens in dead leaves under trees on a slope down to the mangrove.

*Galumna fordi* (Jacot).

*Zetes fordi* Jacot, 1934, p. 73, Pl. 11, figs. 118–120.

Corolevu: One specimen in a "meadow" with stiff, green grass and pasturing cattle near a river.

*Galumna Samoënsis* Jacot; fig. 38.

— — —, 1927, p. 85, figs. 1–12.

Suva: One specimen in thick moss on a mouldering tree trunk in the rain forest.

*Pergalumna corolevuensis* n. sp.; fig. 39.

Length about 0.73 mm. Colour reddish brown.

The propodosoma and the hysterosoma are not separated by a dorso-sejugal line, only by a difference in the colour, the propodosoma being light brown, the hysterosoma reddish brown. The propodosoma is slightly pointed. The rostral hairs, which are inserted ventrally, are moderately long and barbed. The lamellar hairs, which are situated on a small edge at some distance in front of the lamellar tip, are longer than the rostral hairs, and distally barbed. Interlamellar hairs are absent. The pseudostigmatic organs are very thin, rather long, feathered hairs. The area porosa dorso-sejugal is oval with a narrow spur to the pseudostigma. There is no sculpture of any kind on the propodosoma. The pteromorphae have a brown pattern with finger-like spots radiating from the medial border towards the distal border, at the same time dissolving into a dense pattern of less dark patches. The pattern is darkest in the posterior half of the pteromorphae. The area porosa Aa is removed from the pteromorpha by a distance similar to its own length. It is oval, perhaps a little broader medially. A1 is almost round, a little more than half as big as Aa, A2 is about half as big as A1, and A3 is elongate. Notogastral hairs are absent. Their pores are located as shown in fig. 39.

The ventral side is shown in fig. 39a. The genital and the anal fields are separated by a distance as long as the length of the anal field. There are six pairs of genital hairs. Iad is short and is located between ad3 and the side of the anal field. Ad1 and

ad2 are postanal. The hairs of the ventral side are moderately long and smooth. All the tarsi have three claws, the middle of which is twice as thick as the lateral ones. Corolevu: Three specimens in dry leaves on a slope overgrown with mangrove.

*Trichogalumna duoporosa* n. sp.; fig. 40.

Length about 0.57 mm. Colour light brown.

The dorso-sejugal line is absent. The propodosoma is triangular with a slightly pointed rostrum. The rostral hairs, which are inserted ventrally, reach the tip of the rostrum. The lamellar hairs are situated medially to the line L at a good distance in front of the lamellar tip. The rostral and the lamellar hairs are approximately equally long. The rostrum is at a lower level than the area in which the lamellar hairs are situated. The interlamellar hairs, which are erect, are shorter than the lamellar hairs. At their base there is a pore besides the hair pore. The pseudostigmatic organs are flabelliform, the head pointing distally. It is set with short, dark scales, fig. 40a.

The pteromorphae are a yellowish colour and are decorated with slightly darker, finger-like spots, radiating towards the distal border. Along the anterior margin of the pteromorphae there is a yellowish-greyish border, which is separated from the posteriorly situated part of the pteromorpha by a light line (shown by a broken line). All the notogastral hairs are present, but extremely small. Their pore is double. There are two areas porosae adalares (hence the specific name). The anterior one is situated near the medial border of the pteromorpha, the other, which is a little bigger and a little irregular in shape, at a right angle to the medial margin of the pteromorpha. A1 is irregular, too, with a crack at its medial side. A2 is almost as big as A1, and A3 is twice to three times as long. Fig. 40b shows the main features of the ventral side. There are six pairs of genital hairs. All the hairs of the ventral side are very small. All the claws are tridactylous, the middlemost being more than twice as thick as the lateral ones.

Suva: One specimen in dry leaves on the forest floor.

*Trichogalumna taeniata* n. sp.; fig. 41.

Length about 0.295 mm. Colour yellowish to light brown.

There is no dorso-sejugal line, and there is not even any difference in the colour of the propodosoma and that of the hysterosoma. The rostrum is broadly rounded. The rostral hairs are absent. The lamellar hairs are very thin and moderately long, the interlamellar hairs are barely discernible. Behind the narrow area porosa dorso-sejugalis there is a greyish band (taenia), which continues backwards along the median border of the pteromorpha (hence the specific name).

The pseudostigmatic organ consists of a flat, greyish disk, which is broadest distally, and a long thin stalk.

The pteromorphae are yellowish and the pattern inconspicuous. The fissure is broad, and the hair ta is barely discernible. The area porosa adalaris, Aa is broadly oval and is situated close to the pteromorpha, in a longitudinal direction. A1 is round,

A2 smaller than A1, and A3 as big as A1. The notogastral hair pores are not double as in the preceding species, and the hairs are so minute that I cannot see all of them with certainty. Between the hairs two pores behind each other can be seen, the posterior one being the most distinct.

Fig. 41 a shows the main features of the ventral side, which is a light colour. There are six pairs of genital hair pores. No hairs can be seen on the ventral side. Iad is located close to the side of the anal field. Behind the anal field there is an oblong area porosa postanal. All the legs are tridactylous, the lateral claws being very thin. Suva: Four specimens in moist moss and dead leaves in the rain forest.

#### Oribatuloidea WOOLLEY, 1956

?*Xylobates monodactylus* (Haller); fig. 42.

Length about 0.43 mm. Colour light brown.

As I am not completely sure that the present species represents *Xylobates monodactylus* (Haller) I have illustrated it. It corresponds fairly well to a drawing which I have made of *Protoribates monodactylus* Haller from BERLESE's collection (slide number 74/16), from Columbia, North America. The latter, however, is in a very bad condition, and details could not be studied. Fig. 42a shows the ventral side.

Suva: One specimen in dead leaves on the forest floor of the rain forest.

*Xylobates triangularis* n. sp.; fig. 43.

Length about 0.53 mm. Colour curryish-yellow to light brown. The lamellae light brown.

Propodosoma. The rostrum is truncate, but its middle is prolonged as a short rounded snout on either side of which the short and thin rostral hairs are situated. They just reach beyond the tip of the snout. The lamellar hairs, which are situated at some distance medially to the end of the lamellae, are not much longer than the rostral hairs and reach the base of the latter. Behind their base there is a small dark spot. The lamellae are broad proximally, tapering towards the tip. In their whole length they cover the sides of the propodosoma. Their medial border apparently is at a lower level than the lateral border. The interlamellar hairs are distinctly barbed. They are situated close to the medial border of the lamellae. They are erect and thicker and longer than the lamellar hairs. The pseudostigmatic organs have a thin stalk, which widens into a flat head. The stalk is set with short bristles for most of its length on its anterior border, the bristles becoming stronger distally towards the head, on the outer border of which the distance between the bristles is equal to their length, fig. 43a. The pseudostigmatic organs reach by half their length beyond the latero-anterior corner of the pteromorphae.

Hysterosoma. The anterior border of the hysterosoma is slightly arched. The anterior borders of the pteromorphae have a deep incision laterally to the pseudostigma. The pteromorphae are triangular (hence the specific name), being short with a good part

bent ventrally. There are 10 pairs of very small notogastral hairs. Ms is situated closely behind A1, r2 is located between A2 and r1, which is different from its position in *X. monodactylus*, where r2 is situated immediately behind A2. The distance r1-r1 is a little shorter than p1-p1. The hair pores are bright with a greyish spot round their bases. The adanal hairs are so short, that they cannot be seen in a dorsal view, as for instance in the preceding species.

Ventral side. The ventral side does not differ much from that of *X. monodactylus*. All the hairs are very short. Ad2 is located a little more laterally than in *X. monodactylus*.

Legs. Tibia I with a short distal process. Tarsus I with a long, thin solenidion and a short thick one. Famulus hooked. Femur II has a broad ventral keel. There are no spine-shaped hairs on the legs. Monodactylous.

Corolevu: Two individuals in thin moss on a tree root, on a slope above the mangrove.

*Xylobates capucinus* (Berlese).

*Protoribates capucinus* Berlese, 1908, p. 2.

— — — — —, Hammer 1961, p. 108, fig. 103.

Corolevu: A few individuals in dead leaves on a slope above the mangrove.

*Xylobates seminudus* n. sp.; fig. 44.

Length about 0.57 mm. Colour light brown.

Propodosoma. The tip of the rostrum is rounded. The rostral hairs, which are situated on the dorsal surface, but far laterally, are distinctly unilaterally barbed, and they are as long as their mutual distance. The lamellae are broad and located laterally. There is a line, not a real translamella, between the tips of the lamellae. The lamellar hairs are barbed and as long as their mutual distance. The same is the case with the interlamellar hairs. On the outer border of the pseudostigma there is a big, rounded lobe. The pseudostigmatic organ has a long, thin stalk and a lanceolate head, both of which are set with long bristles on their outer or anterior border. The stalk is bare in its proximal half.

Hysterosoma. The anterior border is straight, and the anterior border of the pteromorphae is straight, too, forming a right angle to the almost parallel sides of the pteromorphae. The posterior end is broad and rounded. The pteromorphae are narrow and reach posteriorly as far as im. Their distal margin is bent ventrally. They are mobile. There are 10 pairs of bright notogastral hair pores, the hairs being absent from the dorsum, but present on the ventral side (hence the name). The pores are situated as shown in fig. 44. The distance r1-r1 is considerably shorter than p1-p1. P3-p2 is very long.

Ventral side. Epimeres I and II from the two sides are separated by an undulating sternal line, fig. 44 a. Apodemata II are short, the sejugal apodemata and Apodemata III long. The two latter meet at the anterior border of the genital field as in *Schelorbates*. The hairs of the ventral side are well developed. There are five pairs of genital



hairs, one pair of aggenital hairs, three pairs of adanal hairs, and two pairs of anal hairs. Ad3 is located a little in front of the latero-anterior corner of the anal field, ad2 off the latero-posterior corner, and ad1 is postanal. The two latter are very thin, longer than ad3, and they reach beyond the posterior border of the hysterosoma. The distance ad1-ad2 is shorter than the hairs in question. All the femora are broad and have a ventral keel. Tibia IV with a dorsal, distal tip. Many of the hairs of the legs are spine-shaped. All the tarsi have three claws, the middle one being much stronger than the lateral ones.

Corolevu: Two specimens in dead dry leaves on a slope above the mangrove.

?*Xylobates sinlimes* n. sp.: fig. 45.

Length about 0.34 mm. Colour yellowish to light brown.

Propodosoma. The propodosoma and the hysterosoma are not separated (*sin limes*) and it should probably be established as a new genus although its similarity to *Xylobates* is very great. The rostrum is rounded, the rostral hairs shorter than their mutual distance. The lamellae are broad, their tips rounded at the outer corners. The lamellar hairs absent or very short, their pores are distinct. The interlamellar hairs are erect and for that reason they appear short. The pseudostigmatic organ has a long stalk, which is equally thick throughout. On its outer or anterior border it is set with about 18–20 rather long, flexible, and smooth branches.

Hysterosoma. There is no anterior border on the hysterosoma. The anterior border of the pteromorpha is arched, its distal tip long and triangular. It is bent ventrally. The pteromorphae are short and reach posteriorly only as far as the hair te. They are mobile. There are 10 pairs of notogastral hairs, which are of moderate length and arranged as shown in fig. 45. The distances ti-ti, ms-ms, and r2-r2 are approximately equally long, r1-r1 and p1-p1 a little shorter. They are situated a little asymmetrically. Ti, ms, r2, r1, and p1 are situated in an almost longitudinal line. In *X. capucinus* r2 is outside this line (cp. HAMMER, 1961, fig. 103). Aa is round and much bigger than the others, which are equally big. Im is located rather medially and much farther anteriorly than is usually the case.

Ventral side. The sternal plate is broad and faintly chitinized, fig. 45a. The apodemata II are short. The sejugal apodemata and Apodemata III are long and meet in front of the genital field. The epimeric hairs 1a, 1b, 2a, and 3a are short, thick, and bushy. The remaining hairs are ordinary and thin. There are five pairs of genital hairs, the anterior one of which is longer than the others. One pair of barely discernible aggenital hairs. Two pairs of anal hairs and three pairs of adanal hairs. Ad3 is situated at some distance in front of the anal field (the two hairs at a different distance), their mutual distance is equal to the width of the field. Ad2 is located off the middle of the side of the anal field, and ad1 is postanal. The distance ad1-ad1 is almost the same as ad1-ad2. Iad is long and parallel to the side of the field, off ad2. The hairs of the ventral plate are ordinary thin setae.

Legs. Femur II has a broad ventral keel, which in a dorsal view appears as a big

projecting tooth. Femur III has a narrower keel. All the tarsi are monodactylous. Suva: One specimen in thin moist moss on a mouldering tree trunk in the rain forest.

*Haplozetes ?quadripilus* (Berl.); fig. 46.

*Protoribates (Protoribates) quadripilus* Berlese, Redia XII, 1916, p. 316.

Length about 0.65 mm. Colour light brown or rather orange-yellow with chestnut brown lamellae and border of the hysterosoma.

BERLESE'S species from Java is 0.50–0.55 mm. long. The species from the Fiji Islands is thus somewhat bigger. As BERLESE'S description is very short and as he has not illustrated his species, it is of course impossible to decide whether the species from the Fiji Islands represents *Protoribates quadripilus*, or is an independent species. The four long hairs, which can be seen on the posterior border, make me believe that they have given the species its name.

Propodosoma. On the tip of the rostrum there is a short, small, rounded snout, fig. 46a. The rostral hairs, which reach by half their length beyond the tip of the rostrum, are barbed and rather thin. The lamellae are brown, broad and strong, inclining and tapering towards the tip. The lamellar hairs are erect, barbed, and longer than their mutual distance. Round their base there is a brown spot. The interlamellar hairs, which are as long as their mutual distance, barbed, and rather thin, are situated close to the lamellae. The pseudostigma has no posterior lobe. The pseudostigmatic organ has a long, thin stalk, which for most of its length is set with tiny bristles on its anterior border. The head has a rounded anterior border, a more or less straight posterior border and it ends in a thin tip, fig. 46b. It is set with coarse bristles in 2–3 longitudinal rows.

Hysterosoma. The anterior border is almost straight. Behind the pseudostigma on the anterior border of the pteromorpha there is a rounded lobe, which is separated from the latero-anterior border by a deep incision. The hysterosoma is broadest across im, and narrowest behind the anterior border. The pteromorphae are mobile. Their lateral border is bent ventrally. There are 10 pairs of short, thin, equally long notogastral hairs. The hairs are situated at the end of a long pore, fig. 46c. There are four pairs of sacculi. Faint pits can be seen along the sides of the hysterosoma. Behind the posterior border four long hairs project. They represent ad1 and ad2.

Ventral side. The sternal plate is faintly chitinized, fig. 46d. Apodemata II and III are very short. The sejugal apodemata are long and reach the anterior border of the genital field. The epimeric hairs are moderately long and smooth. 3a are situated close to the anterior margin of the genital field. There are five pairs of genital hairs, two pairs of anal hairs, which are directed posteriorly and then forwards. They are as long as the width of an anal plate. Ad3 is preanal and is located at a short distance in front of the latero-anterior corner of the anal field. Ad2 is situated off the latero-posterior corner and ad1 is postanal. Ad1 is longer than ad2, and the latter is longer than ad3. They are all very thin and a little uneven. Iad is parallel to the latero-anterior border and very close to the latter. Faint pits can be seen on the lateral parts

of the ventral plate, also on the anal plates. Between the pits there is a dense punctation. Legs. Femur II has a ventral keel with a long feathered hair. All the tarsi are tridactylous, the lateral claws being much thinner than the middle one.

There is some difference between the two specimens found. In the specimen not described the lamellar hairs are situated at a short distance medially to the tip of the lamellae. Besides, the interlamellar hairs are removed a little from the border of the lamellae. On the ventral keel of Femur II there are three long, feathered hairs, on Femur I two similar hairs.

Corolevu: Two specimens in dead leaves on a slope above the mangrove.

*Maculobates ventroacutus* n. sp.; fig. 47.

Length about 0.28 mm. Colour light brown.

Propodosoma. The rostrum is pointed and the long barbed rostral hairs reach by only half their length beyond the tip of the rostrum. The lamellar hairs reach beyond the tip of the rostral hairs. They are situated immediately behind the tip of the lamella. Fig. 47a shows that the lamella is faintly bent at about one third from its tip. The interlamellar hairs are shorter than the rostral and the lamellar hairs, and barbed. This species can easily be distinguished by its pseudostigmatic organ with the long stalk, which is not hidden below the anterior border of the hysterosoma. The head has parallel sides and is truncate at the tip.

Hysterosoma. The hysterosoma is very broad in its anterior half. The middle of the anterior border is arched, the latero-anterior borders are slightly withdrawn. The distal margin of the pteromorphae are bent ventrally. The hairs are arranged as shown in fig. 47. The distance r1-r1 is shorter than p1-p1.

Ventral side, fig. 47b. In front of the genital field there is a curved chitinized band, which ends anteriorly in a long pointed tip at the base of which the hairs 2a and 3a are situated close together. The tip lies within the faintly chitinized and much broader sternal plate. This pointed tip on the ventral side has given this species its name, *ventroacutus*. There is nothing characteristic in the position or in the number of the hairs of the ventral plate. The base of Leg III has a peculiar structure round its base. It looks like a collar issuing from the posterior border of Tectop. II, but I cannot interpret it. The tarsi are monodactylous.

Corolevu: A few specimens in dead leaves on a slope above the mangrove.

Suva: Two individuals in moist moss and dead leaves on the forest floor.

?*Maculobates dubius* n. sp.; fig. 48.

Length about 0.23 mm. Colour light brown.

Propodosoma. The rostrum is slightly pointed. Both the rostral hairs and the lamellar hairs are very long and barbed. The interlamellar hairs, which are erect, appear much shorter than they are, fig. 48a. The lamella is much complicated with an outer, strongly chitinized border (or an accessory ridge?), which runs to the lamellar hair, and a more faintly chitinized medial and broader part, in the border of which the

interlamellar hair is displaced. The medial part has a more strongly chitinized lateral border that probably represents the real lamella, which is attached to the pseudostigma. This species differs from *Maculobates* in the lack of a line from the pseudostigma to the interlamellar hair, forming the latero-anterior borderline of the hysterosoma. A prolamella and an interlamellar ridge are present. The pseudostigmatic organs have round disk-shaped, rather big clubs on a proportionately long stalk. The pseudostigma is only half hidden below the anterior border of the hysterosoma. Hysterosoma. A very slight difference in the colour of the integument only indicates the anterior border of the hysterosoma. The latter is not characteristic in any way. The 10 pairs of notogastral hairs are short and thin. The distance r1-r1 is equal to p1-p1. Across the pteromorphae there is a curved light line, but the pteromorphae do not seem to be hinged.

Ventral side, fig. 48b. The sternal plate is broad between Apodemata II and between the sejugal apodemata with a deep incurvation off Epimeres II. The hairs 2a are situated almost halfway between Apodemata II and the sejugal apodemata, 3a immediately in front of the genital plates, both pairs within a slightly darker chitinous area. There are three pairs of genital hairs. The aggenital hairs, adanal hairs, and anal hairs as in *Maculobates*. On the ventral plate on either side of the anal field there are two indistinct light furrows.

Femur II has a ventral keel. All tarsi are monodactylous.

Suva: One specimen in moist moss and dead leaves in the rain forest.

*Incabates medius* n. sp.; fig. 49.

Length about 0.305 mm. Colour greyish light brown.

*Incabates medius* is not so broad as *I. nudus* Ham., 1961, p. 108, fig. 104 (0.36 mm. long), but it is broader than *I. angustus* Ham., 1966, p. 43, fig. 57 (0.35 mm. long), and it is smaller than both of them. It is approximately twice as long as broad across im. *I. angustus* is almost two and a quarter times as long as broad across im. It seems to be more like *I. angustus* with its convex anterior border of the hysterosoma than like *I. nudus*, which has an almost straight anterior border. Its latero-anterior border of the hysterosoma is straight, in *I. angustus* it is withdrawn. The pteromorphae are narrow and their distal border is not bent ventrally as in *I. angustus*. Across the pteromorphae there is a bright, curved line. P3 and r3 are situated on a transverse line, in *I. angustus* p3 is located much farther anteriorly. As mentioned above, the three species are very similar and they differ only in a few characteristics. The ventral side is shown in fig. 49a. It is like the ventral side of *I. angustus* (fig. 57a).

Corolevu: Only two specimens were found in dead leaves above the mangrove.

?*Scheloribates praeincisus* (Berl.) var. *interruptus* Berl.; fig. 50.

*Protoribates (Scheloribates) praeincisus* var. *interruptus* Berl. 1916, p. 315. Redia XII.

*Schleoribates praeincisus* var. *interruptus*, Willm. 1931, p. 273, fig. 45.

Length about 0.53 mm. Colour clear brown.

The specimens from the Fiji Islands agree with the description by WILLMANN, apart from their slightly smaller size (WILLMANN 0.57 mm.), and the appearance of the outer border of the pseudostigma, which has a strong tooth (according to WILLMANN: a strong, rounded border). Neither BERLESE nor WILLMANN mentions the notogastral hairs, which are fairly well developed. The pseudostigmatic organs are clavate, rounded distally and set with minute scales in several longitudinal rows. Fig. 50a shows the anterior part of *Sch. praeincisus* var. *interruptus* half in profile, and fig. 50b gives the main features of the ventral side. The tarsi are tridactylous.

Corolevu: Five specimens in a "meadow" with stiff grass and pasturing cattle close to the river.

Suva: A great number in dry leaves in the rain forest.

*Scheloribates praeincisus* (Berlese); fig. 51.

*Protoribates (Protoribates) praeincisus* Berl. Redia VI, p. 384, 1910.

*Protoribates (Scheloribates) praeincisus* Berlese, Sellnick 1925, p. 82, figs. 4–5.

This species seems to vary very much both in size, number of claws, and in several other features, as will appear from the following. According to BERLESE the species is 0.50 mm. long; SELLNICK writes that it varies from 0.319 mm. to 0.462 mm. in length. BERLESE does not mention the number of claws; SELLNICK writes that the tarsi have two claws (one specimen was tridactylous), the stronger being the outer claw on Tarsi I–II, on Tarsi III–IV the stronger is the inner claw. All the specimens from the Fiji Islands are tridactylous. The specimens from the Fiji Islands vary in the length of the body, in the length of the interlamellar hairs, the shape of the pseudostigma, the size of the pseudostigmatic organ, and in a few other characteristics. Figs. 51, 51a and b show three different forms, a being the commonest (0.42 mm. long). Between the tips of the lamellae there is a faint transverse ridge, which is broken in the middle. This ridge can be more or less distinct, in a few cases only so distinct as shown in fig. 51. The pseudostigma has a broad lateral tooth. The head of the pseudostigmatic organ is small. Form b, fig. 51 a, is smaller (0.37 mm. long) and there is no ridge between the tip of the lamellae. Otherwise it has the same appearance as form a apart from minor differences, i.e. the shorter distance p1-p1. Form c, fig. 51 b, which is 0.525 mm. long, differs from a and b by its very long and extremely thin lamellar and interlamellar hairs. The posterior border of the pseudostigma is rounded and the head of the pseudostigmatic organ is considerably larger, the stalk shorter. Medially to r3 there is a round light spot. No notogastral hairs could be seen (in a and b a few hairs on the posterior border can be seen). The variations from the commonest form are so pronounced, that they justify the establishment of a new variety, *Sch. praeincisus* var. *tenuiseta*.

As the V-shaped line between the tips of the lamellae is found in other *Scheloribates* species different from the species so far considered to be BERLESE's *Sch. praeincisus*, it is in reality impossible from the literature to find out what *Sch.*

*praeincisus* looks like. It is apparently a very old species, which in the Pacific area has developed different varieties and (or) forms through millions of years.

Corolevu: All the different forms were found in dead leaves on a slope above the mangrove.

*Schelorbates praeincisus* (Berl.) var. *fijiensis* n. var.; fig. 52.

Length about 0.37 mm. Colour light brown.

This variety has the V-shaped lines between the tips of the lamellae in common with *Sch. praeincisus* and its different forms, which were mentioned above. Its general habitus is so different from *Sch. praeincisus*, that perhaps it would be more correct to establish a new species. However, as it has the *praeincisus* line and we in fact do not know which species the name *praeincisus* covers, it must keep the name *praeincisus* at present.

The hysterosoma is narrow as compared with that of *Sch. praeincisus*, and the latero-anterior border of the hysterosoma is withdrawn. The propodosoma does not differ much from that of *Sch. praeincisus* apart from the pseudostigmatic organs, which are distinctly hairy. Their ventral side is straight, the dorsal side convex and set with short bristles, which can be seen in several longitudinal rows on the surface of the head. The latter ends distally in a tip, fig. 52a. The outer border of the pseudostigma is rounded, without a tooth. The anterior border of the hysterosoma is convex, the latero-anterior borders slightly withdrawn. There are 10 pairs of short and thin notogastral hairs, which are situated as shown in fig. 52. By the presence of notogastral hairs it definitely differs from the forms of *Sch. praeincisus* described above. Fig. 52b shows the main features of the ventral side, which is very similar to the ventral side of *Sch. praeincisus* var. *interruptus*, fig. 50b. All the tarsi are tridactylous.

Corolevu: A few specimens in dead leaves on a slope above the mangrove.

*Schelorbates thermophilus* Ham. var. *corolevuensis*, n. var.; fig. 53.

*Schelorbates thermophilus* Ham., 1961, p. 95, fig. 85.

Length about 0.33 mm. Colour ochreish light brown.

Propodosoma. The rostrum is long and pointed. Both the rostral and the lamellar hairs are long and barbed, the lamellar hairs being the longer. The interlamellar hairs, which are erect and barbed like the former, are, when seen in profile, as long as the lamellar hairs. The head of the pseudostigmatic organ is almost equally broad throughout, slender, and slightly pointed at the tip. The stalk is no longer than the head.

Hysterosoma. The anterior border is arched and reaches beyond the anterior border of the pseudostigmata. The latero-anterior border of the pteromorphae almost forms a right angle. Only a very small part of the distal margin of the pteromorphae is bent ventrally. Across the pteromorphae there is a curved line outside which the pteromorphae are a dirty yellowish-grey colour. The notogastral hairs are very small and they are situated as shown in fig. 53.

Ventral side. Fig. 53a shows the main features of the ventral side. The variety differs from the main form by its smaller size (the main form from Peru is 0.42 mm. long),

by the appearance of the tip of the rostrum, which is not hyaline, and by its much longer lamellar hairs.

Corolevu: One specimen in dry mosses and bark on a tree overgrown with epiphytes.

*Scheloribates fimbriatus* Thor; fig. 54.

— — Sig Thor, 1930, p. 196, figs. 13–14.

Length about 0.655 mm. Colour brown.

The only specimen found agrees well with THOR's description apart from its considerably larger size. SIG THOR's species measures about 0.48 mm. in length. THOR's species was found in a mountain brook about 100 km. south of Tashkent in Turkestan. WILLMANN found *Scheloribates fimbriatus* in Java, but his species differs a little from that of SIG THOR, having a translamellar line as found in *Scheloribates praeincisus* var. *interruptus* Berl., for which reason he established the variety *javensis* (0.51–0.56 mm. long). WILLMANN found it in coconut shells full of water.

The pseudostigmatic organs of this species are so characteristic, fig. 54 a, that there is hardly any doubt that the specimens from the Fiji Islands belong to *Scheloribates fimbriatus* Thor. Neither THOR nor WILLMANN mentions the number of claws. The specimens from Viti Levu are tridactylous. Fig. 54b shows the ventral side. The ventral plate is clear brown.

Corolevu: Three specimens in a kind of "meadow" with stiff, green grass near a river.

*Trischeloribates* m. gen.

Propodosoma and hysterosoma separated dorsally. Pteromorphae long with distal border bent ventrally. Rostral hairs on ridges separated from the rostrum by a deep incision, rostrum thus being tripartite. Lamellae twisted. 10 pairs of notogastral hairs. Varying number of sacculi. Three pairs of genital hairs, no aggenital hairs. Three pairs of adanal hairs. Monodactylous.

*Trischeloribates acutus* n. sp.; fig. 55.

Length about 0.235 mm. Colour yellowish to light brown.

Propodosoma. The tip of the rostrum is very pointed (*acutus*). The rostral hairs are situated just behind the end of a lateral ridge, which almost reaches the tip of the rostrum, but is separated from the latter by a deep incision. The rostral hairs, which are barbed, reach for most of their length beyond the tip of the rostrum. The lamellae, which are almost parallel and situated near the lateral border of the propodosoma, are twisted, the proximal part apparently with an erect keel, the distal part turned laterally. They have a small tip beyond the lamellar hair. The lamellar hairs are barbed and as long as their mutual distance. They reach beyond the tip of the rostrum. The interlamellar hairs, which are shorter than the lamellar hairs, are also barbed. The pseudostigmata are half hidden below the hysterosoma. There is a lobe on their posterior border. The pseudostigmatic organs are clavate, the clubs, when laid bare, being long and narrow with parallel sides, slightly pointed at the tip.

Hysterosoma. The anterior border is convex in the middle, its latero-anterior borders slightly withdrawn. The posterior end is rounded. The hysterosoma is broadest across te. The distal margin of the pteromorphae is bent ventrally. The notogastral hairs, 10 pairs, are very small. R3 and ms are situated on a transverse row. The distance r1-r1 is approximately the same as p1-p1. There are four pairs of small sacculi. The posterior end of the hysterosoma is in one specimen covered by a layer of secretion, as indicated in fig. 55 by a line.

Ventral side, fig. 55a. In front of the genital field there is a shield-shaped sternal plate. Apodemata II are very short, the sejugal apodemata reach the sternal plate. There are only three pairs of genital hairs, viz. one near the anterior border and two in the posterior half. Aggenital hairs are absent. The anal field is very broad. This species apparently has only one pair of anal hairs, the posterior one being missing. Ad3 is preanal, near the anterior border of the field; ad2 is located off the latero-posterior corner, and ad1 is postanal. The distance ad1-ad2 is about half as long as ad1-ad1. Iad is parallel to the sides of the anal field.

Legs. Tibia I with a distal process. Femur II with a short ventral keel. All legs with one claw only.

Suva: Several specimens in dead leaves on the forest floor.

*Trischeloribates rotundus* n. sp.; fig. 56.

Length about 0.23 mm. Colour light brown, darkest at the posterior end of the hysterosoma.

Propodosoma. The rostrum is in this species shaped like a protruding, rounded snout, on either side of which the lateral ridges with the rostral hairs can be seen. The rostral hairs are shorter than in the preceding species and barbed, and the lamellar hairs are shorter, too. The lamellae are like those of the preceding species, except that there is no tip beyond the lamellar hair. The pseudostigmatic organs are clavate, the club being shorter than that of *T. acutus*.

Hysterosoma. The anterior border is not so arched in the middle as in *T. acutus*, and the latero-anterior borders are more straight. The hysterosoma is narrower than that of *T. acutus*, with almost parallel sides. The pteromorphae are smaller, their distal margin is bent slightly ventrally. The 10 pairs of notogastral hairs are situated as in the preceding species. Of the sacculi only Sa and S3 are present. Im is very long, and is situated in front of r3. There are very small and faint pits in the integument; they can be seen best on the lateral parts of the hysterosoma.

Ventral side, fig. 56a. The ventral side differs from that of *T. acutus* by the shape of the sternal plate in front of the genital field. In this species it is a broad plate, which continues as a narrow plate forwards between Epimeres II, becoming only a line between Epimeres I. There are three pairs of genital hairs, no aggenital hairs, two pairs of anal hairs, and three pairs of adanal hairs. They are situated as in the preceding species. Faint pits can be seen also on the ventral plate.

Legs as in the preceding species.



Suva: One specimen together with the preceding species in dead leaves on the forest floor.

*Trischeloribates latus* n. sp.; fig. 57.

Length about 0.285 mm. Colour light brown.

Propodosoma. The propodosoma is in a dorsal view very short and it is a little broader than long. The sides are almost parallel. The rostrum is broadly rounded and prolonged as a snout, which is bent slightly ventral. The rostral hairs, which are situated on short free tips as in the preceding species, are smooth, thin, and approximately as long as their mutual distance. The lamellae, which are about two thirds as long as the propodosoma, are situated along the sides of the propodosoma. They are almost parallel and almost equally broad throughout. Their anterior end has a rounded outer edge. The lamellar hairs are situated on the tip of the lamellae, near the medial side. They are almost as long as the lamellae, smooth, and they reach in a broad curve beyond the tip of the rostrum. Behind the tip of the lamellae a faint transverse line can be seen. The interlamellar hairs, also smooth, are erect and probably as long as the lamellar hairs. Most of the pseudostigmata are hidden under the anterior border of the hysterosoma. On their posterior border there is a rounded lobe. The pseudostigmatic organs are clavate, the head approximately as long as the stalk. The club is set with short, coarse bristles in transverse rows.

Hysterosoma. The anterior border forms a long, low arch, which projects beyond the anterior border of the pseudostigmata. The latero-anterior borders are slightly withdrawn. The sides of the hysterosoma are almost parallel, i.e. the transverse line across r3-r3 is almost equal to a line across te-te. The posterior end is rounded. The pteromorphae are long and reach posteriorly as far as to r3. Their distal border is bent ventrally, at the same time forming a slight incurvation laterally. The 10 pairs of notogastral hairs are thin and moderately long. They are situated as shown in fig. 57. Ti, ms, r2, and r1 are directed medially, the remainder outwards. R3 and ms from the two sides are situated on a transverse line. The distance r1-r1 is equal to p1-p1. The sacculi are indistinct, only Sa and S3 are present. The integument has no sculpture. Ventral side. The ventral side is very similar to that of *T. rotundus*, fig. 57a. There are small differences in the shape of the sternal plate and the length of the hairs. The sculpture consists of very low, light, oblong, and faint pits of different sizes. They are arranged in irregular rows. The pits are present also on the anal plates.

Legs. Femur II with a very broad keel, Femur I with a smaller keel. Fig. 57b and c show Leg I and Leg IV, respectively. They have been drawn in situ and for that reason all the hairs probably are not illustrated. Tibia I has a short distal process. Tarsus I is short and broad. Coxa IV and Femur IV apparently are convex proximally, but I may have interpreted their shape incorrectly. They are very broad as compared with the narrow genus.

Suva: Three specimens in dead leaves and mosses on the forest floor.

*Fijibates* n. gen.

*Fijibates* is in several characteristics similar to *Scheloribates*, but can be distinguished from the latter by the rostral hairs, which are situated rather close together on the dorsal surface of the rostrum. No ridge between the tip of the lamella and the rostral hair. No distinct separation between the propodosoma and the hysterosoma. Apodema III does not reach the frame of the genital field. The posterior genital hairs are situated along the sides of the plates. One claw.

*Fijibates rostratus* n. sp.; fig. 58.

Length about 0.30 mm. long. Colour light brown.

Propodosoma. The rostrum is pointed like a snout on the dorsal side of which the rostral hairs are situated. The rostral hairs are densely barbed and several times longer than their mutual distance. They project for most of their length beyond the tip of the rostrum. The lamellae are like those in *Scheloribates*. The lamellar hairs, which are barbed, reach in a dorsal view as far beyond the tip of the rostrum as the rostral hairs do. The interlamellar hairs, in front of which a short faint line can be seen, are also barbed and they are as long as the lamellar hairs. The pseudostigma has a narrow opening and a rounded posterior border. The pseudostigmatic organ is clavate. The head, which is as long as the stalk, is set with minute bristles. It is pointed distally. When laid bare it is very slender, fig. 58a.

Hysterosoma. The anterior border of the hysterosoma is faintly developed. The middle is convex, the latero-anterior borders straight or slightly withdrawn. The pteromorphae have a faint incurvation of their distal margin, which is clear and transparent. The posterior end of the hysterosoma is rounded. The notogastral hairs, 10 pairs, are short and thin. R1 and r2 from the two sides are situated on a transverse row, r1 farther anteriorly than in *Scheloribates*. Also S3 is removed a good distance from the posterior border, and ip is situated unusually far laterally, immediately behind r2.

Ventral side. Fig. 58b shows the main features of the ventral side, which is similar to that of *Scheloribates*, apart from Apodema III, which is short and does not meet the sejugal apodema in front of the genital field as in *Scheloribates*. There are four pairs of genital hairs, two of which near the anterior margin, two in the posterior half, near the lateral margin. The anal field is much larger than the genital field. There are two anal hairs and three adanal hairs. Ad3 is preanal and is situated immediately in front of the field, ad2 and ad1 are postanal, the distance ad1-ad1 being a little longer than ad1-ad2. Iad is parallel to the lateral side of the anal field, situated at a short distance behind ad3. The solenidia of Tibiae I and II and of Genus I-II are very long and thin. All the tarsi are monodactylous.

Suva: Three specimens in a thin layer of moss on a tree trunk in the rain forest.

*Nesozetes* n. gen.

This genus is characterized by broad, hyaline membranes, which cover the lateral sides of the propodosoma, apparently attached for their whole length to the propodo-

soma. Costulae present. Rostral, lamellar, and interlamellar hairs ordinary. Pseudostigmatic organ spindle-shaped. Propodosoma and hysterosoma separated dorsally. Areae porosae present. 10 pairs of notogastral hairs. Ventral side with a broad sternal plate. All apodemata well developed, except Apodemata IV, and narrow. Four pairs of genital hairs. Aggenital hairs absent. Anal field very large. Two pairs of anal hairs. Only two pairs of adanal hairs. Legs ordinary, with one claw.

*Nesozetes rostropterus* n. sp.; fig. 59.

Length about 0.27 mm. Colour light brown.

Propodosoma. The posterior part is as broad as the anterior border of the hysterosoma and has straight sides. Its anterior half is triangular. The tip of the rostrum is narrow and rounded. The rostral hairs, which are approximately twice as long as their mutual distances, are very thin and smooth. They are situated at the end of a faint ridge. The costulae are broad in the proximal part, tapering towards the end, which is very narrow, forming a small plate, on which the lamellar hair is situated. The latter are long and smooth, and in a dorsal view reach beyond the tips of the rostral hairs. The interlamellar hairs, which are considerably longer than the lamellar hairs, are seen in fig. 59a. They are very thin and situated at a short distance in front of the projecting middle part of the anterior border of the hysterosoma. On either side of the propodosoma a hyaline membrane can be seen. The membranes are apparently attached to the ventral side of the propodosoma for their whole length from the rostral hair to the pseudostigma. As they are hyaline I cannot see where they are attached nor really find out whether they represent real membranes. In fig. 59a they can be seen in profile. They are concave medially, broadest anteriorly, becoming narrow towards the pseudostigma. The latter is half hidden below the anterior border of the hysterosoma. It opens laterally. The pseudostigmatic organ has a small spindle-shaped head on a proportionately long and very thin stalk. Laterally to the costula there is an area porosa.

Hysterosoma. Its anterior border projects almost as far as the base of the interlamellar hairs. The pteromorpha or shoulder is rounded, withdrawn, and has a small edge off to the side. The sides of the hysterosoma are parallel, the posterior end slightly pointed. The 10 pairs of notogastral hairs are thin and short with the exception of the setae p1, which are situated rather close together, and which are twice as long as the others. The hairs are arranged very irregularly and not all the 20 hairs could be seen. Two pairs of areae porosae could be seen only, viz. the areae porosae adalares, Aa and the areae posteriores A2, both small and inconspicuous. Im and ip are distinct.

Ventral side. Fig. 59b shows the main features. The sternal plate is developed in its whole length. In front of the genital field it widens into an irregular plate. Apodemata II, the sejugal apodemata, and Apodemata III are narrow and straight, meeting the sternal plate. Apodemata IV are not developed. There are no hairs on the ventral side and the hair pores are very inconspicuous, for which reason probably not all pores have been illustrated. The genital field is oval. There are four pairs of pores, all

situated in a longitudinal row in the middle of the plates. Aggenital hairs are absent. The anal field is very large with parallel sides. There are two pairs of anal pores, which like the genital pores are located in the middle of the plates. Ad1 is postanal, ad2 approximately off the middle of the side of the field, and ad3 is absent. Iad is parallel to the side of the field, close to the latero-anterior border. On either side of the ventral plate there is a faint line, which runs from Acetabulum IV almost to the posterior end of the anal field.

Legs. All the femora are rather slender. Femora I–II with a strong stiff, erect dorsal seta, fig. 59a, c. Fig. 59c shows a sketch of Leg I drawn in situ and therefore probably not showing all the hairs. All the tarsi are monodactylous. The claw is long and slender. Mouthparts have not been studied.

Suva: Two specimens in flat, wet moss on the bank of a canal in a park.

*Rostrozetes foveolatus* Sellnick; fig. 60.

— — —, 1925, p. 84, figs. 6–7.

— — —, Beck 1965, p. 43, fig. 136.

In the material from the Fiji Islands there are two different forms of this species, partly the typical form, described by SELLNICK from Sumatra, which was found at Corolevu, partly a more or less reticulate form, found at Suva, fig. 60. According to BECK both belong to *R. foveolatus* although they differ much in the pattern of the dorsum. In the latter the alveoles are connected by lines as bright as the alveoles. This form recalls one mentioned by BECK 1965, p. 43, fig. 136, from Madagascar, the reticulate form being present also in the rain forest of Peru.

Corolevu: Two specimens in a “meadow” with stiff, green grass and pasturing cattle, near a river.

Suva: A few specimens in thick moss on a mouldering tree trunk in the rain forest.

*Tuberemaeus bellissimus* n. sp.; fig. 61.

Length about 0.345 mm. Colour clear light brown.

Propodosoma. The rostrum is rounded. The rostral hairs, which are situated laterally, are rather thin and unilaterally feathered. The costulae, which are equally broad throughout, have a faint bending almost in their middle. The lamellar hairs, which are about half as long as the costulae, are barbed. The interlamellar hairs, which are erect, appear short, but they are longer than the lamellar hairs, which can be seen in a lateral view, fig. 61a, and they are not so densely barbed as the lamellar hairs. The pseudostigma is almost hidden below the anterior border of the hysterosoma. The pseudostigmatic organ is a short club, pointed at the tip and set with short spine-like bristles. Exopseudostigmatic hair absent. Between the costulae small, light dots can be seen.

Hysterosoma. The hysterosoma is oval, though slightly narrower anteriorly. On the shoulder there is a small edge. There are 10 pairs of thin, short notogastral hairs. Ta is situated behind the shoulder edge. The distance ti-ti is longer than ms-ms; the

latter is twice as long as r1-r1. The dorsum is beautifully decorated with shining yellow pits and splits, the latter in oblique longitudinal rows, slightly radiating towards the lateral and the posterior borders. The anterior part of the hysterosoma has transverse rows of large pits. Fig. 61 a shows *T. bellissimus* in profile.

Ventral side, fig. 61 b. The epimeres from the two sides are separated by a narrow sternal plate. Apodemata II are narrow and separated by a small plate. In front of the genital field the sternal plate widens into another plate, where the sejugal apodema and Apodema III meet. The genital field has four pairs of small hairs. There is one pair of aggenital hairs. The anal field is much larger than the genital field and has two pairs of small hairs. Ad1 is postanal, ad2 is located at the latero-posterior corner of the anal field, and ad3 is preanal. The ventral side is decorated with splits like the dorsal side, the splits running in different directions.

Legs. All the femora are furnished with pits or splits; there are a few pits also on Tibia IV. The remaining joints are smooth. Tarsi I-II are short, see fig. 61 c, which shows Leg I. All the tarsi are monodactylous, the claw being very strong.

Suva: A great number in thick moss on a mouldering tree trunk in the rain forest.

## General Remarks on the Oribatid Fauna on Viti Levu, the Fiji Islands

A total of 83 species was found in this fairly accidental and very spontaneous collection of oribatids, of which 43 are new to science. 8 new genera have been set up. The other 40 species, which have previously been described, have been listed in the table, where the localities of the finding-places of the species have been indicated above. Australia is not included in the table as it is still almost unknown as regards oribatids. Nor have the various varieties with which a number of species are represented merely locally been considered, apart from *Scheloribates praeincisus* var. *interruptus*, which seems generally distributed over large parts of the Pacific area.

The large number of gaps in the table is presumably in many cases due to our ignorance of the distribution of the oribatids rather than to the absence of the species in the places in question. Some of the 40 species are widely distributed nearly all over the whole earth. This applies to *Hermaniella punctulata*, *Tectocephus velatus*, *Fosse-remus quadripertitus*, *Oppiella nova*, *Hydrozetes lemnae*, *Xylobates monodactylus*, and *Xylobates capucinus*. Most species are mainly distributed in the warmer regions of the southern hemisphere. It is peculiar to find *Allonothrus russeolus* and *Oribatella schoutedeni* in the Fiji Islands as their distribution so far is in West Africa. The fact that again and again we find *Scheloribates praeincisus* in Pacific areas, where it occurs in different varieties, must suggest, as mentioned under that species, that it was able to spread at a very early time, perhaps with flotsam. It is a surprising fact that the Fiji Islands have no more than 12 species in common with New Zealand, which is the largest area of land nearest to the Fiji Islands. It is especially surprising that none

Known species found in the Fiji Islands	Localities											
	New Zealand	Indonesia	Asia		Japan	Hawaii	Pacific area	North America	South America	East Africa	West Africa	Europe
			Thailand	Vietnam								
<i>Eohypochthonius gracilis</i> .....					×			×	×			
<i>Malacoangelia remigera</i> .....	×								×		×	
<i>Hoplophthiracarus kugohi</i> .....					×					×	×	
<i>Hoplophorella cucullata</i> .....			×		×			×	×			
<i>Javacarus kühnelti</i> .....		×										
<i>Masthermannia mamillaris</i> .....												×
<i>Trimalaconothrus crassisetosus</i> .....		×										
<i>Allonothrus russeolus</i> .....											×	
<i>Hermanniella punctulata</i> .....					×		×	×				×
<i>Pedrocortesella sexpilosus</i> .....	×											
<i>Tegezozetes tunicatus</i> .....		×									×	×
<i>Tegeocranellus laevis</i> .....											×	×
<i>Tectocephus velatus</i> .....	×				×		×	×	×			×
<i>Gibbicephus? frondosus</i> .....			×		×							×
<i>Cultroribula lala</i> .....	×		×		×							
<i>Fosseremus quadripertitus</i> .....	×		×		×			×	×			×
<i>Suctobelba variosetosus</i> .....												
<i>Suctobelbida dentata</i> .....	×											
— <i>squamosa</i> .....												
<i>Machuella ventrisetosa</i> .....	×											
<i>Oppiella nova</i> .....	×	×	×		×		×	×	×	×		×
<i>Oppia arcualis</i> .....	×		×	×	×							
<i>Ramusella chulumanuensis</i> .....									×			
<i>Amerioppia Woolleyi</i> .....	×											
<i>Hydrozetes lemnae</i> .....	×						×		×			×
<i>Microzetes auxiliaris</i> .....								×	×			
<i>Pelops monodactylus</i> .....	×											
<i>Lamellobates palustris</i> .....			×							×		
<i>Oribatella schoutedeni</i> .....											×	
<i>Gatumna flabellifera</i> .....			×				×		×			
— <i>fordi</i> .....							×					
— <i>Samoënsis</i> .....								×				
<i>Xylobates monodactylus</i> .....					×			×				×
— <i>capucinus</i> .....								×	×			×
<i>Haplozetes quadripilus</i> .....		×										
<i>Schelorbates praeincisus</i> v. <i>interruptus</i> .....		×					×					
— — .....		×					×					
— <i>thermophilus</i> .....									×			
— <i>fimbriatus</i> .....		×		×		×	×				×	
<i>Rostrozetes foveolatus</i> .....	×	×							×	×	×	

of the many new genera from New Zealand, which are so far endemic to this country, have been found on the Fiji Islands. It would seem as if it has been easier for species from other areas of the Pacific to gain a footing in the Fiji Islands rather than for species from New Zealand.

All in all the oribatid fauna of the Fiji Islands consists of a mixture of species from all areas bordering on the Pacific and from the islands in the Pacific.

It is still too early to suggest how the Fiji Islands have been populated with oribatids, but there is a fair number of species which the Islands have in common with Indonesia, and which perhaps can be explained by a previous connexion by land by way of a large number of islands stretching from towards New Guinea to Indonesia.

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## Explanation of the Figures of Plates I-XXXV

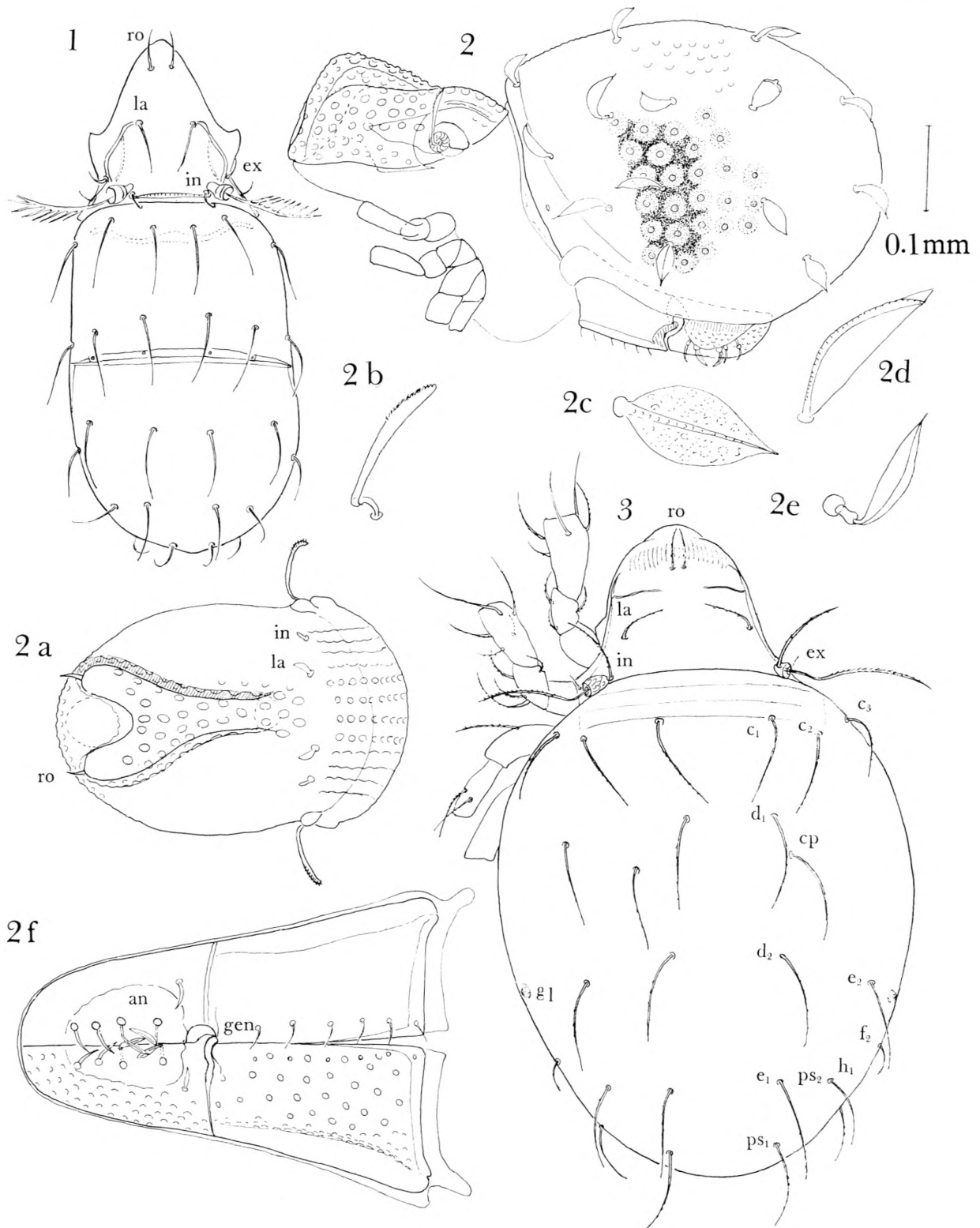
- Fig. 1. *Eohypochthonius gracilis* (Jacot).  
 — 2. *Steganacarus craterifer* n. sp.  
 — 2a. — — aspis.  
 — 2b. — — pseudostigmatic organ.  
 — 2c. — — notogastral hair in dorsal view.  
 — 2d. — — — — in profile.  
 — 2e. — — — — with hair pore.  
 — 2f. — — ano-genital region.  
 — 3. *Epilohmannia multisetosus* n. sp.  
 — 3a. — — ventral side.  
 — 3b. — — genital field with surroundings.  
 — 3c. — — Leg I.  
 — 3d. — — Leg II.  
 — 3e. — — Tibia and Tarsus IV.  
 — 3f. — — maxilla and palp.  
 — 3g. — — mandible.  
 — 3h. — — surroundings of Leg II.  
 — 3i. — — Epimeres I and II.  
 — 4. *Javacarus kühneli* Balogh.  
 — 4a. — — ventral side.  
 — 5. *Cyrthermannia luminosa* n. sp.  
 — 5a. — — notogastral hair.  
 — 5b. — — sculpture of hysterosoma.  
 — 6. *Malaconothrus variosetosus* n. sp.  
 — 6a. — — ventral side.  
 — 7. — — *hexasetosus* n. sp.  
 — 7a. — — in profile.  
 — 7b. — — ventral side.  
 — 8. *Trimalaconothrus crassisetosus* Willm. var. *fijiensis* n. var.  
 — 8a. — — — — ventral side  
 — 9. *Allonothrus russeolus* Wallw.  
 — 10. *Plasmobates hyalinus* n. sp.  
 — 10a. — — ventral side.  
 — 11. *Liodes ramosus* n. sp.  
 — 11a. — — tubercles of hysterosoma, half in profile.  
 — 11b. — — — — from the side.  
 — 11c. — — sculpture of the hysterosoma, schematically.  
 — 11d. — — hair from medial side of Femur I.

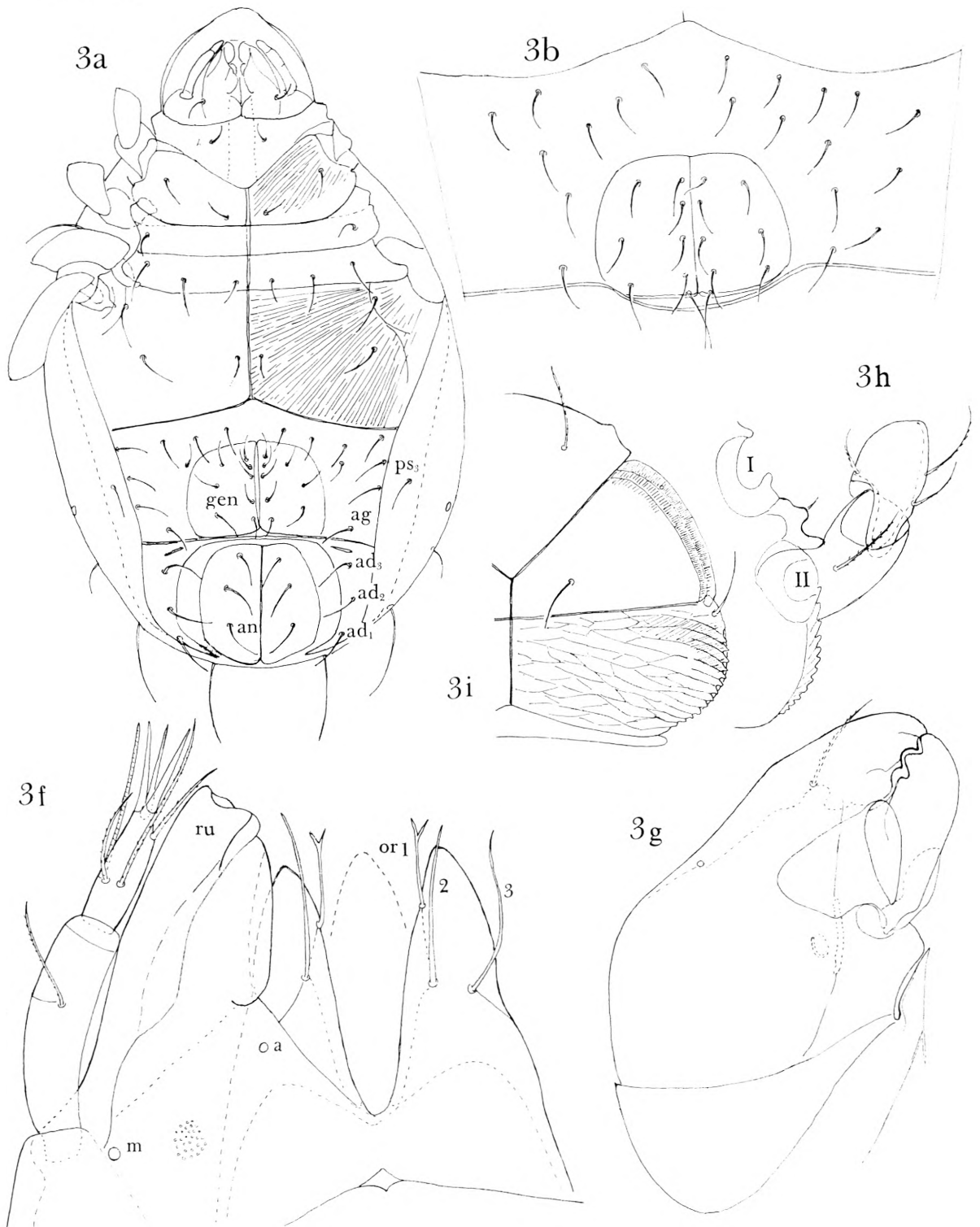
- Fig. 12. *Gibbicepheus? frondosus* (Aoki).
- 12a. — — rostral hair.
  - 12b. — — in profile.
  - 12c. — — adanal hair.
  - 13. *Basilobelba pacifica* n. sp.
  - 13a. — — hysterosoma without tritonymphal scalp.
  - 13b. — — ventral side.
  - 13c. — — hair from Tibia IV (narrow) and from Genu IV (broad).
  - 13d. — — deutonymph.
  - 13e. — — protonymph.
  - 13f. — — larva.
  - 13g. — — hair from Tibia IV (narrow) and from Genu IV (broad), specimen from Corolevu.
  - 13h. — — tritonymphal scalp, specimen from Corolevu.
  - 14. *Eremulus curviseta* n. sp.
  - 15. — *truncatus* n. sp.
  - 16. *Sulcoribula laticuspidata* n. gen. n. sp.
  - 16a. — — ventral side.
  - 17. *Fijirella mollis* n. gen. n. sp.
  - 17a. — — ventral side.
  - 17b. — — Tibia and Tarsus I.
  - 17c. — — infracapitulum.
  - 17d. — — mandible in different views.
  - 17e. — — sketch of palp.
  - 18. *Suctobelba fijiensis* n. sp.
  - 18a. — — ventral side.
  - 19. — *ponticulus* n. sp.
  - 19a. — — rostral teeth.
  - 19b. — — ventral side.
  - 20. *Machuella ventrisetosa* Ham. var. *robusta* n. var.
  - 20a. — — — — ventral side.
  - 21. *Dampfella similis* n. sp.
  - 21a. — — ventral side.
  - 21b. — — mandible.
  - 21c. — — infracapitulum.
  - 21d. — — Leg I.
  - 22. — *dubia* n. sp.
  - 22a. — — ventral side.
  - 22b. — — anterior end in profile showing “cuvette dorsale” (cud), “cuvette ventrale” (cuv), and “cuvette notogaster” (cun).
  - 22c. — — mandible.
  - 22d. — — infracapitulum.
  - 22e. — — Leg I.
  - 22f. — — Leg II.
  - 22g. — — Leg IV.
  - 23. *Dolicheremaeus fijiensis* n. sp.
  - 23a. — — left pseudostigma and surroundings.
  - 23b. — — ventral side.
  - 23c. — — solenidia and famulus, Tarsus I.
  - 24. *Oppia exiguus* n. sp.
  - 24a. — — ventral side.

Fig. 25. *Oppia lanceosetoides* n. sp.

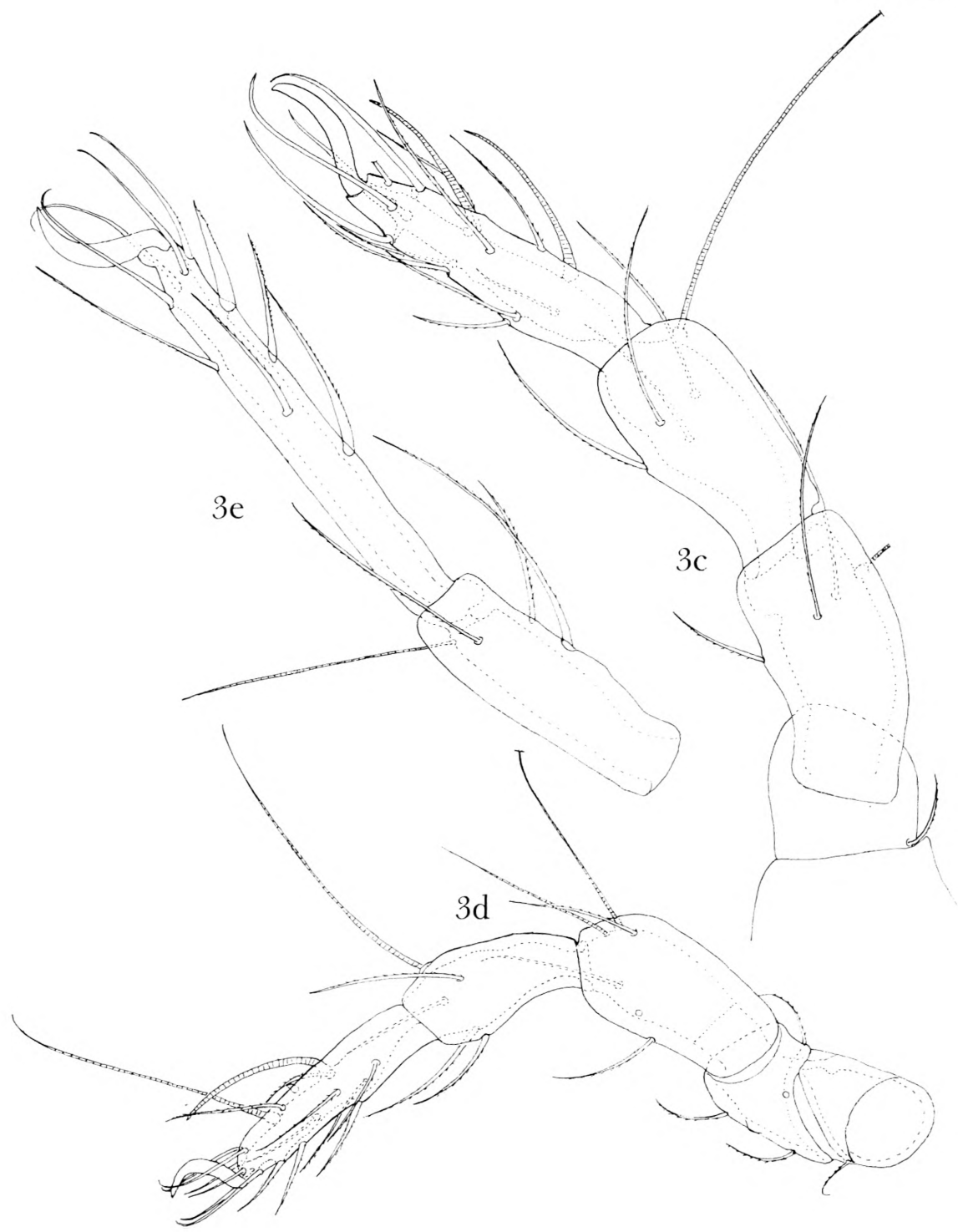
- 25a. — — in profile.
- 25b. — — ventral side.
- 25c. — — notogastral hair.
- 26. *Ramusella chulumaniensis* (Ham.) var. *curtipilus* n. var.
- 26a. — — — — pseudostigmatic organ.
- 26b. — — — — ventral side.
- 27. *Amerioppia Woolleyi* Ham.
- 27a. — — ventral side.
- 28. — *vicina* n. sp.
- 28a. — — ventral side.
- 29. *Globoppia* (*Aeroppia*) *pauciseta* n. sp.
- 29a. — — — ventral side.
- 30. *Cheloppia hyalina* n. gen. n. sp.
- 30a. — — in profile.
- 30b. — — ventral side.
- 31. *Licneremaeus polygonalis* n. sp.
- 31a. — — pseudostigmatic organ.
- 31b. — — ventral side.
- 32. *Scapheremaeus bicornutus* n. sp.
- 33. — *arcuatus* n. sp.
- 34. *Seteremaeus spinosus* n. gen. n. sp.
- 34a. — — ventral side.
- 34b. — — Leg I (drawn in situ).
- 34c. — — Tibia and Tarsus II (drawn in situ).
- 35. *Microzetes auxiliaris* Berl. var. *pachyseta* n. var.
- 36. *Oribatella schoutedeni* Balogh.
- 36a. — — ventral side.
- 36b. — — Leg I.
- 36c. — — Femur and Genu II.
- 37. *Punctizetes penicillifer* n. gen. n. sp.
- 37a. — — ventral side.
- 38. *Galumna Samoënsis* Jacot.
- 39. *Pergalumna corolevuensis* n. sp.
- 39a. — — ventral side.
- 40. *Trichogalumna duoporosa* n. sp.
- 40a. — — ventral side.
- 41. — *taeniata* n. sp.
- 41a. — — ventral side.
- 42. *Xylobates monodactylus* (Haller).
- 42a. — — ventral side.
- 43. — *triangularis* n. sp.
- 44. — *seminudus* n. sp.
- 44a. — — ventral side.
- 45.? — *sinlimes* n. sp.
- 45a.? — — ventral side.
- 46. *Haplozetes ?quadripilus* (Berl.).
- 46a. — — tip of rostrum.
- 46b. — — pseudostigmatic organ.
- 46c. — — hair tip with pore.
- 46d. — — ventral side.

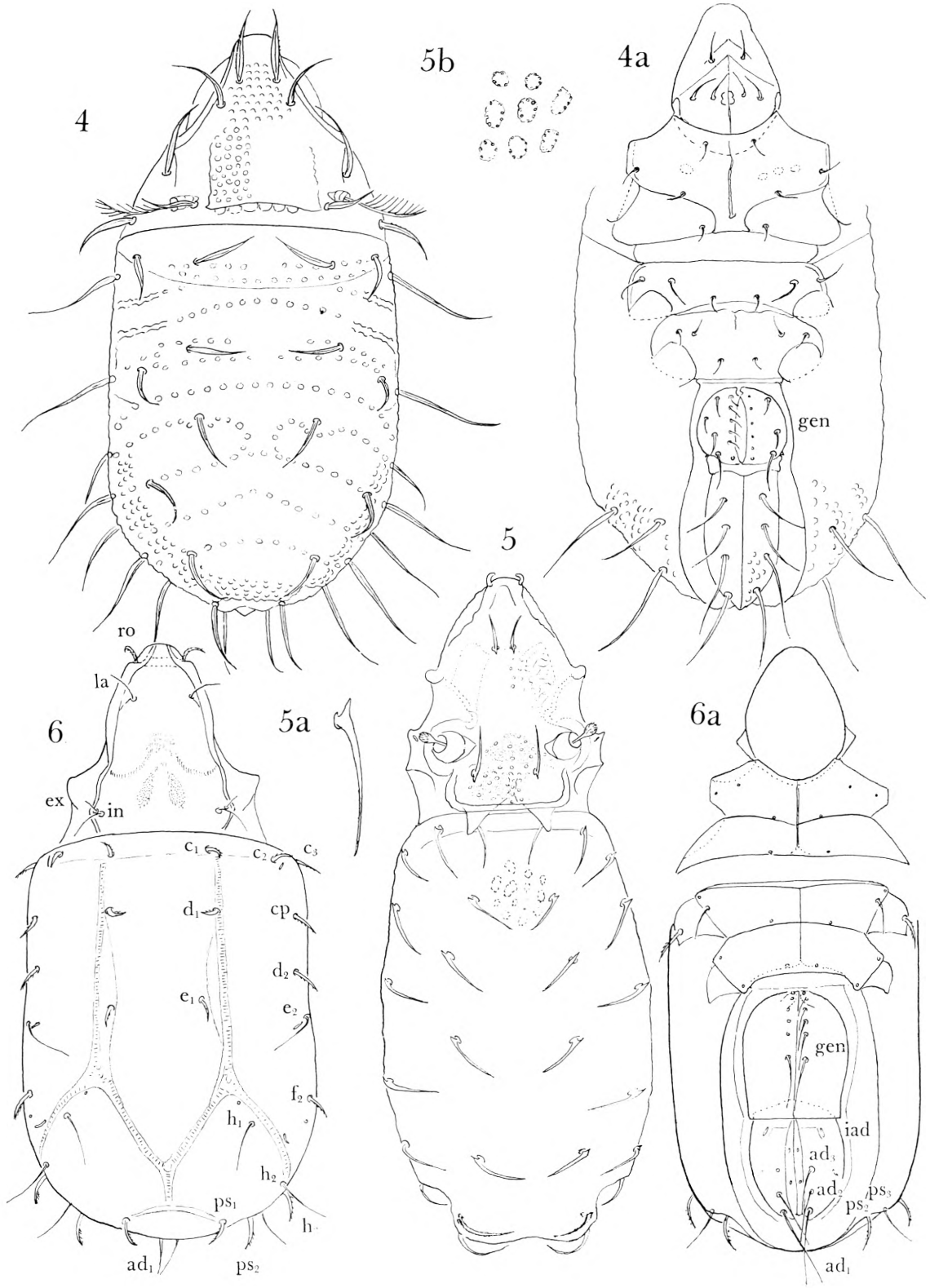
- Fig. 47. *Maculobates ventroacutus* n. sp.  
 - 47a. — — left lamella with surroundings.  
 - 47b. — — ventral side.  
 - 48.? — *dubius* n. sp.  
 - 48a. — — left lamella with surroundings.  
 - 48b. — — ventral side.  
 - 49. *Incabates medius* n. sp.  
 - 49a. — — ventral side.  
 - 50. *Scheloribates? praeincisus* Berl. var. *interruptus* Berl.  
 - 50a. — — — — — propodosoma half in profile.  
 - 50b. — — — — — ventral side.  
 - 51. — — — — — form a.  
 - 51a. — — — — — form b.  
 - 51b. — — — — — form c. (var. *tenuiseta* n. var.).  
 - 52. — — — — — var. *fijiensis* n. var.  
 - 52a. — — — — — pseudostigmatic organ.  
 - 52b. — — — — — ventral side.  
 - 53. — — *thermophilus* Ham. var. *corolevuensis* n. var.  
 - 53a. — — — — — ventral side.  
 - 54. — — *fimbriatus* Thor  
 - 54a. — — — — — pseudostigmatic organ.  
 - 54b. — — — — — ventral side.  
 - 55. *Trischeloribates acutus* n. gen. n. sp.  
 - 55a. — — — — — ventral side.  
 - 56. — — *rotundus* n. sp.  
 - 56a. — — — — — ventral side.  
 - 57. — — *latus* n. sp.  
 - 57a. — — — — — ventral side.  
 - 57b. — — — — — Leg I (drawn in situ).  
 - 57c. — — — — — Leg IV (drawn in situ).  
 - 58. *Fijibates rostratus* n. gen. n. sp.  
 - 58a. — — — — — pseudostigmatic organ.  
 - 58b. — — — — — ventral side.  
 - 59. *Nesozetes rostropterus* n. gen. n. sp.  
 - 59a. — — — — — in profile.  
 - 59b. — — — — — ventral side.  
 - 59c. — — — — — Leg I (drawn in situ).  
 - 60. *Rostrozetes foveolatus* Selln.  
 - 61. *Tuberemaeus bellissimus* n. sp.  
 - 61a. — — — — — in profile.  
 - 61b. — — — — — ventral side.  
 - 61c. — — — — — Leg I.

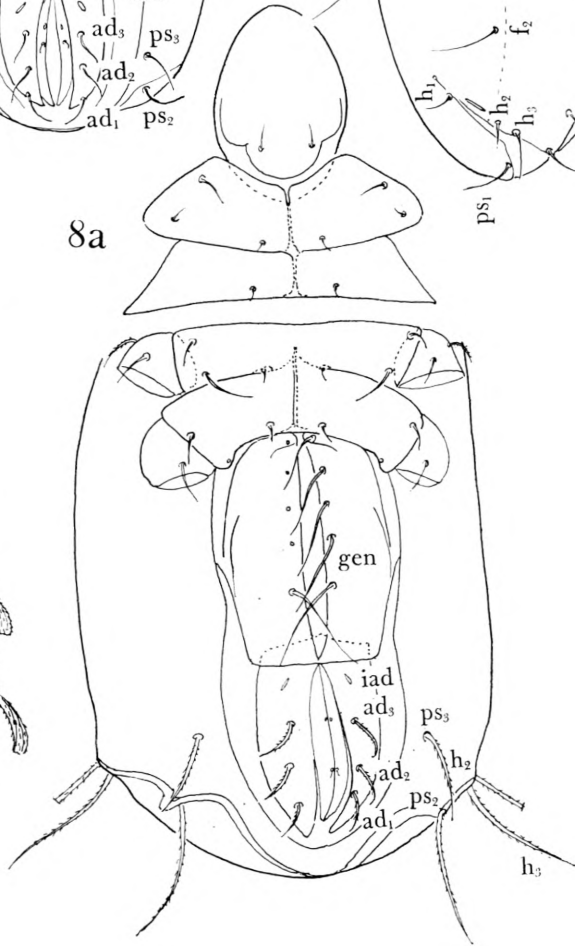
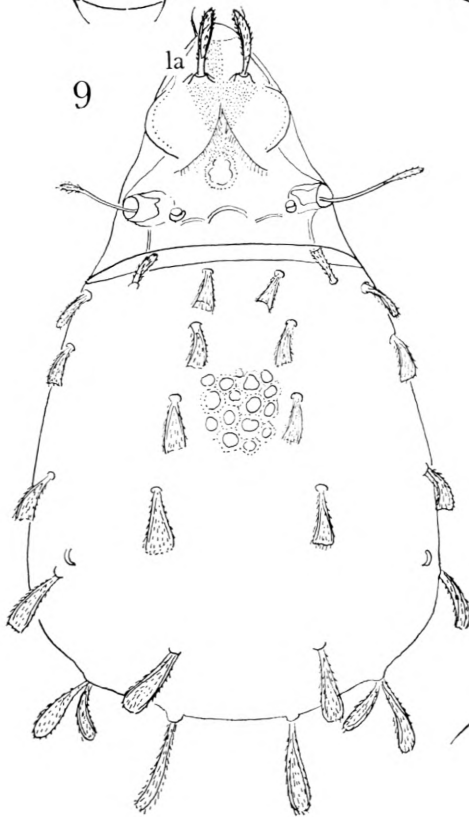
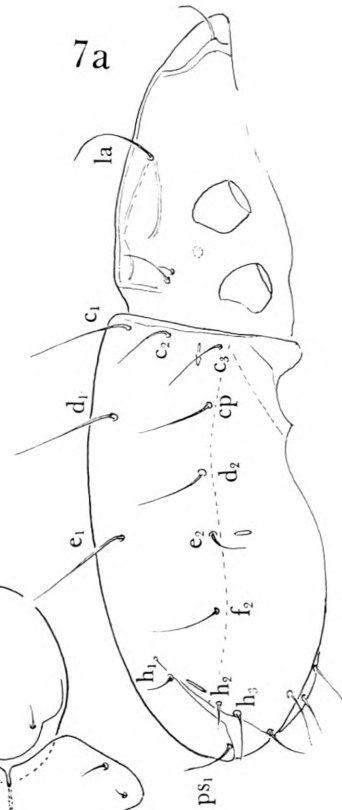
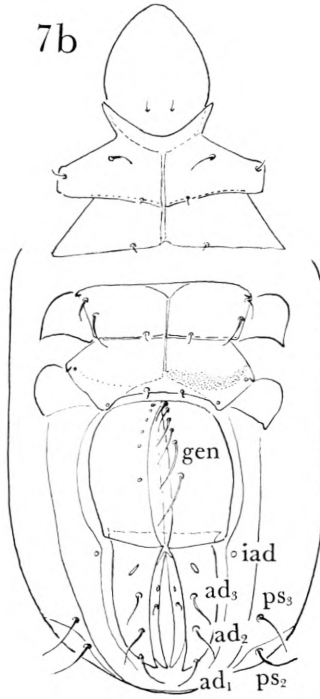
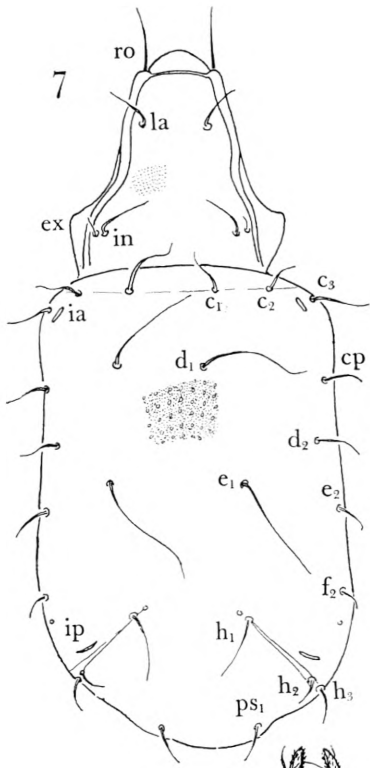


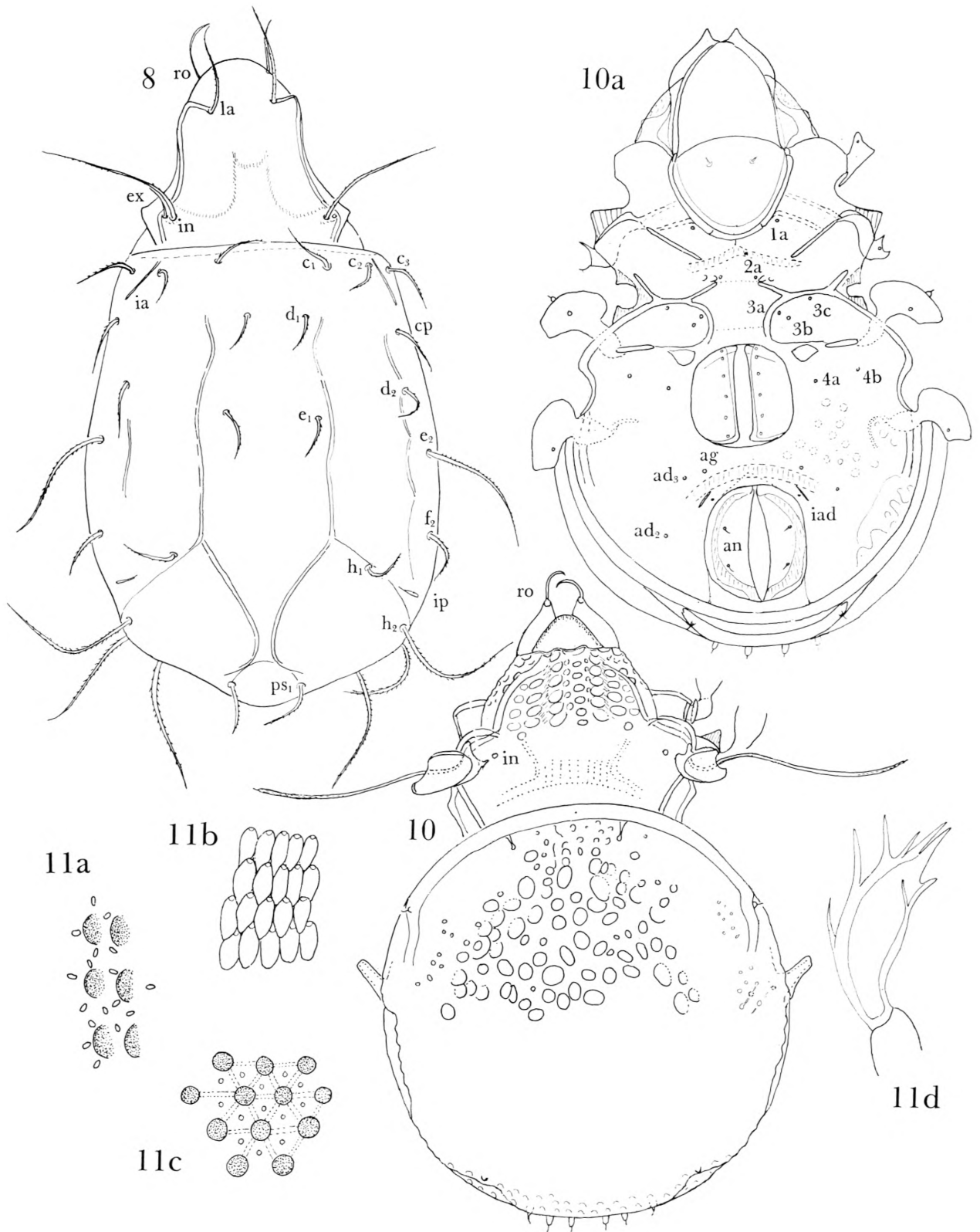


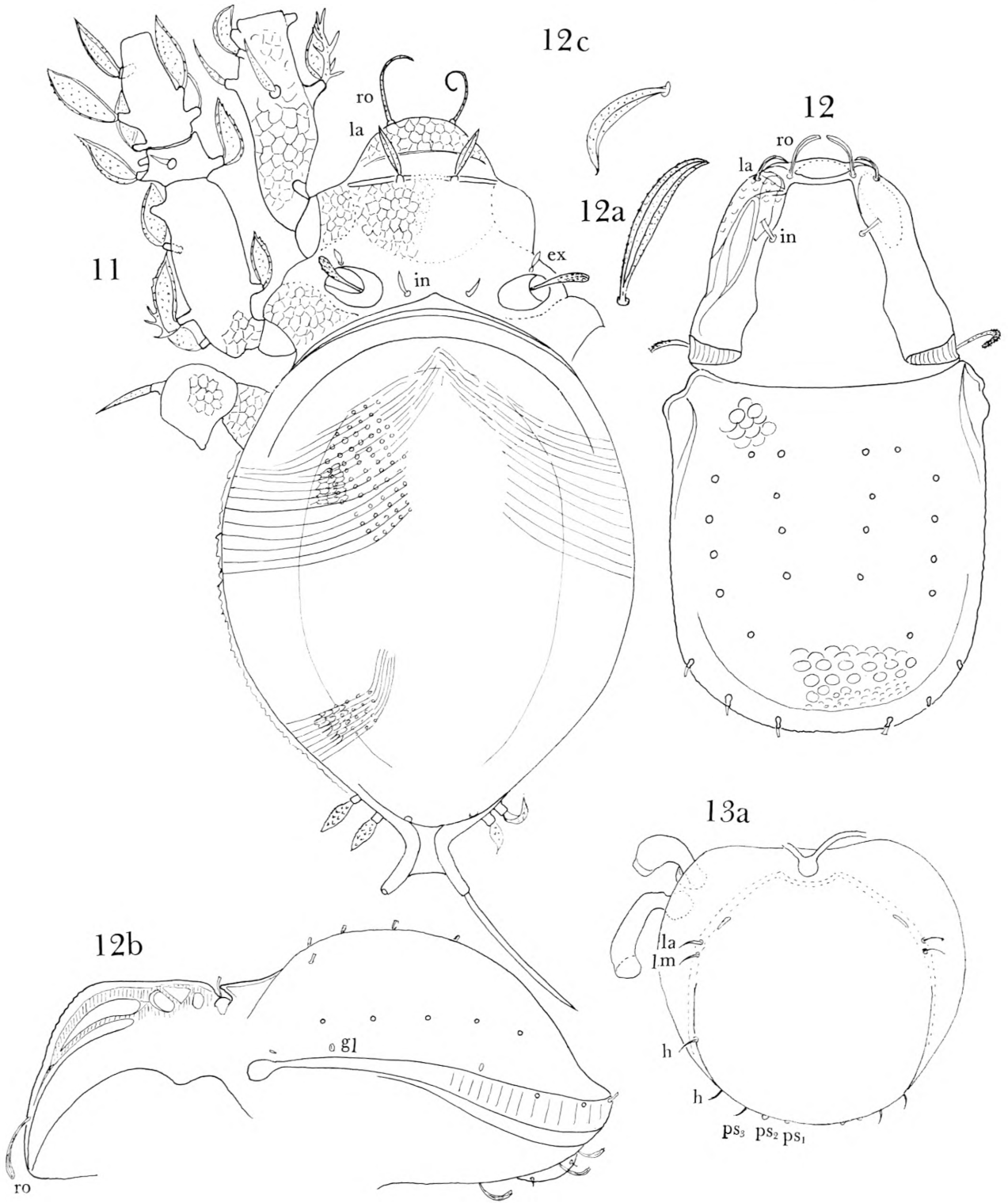


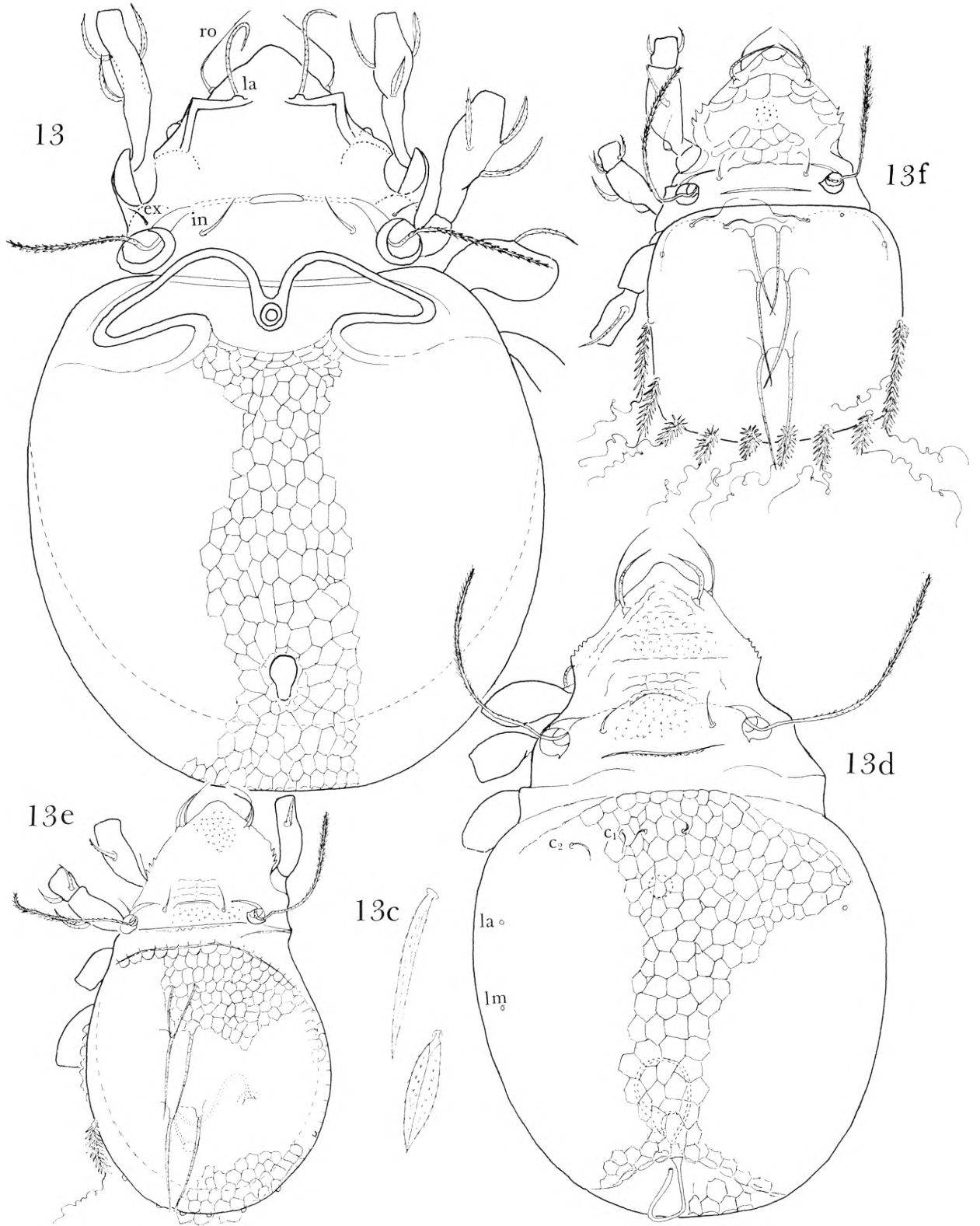


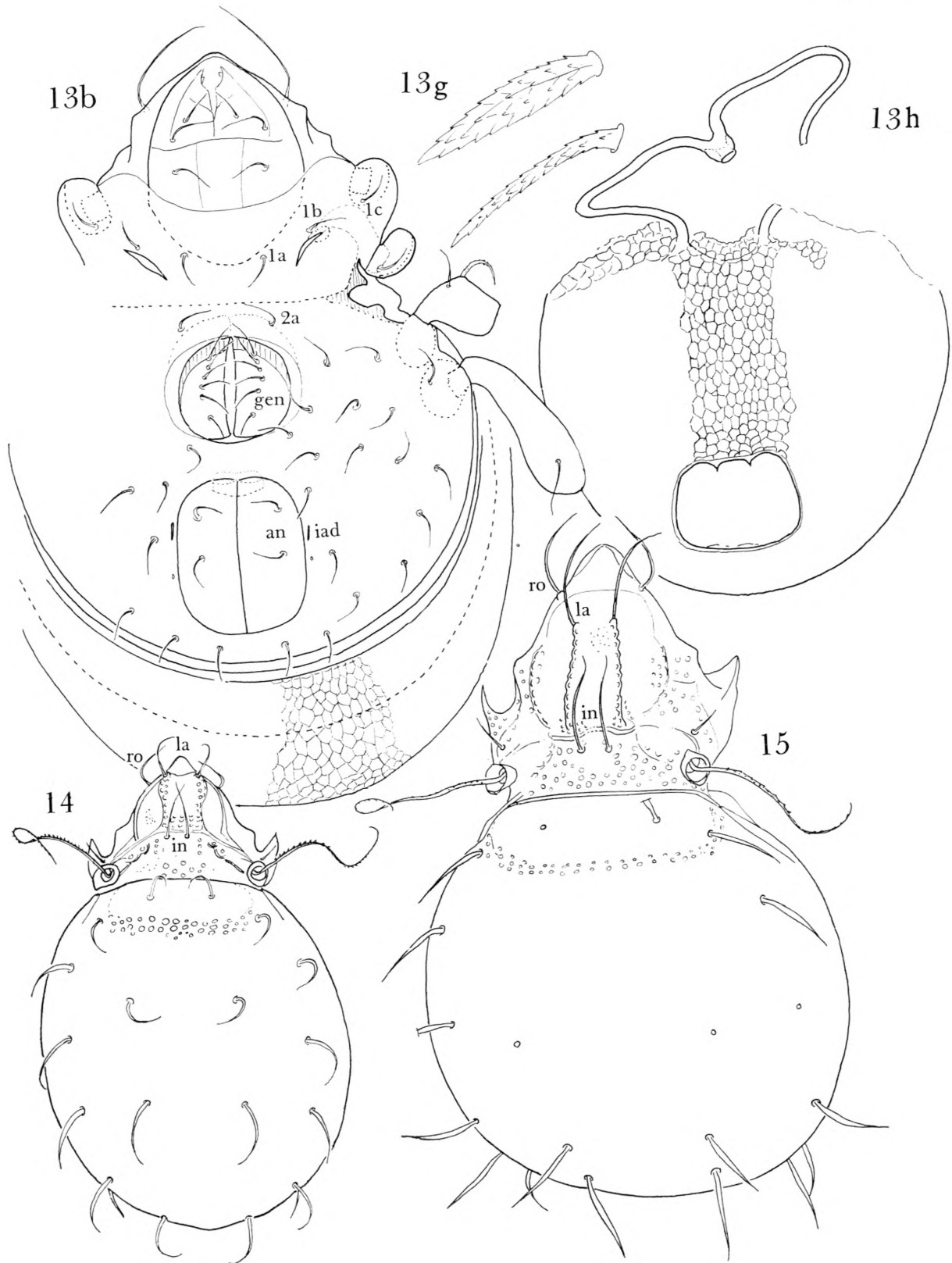


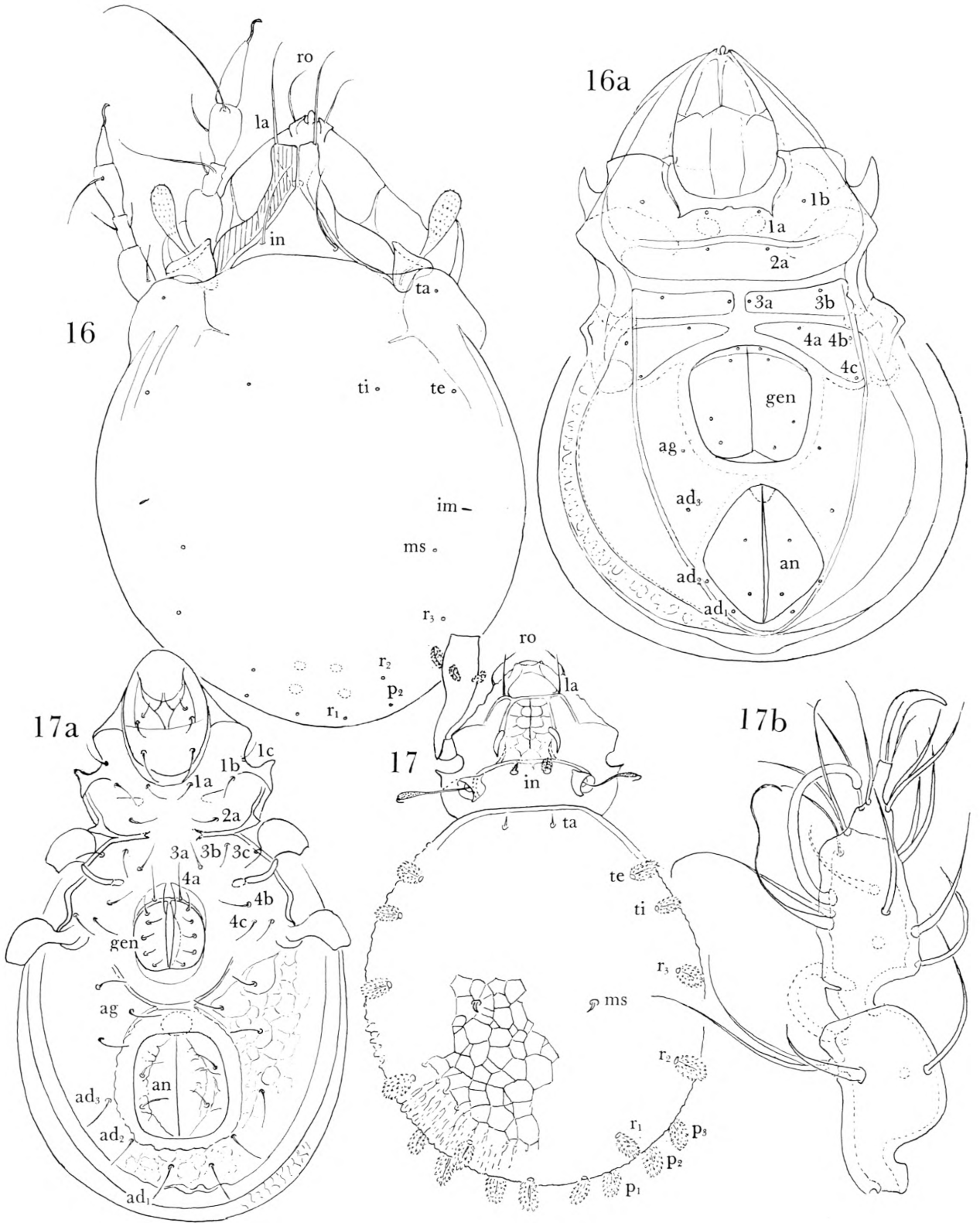




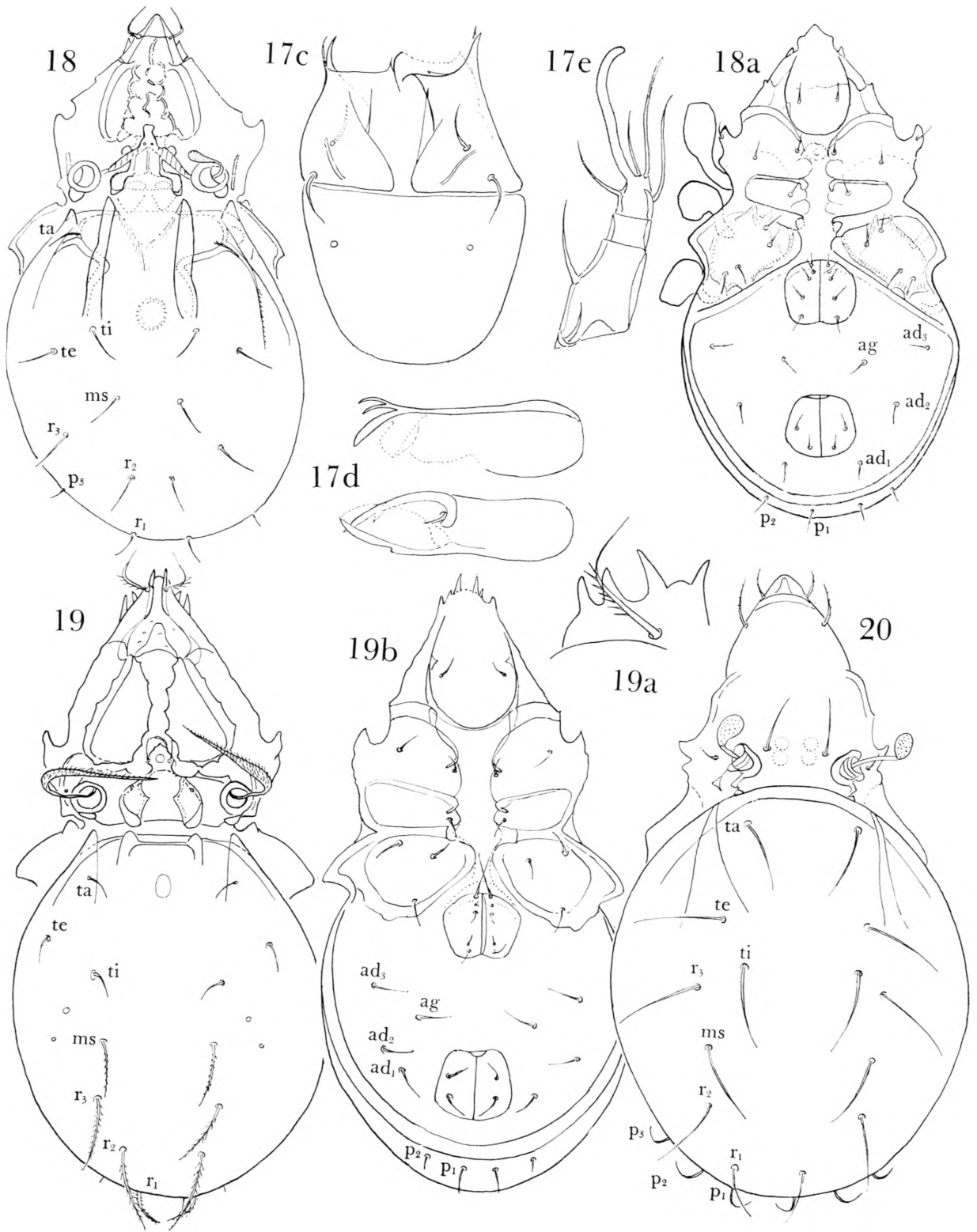


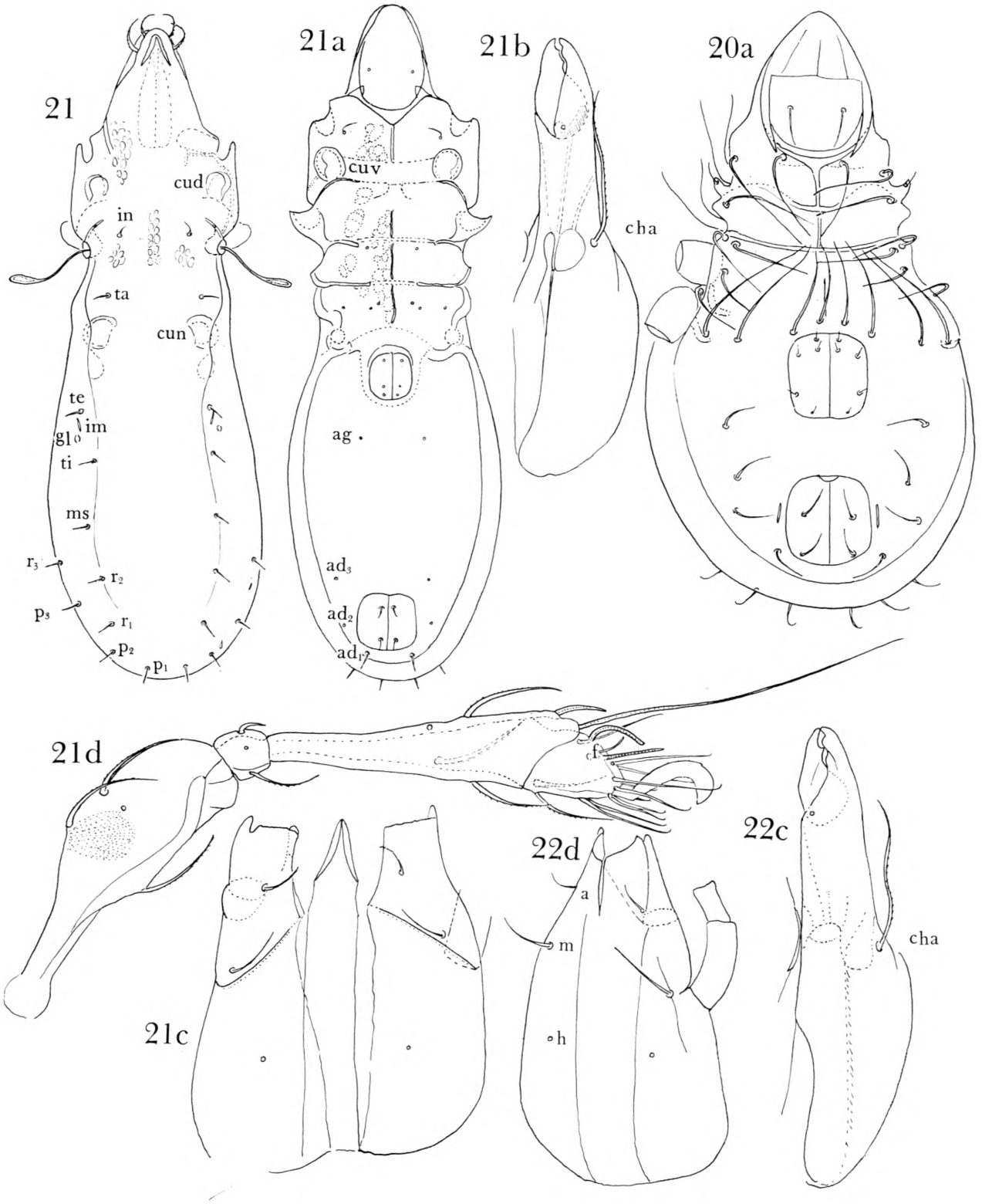


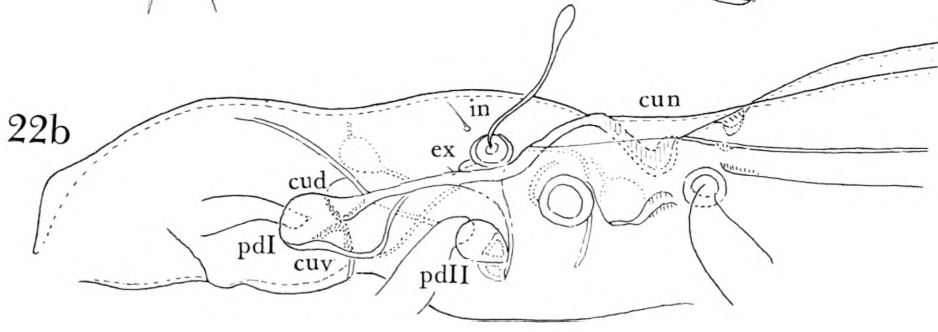
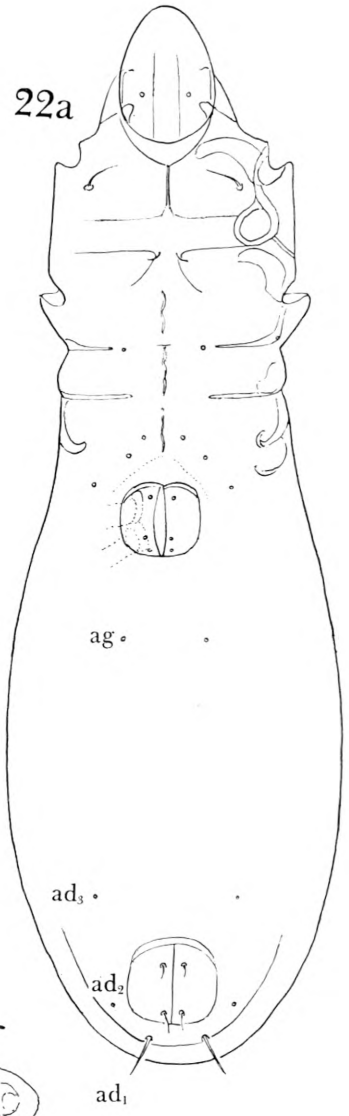
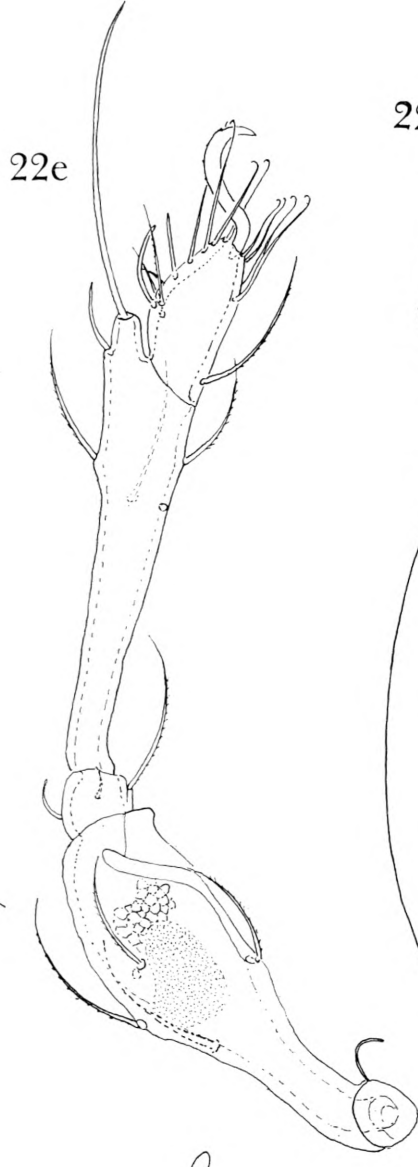
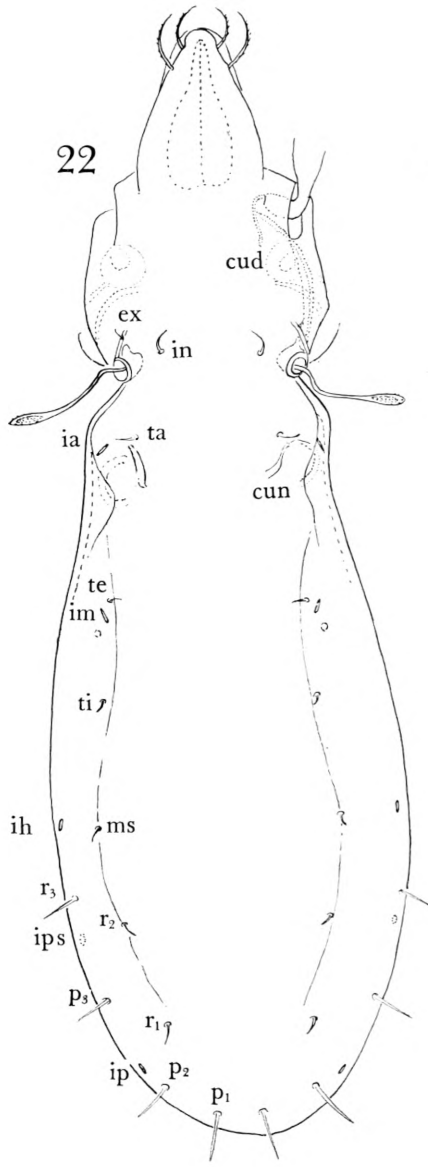


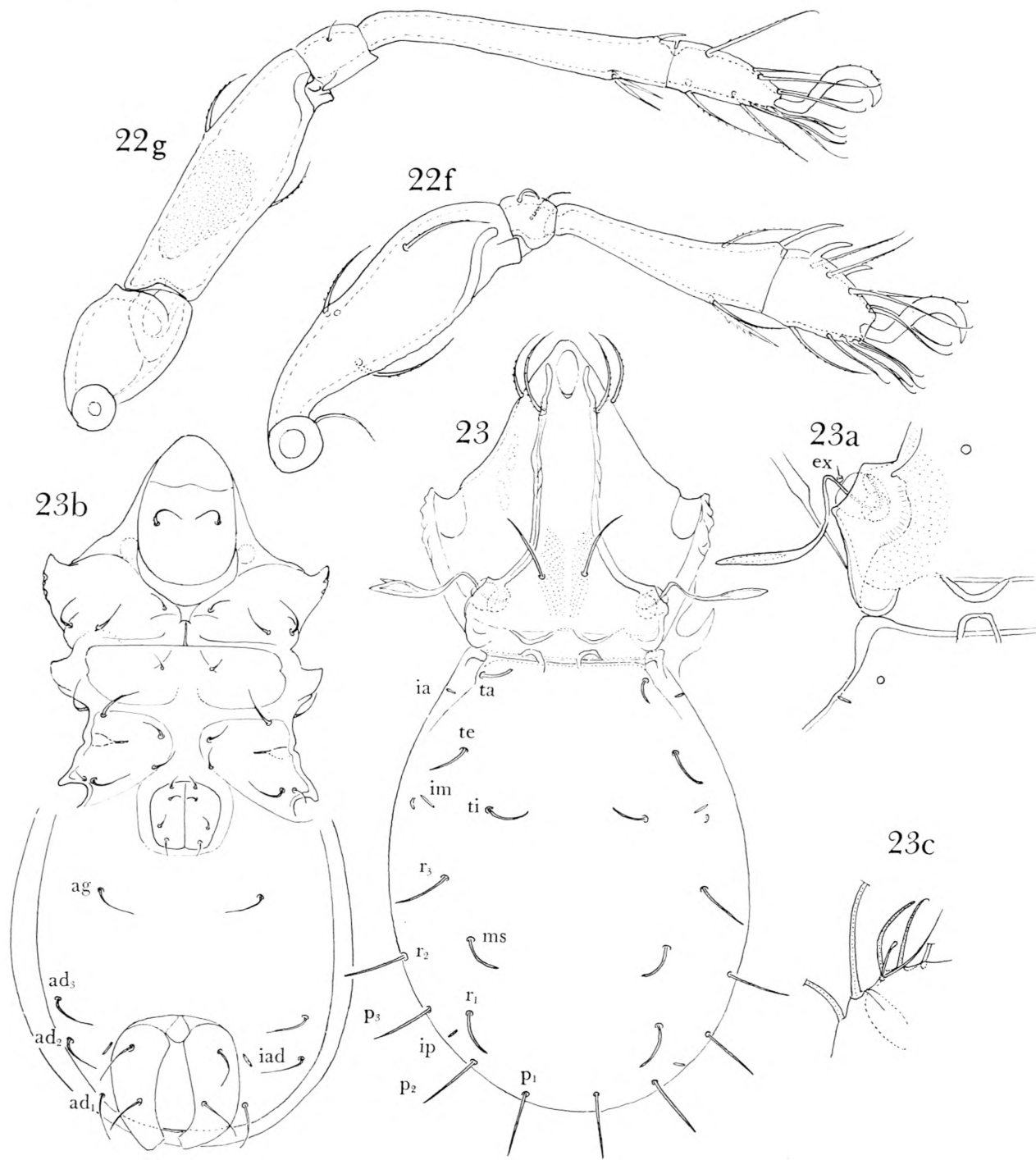


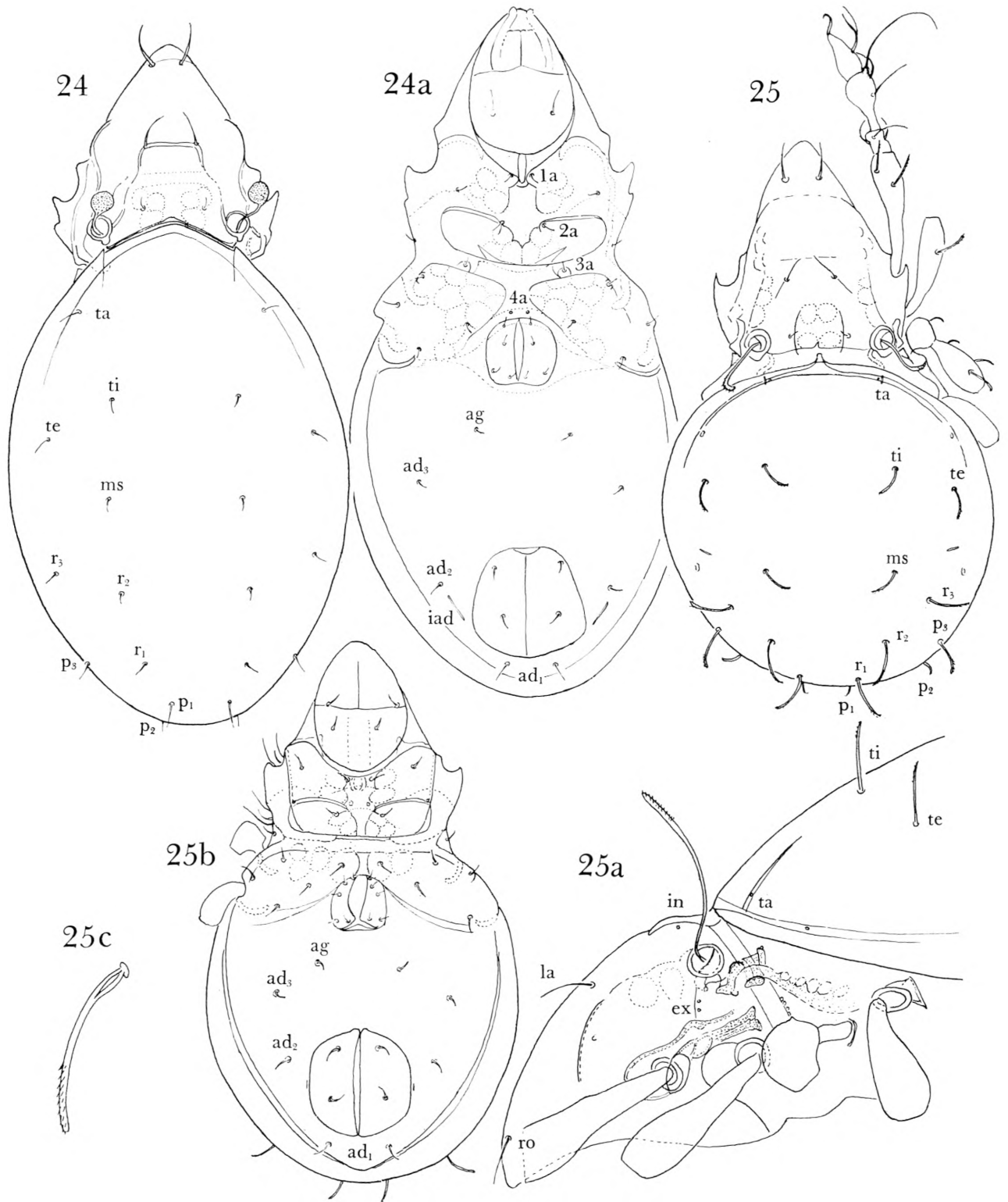


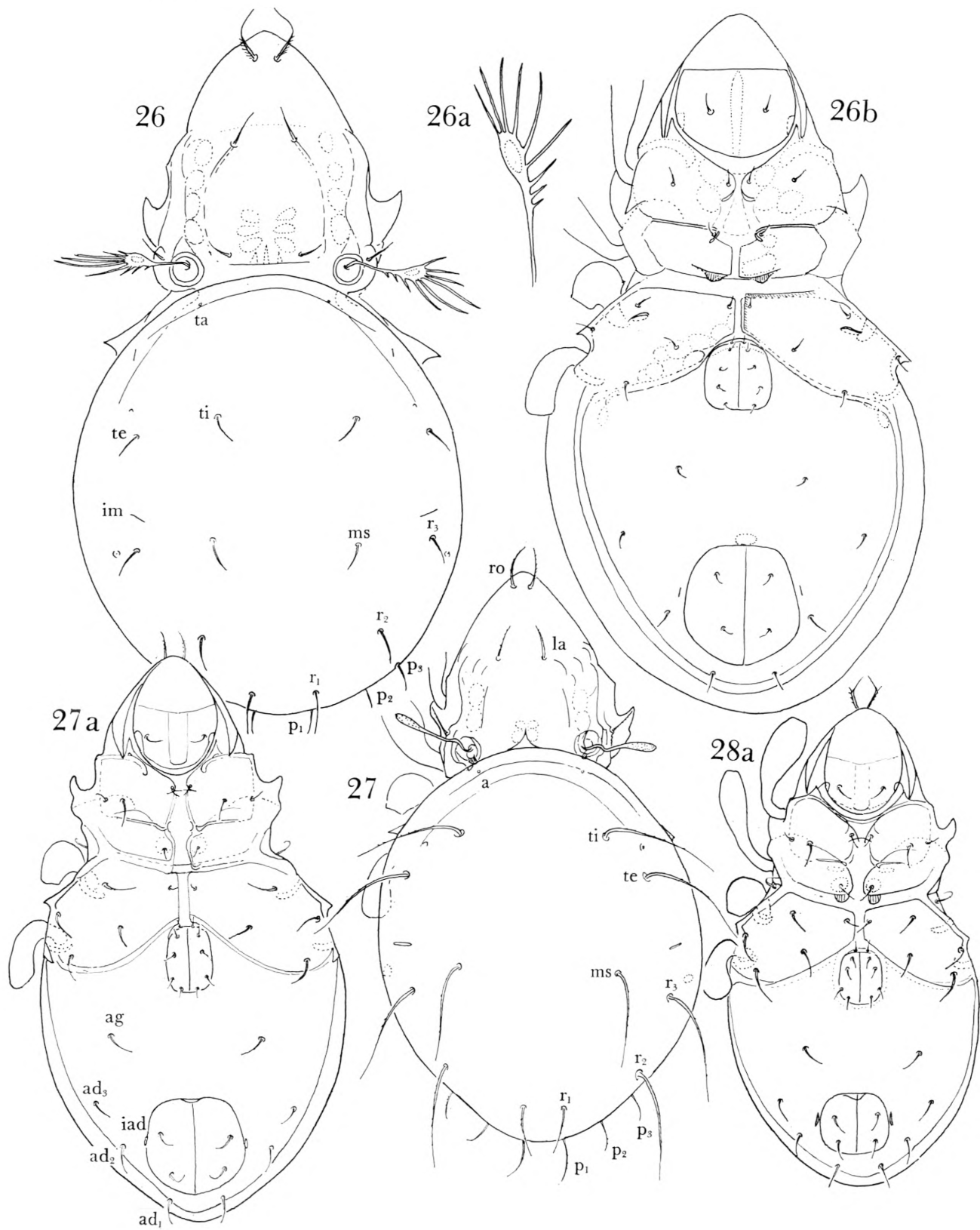


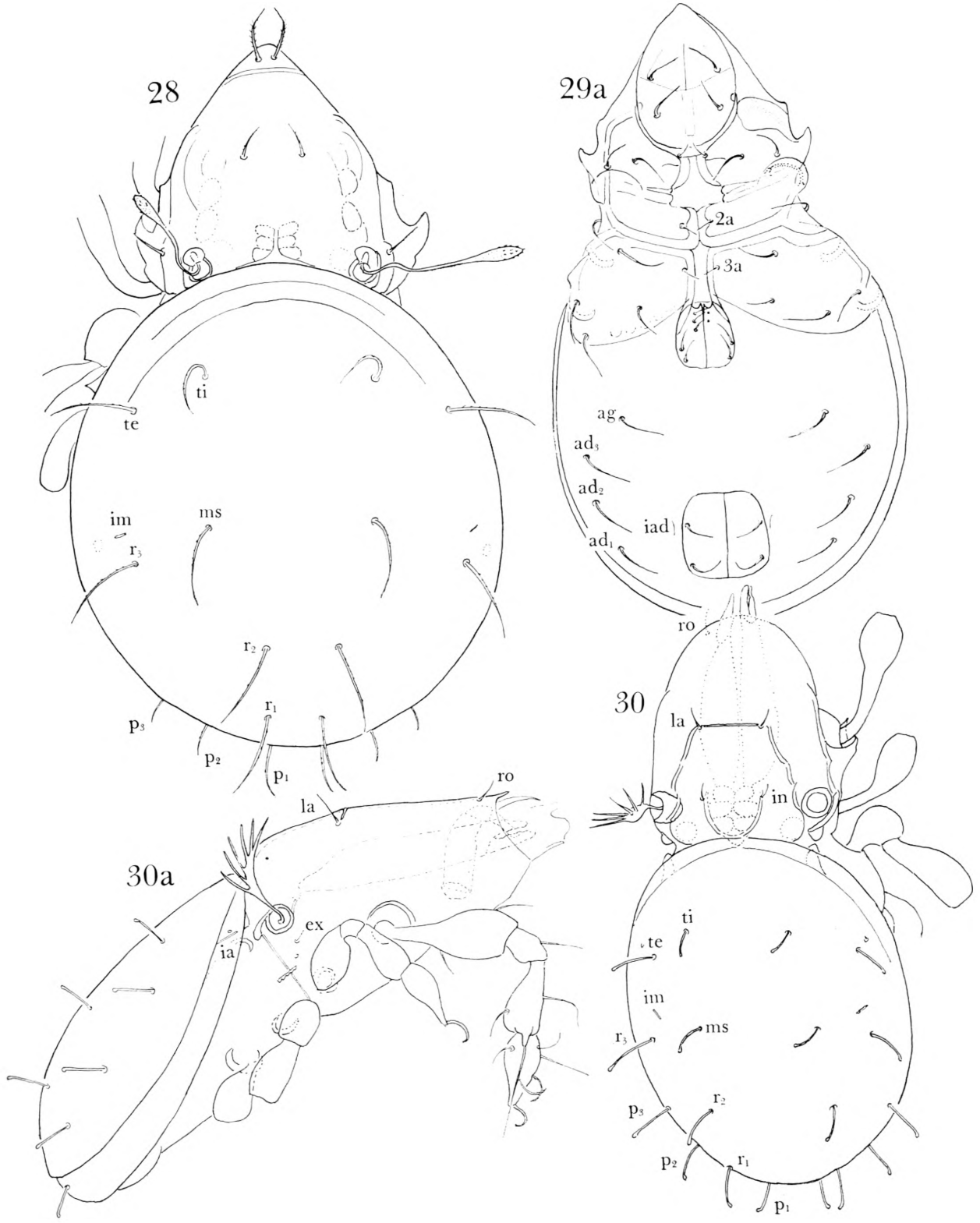


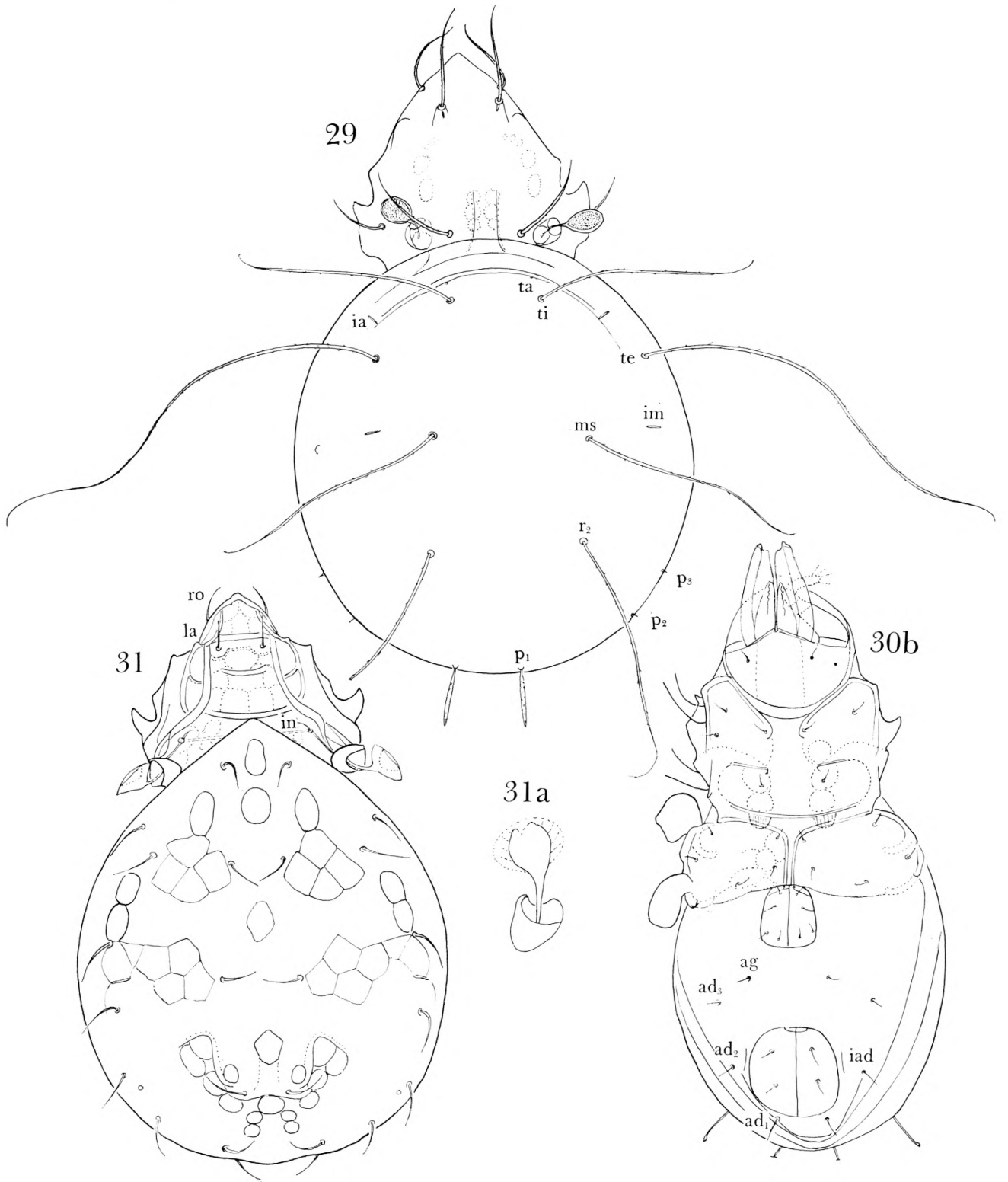






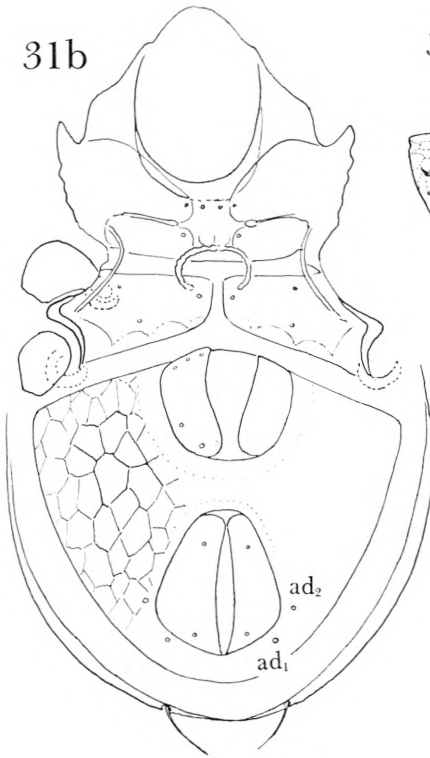




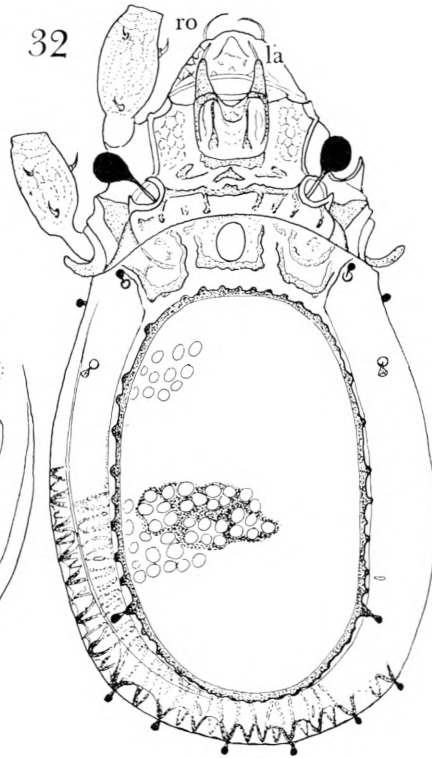




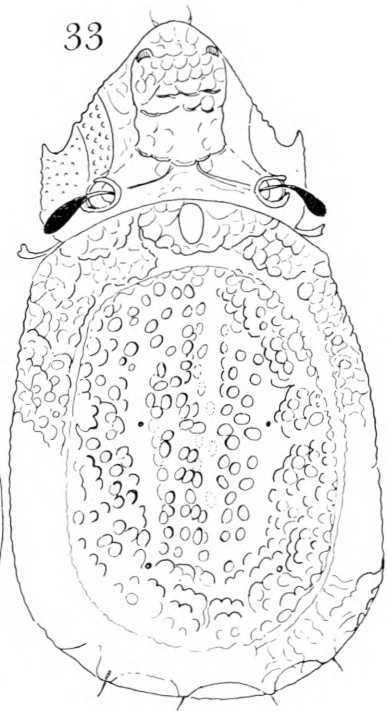
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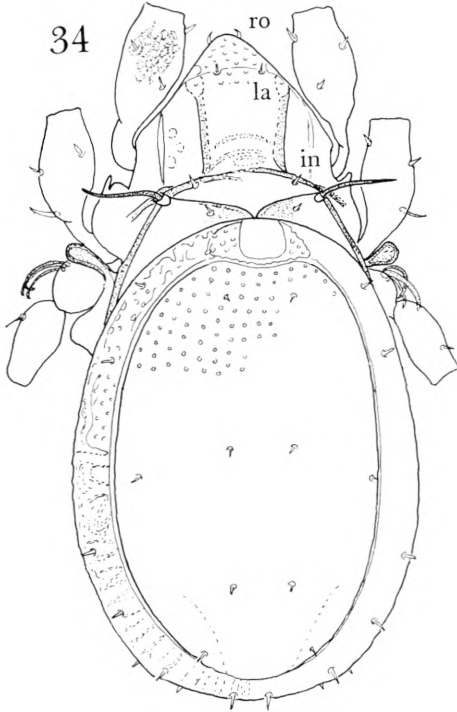
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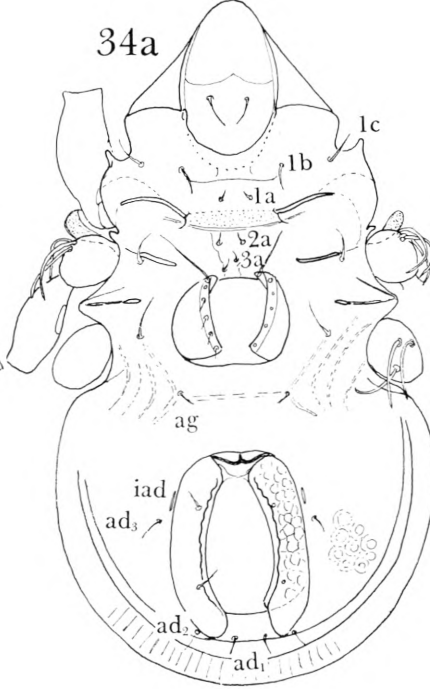
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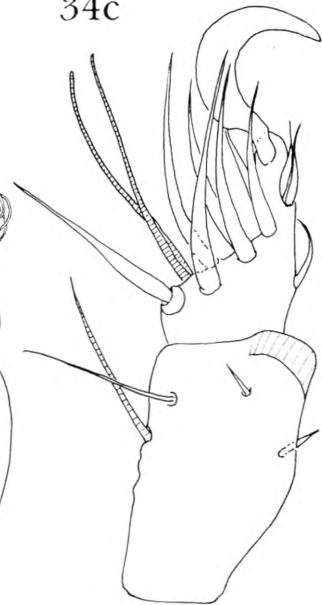
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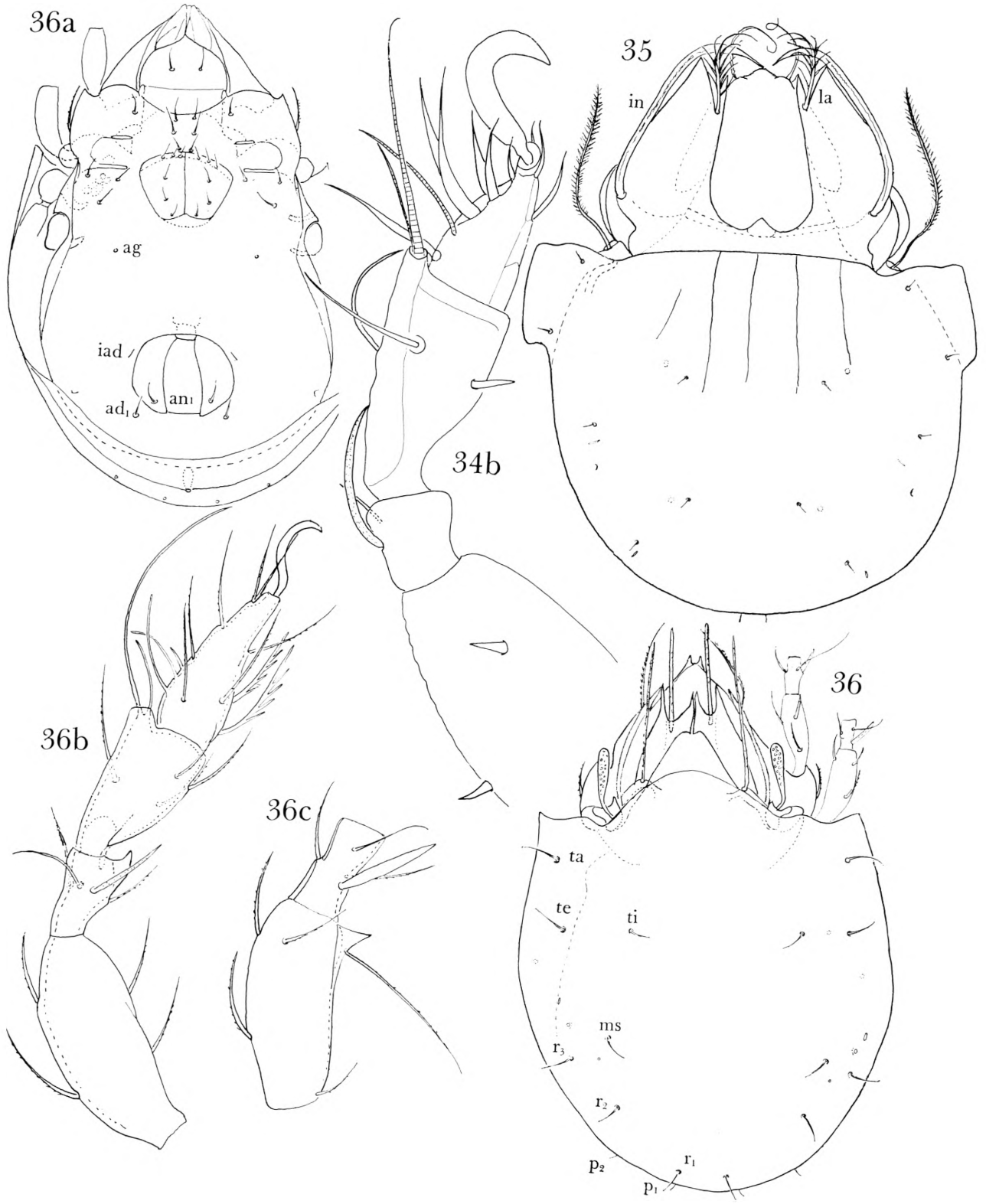


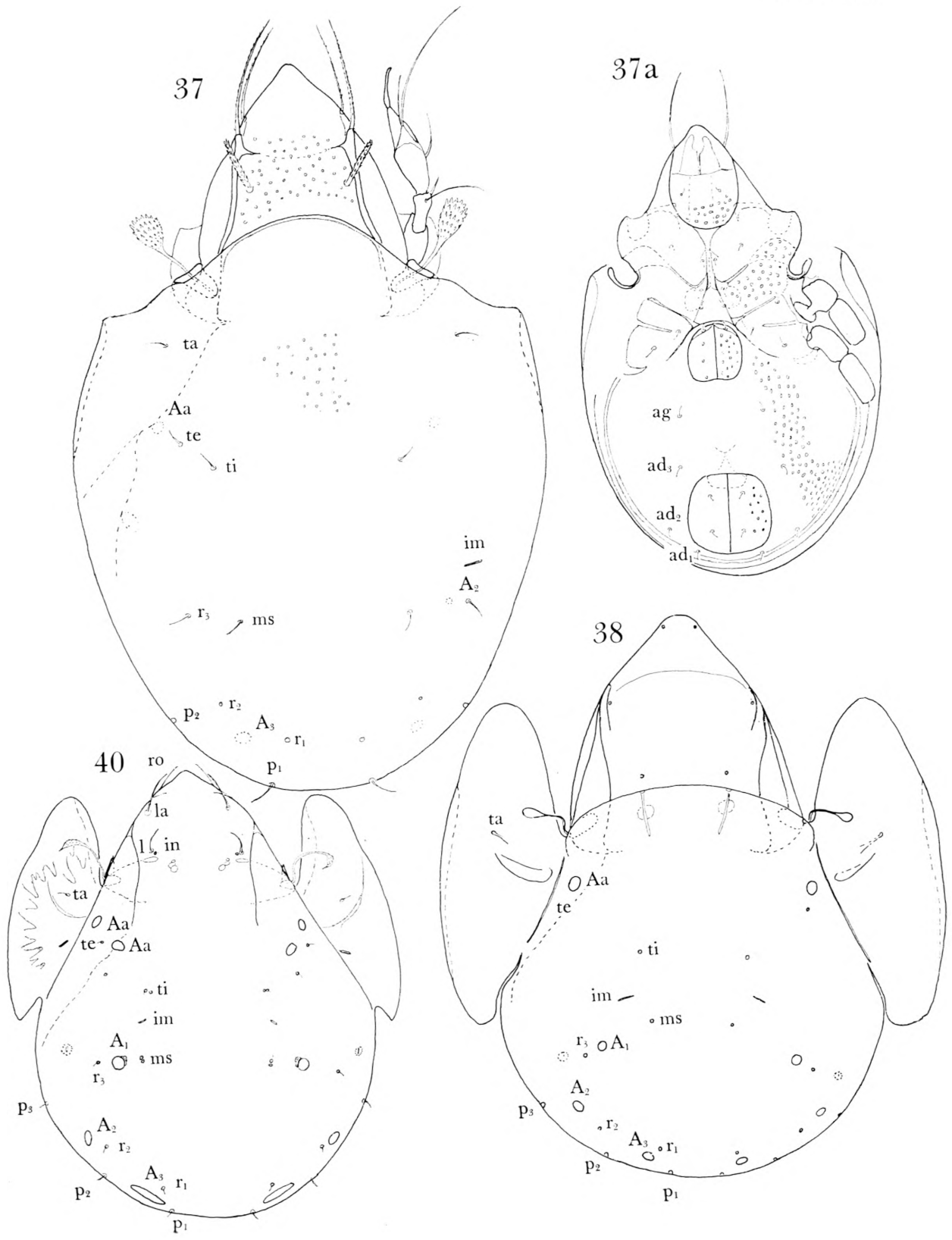
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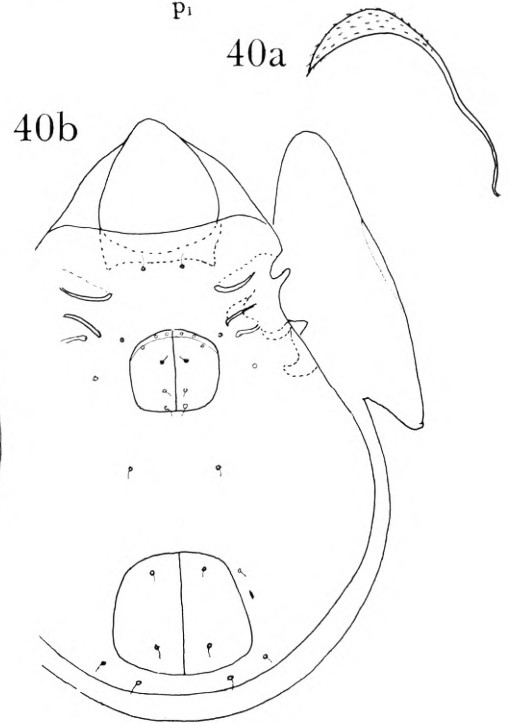
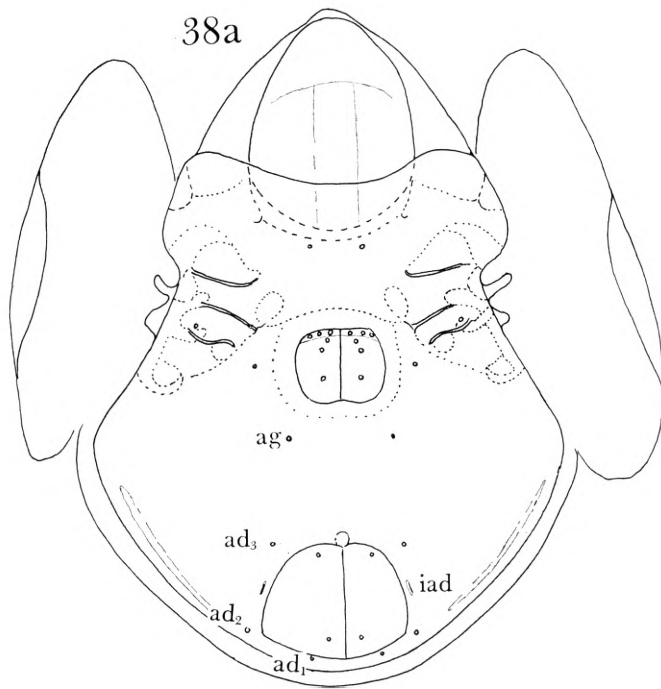
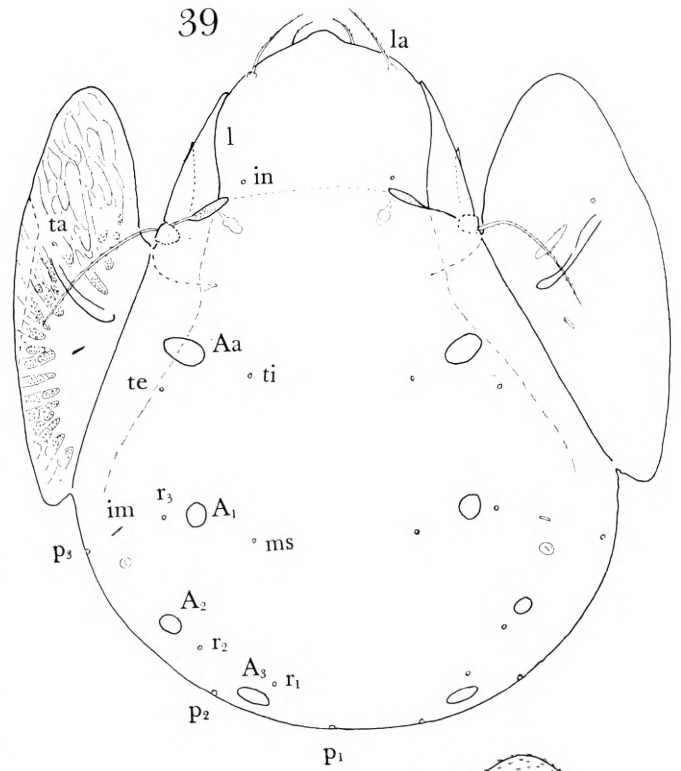
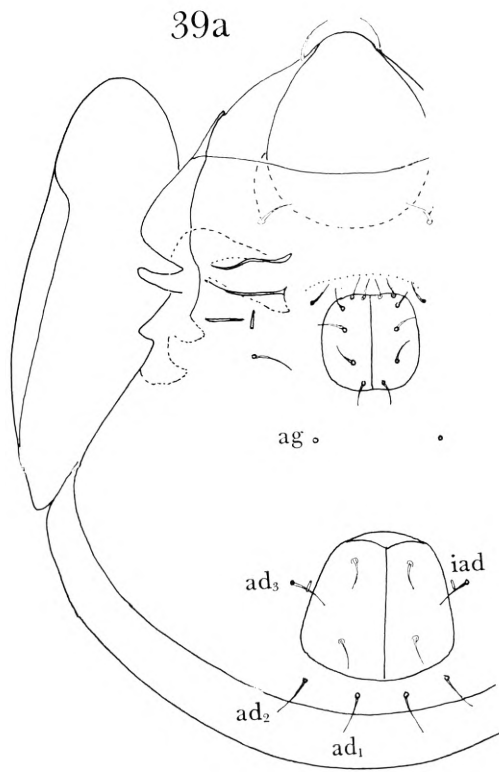


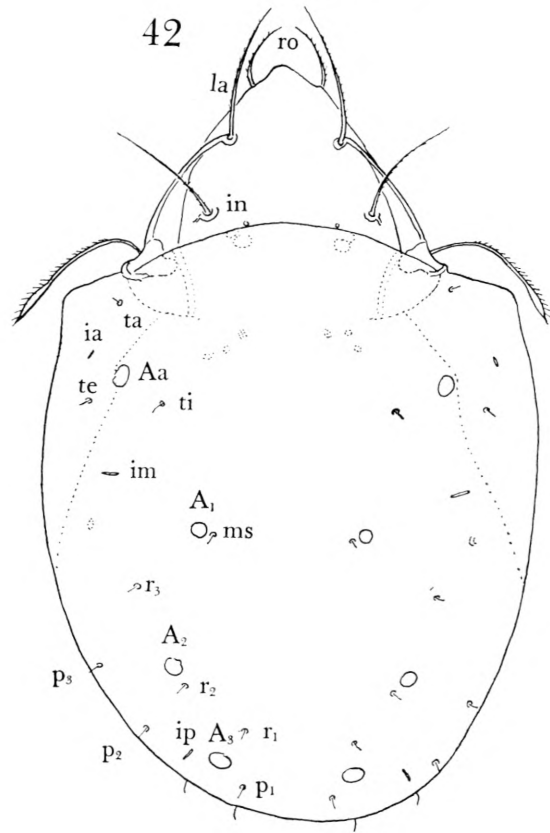
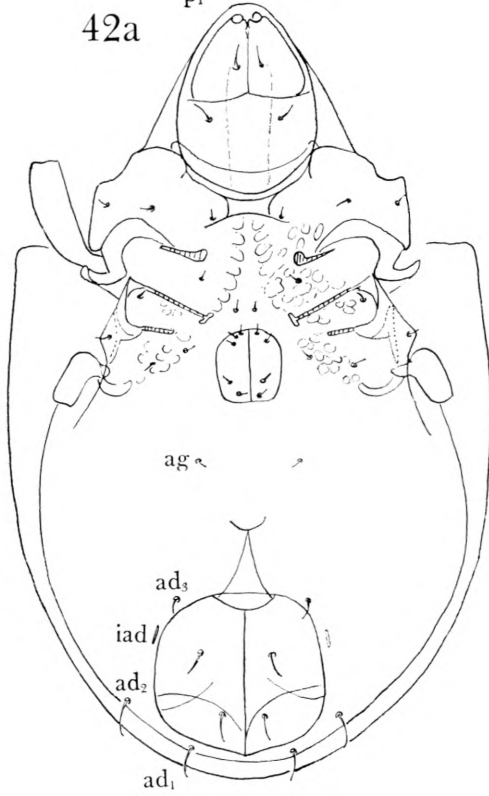
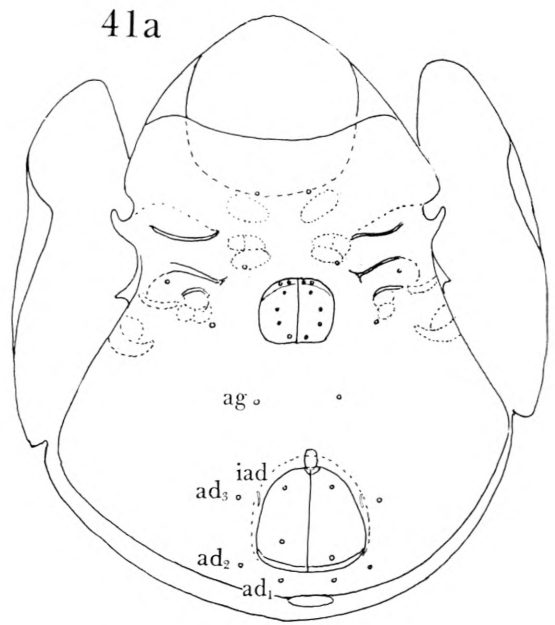
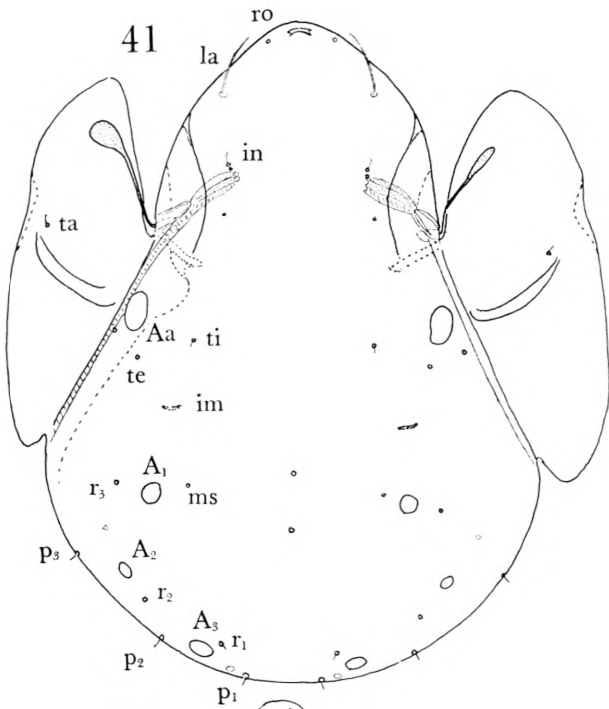
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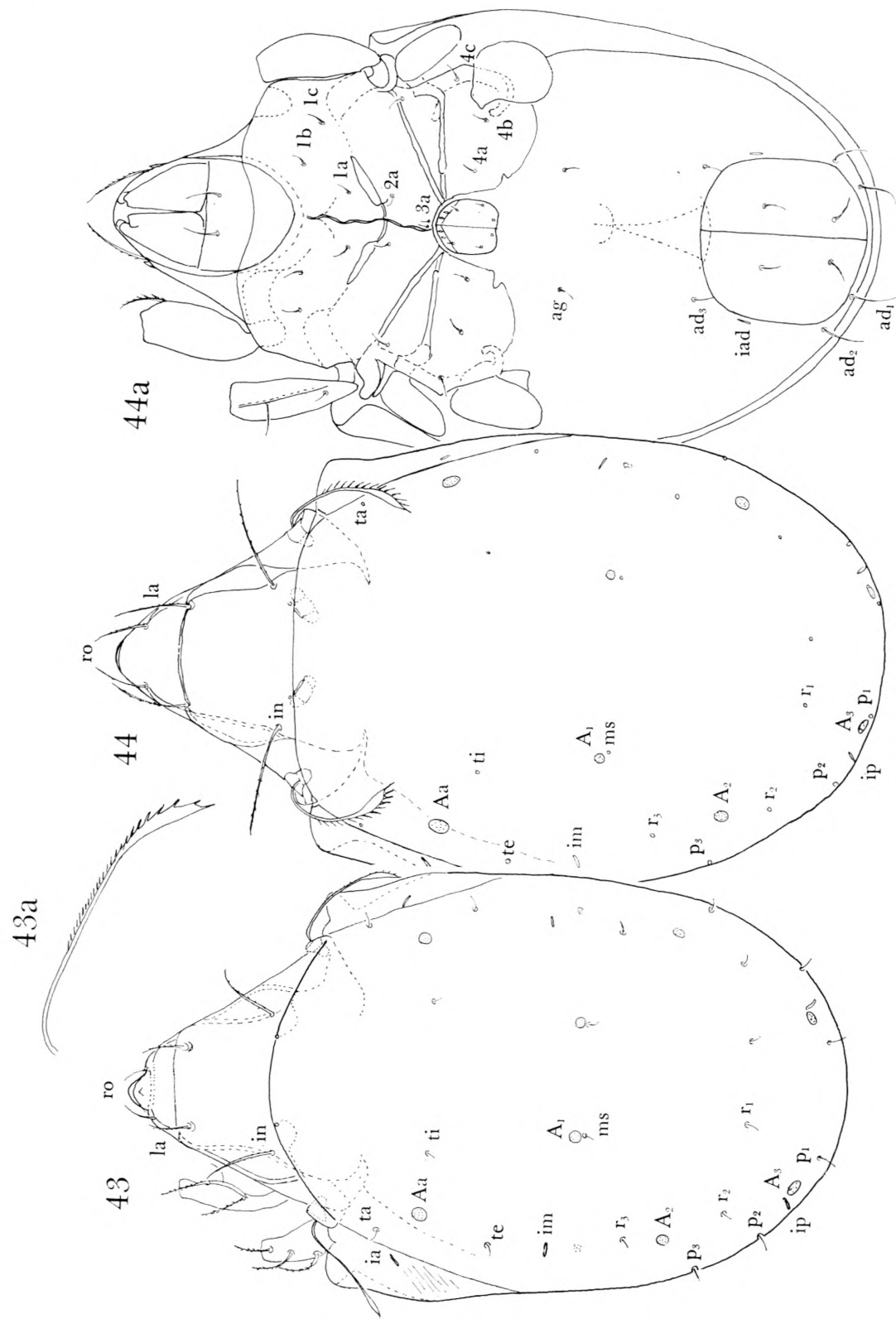


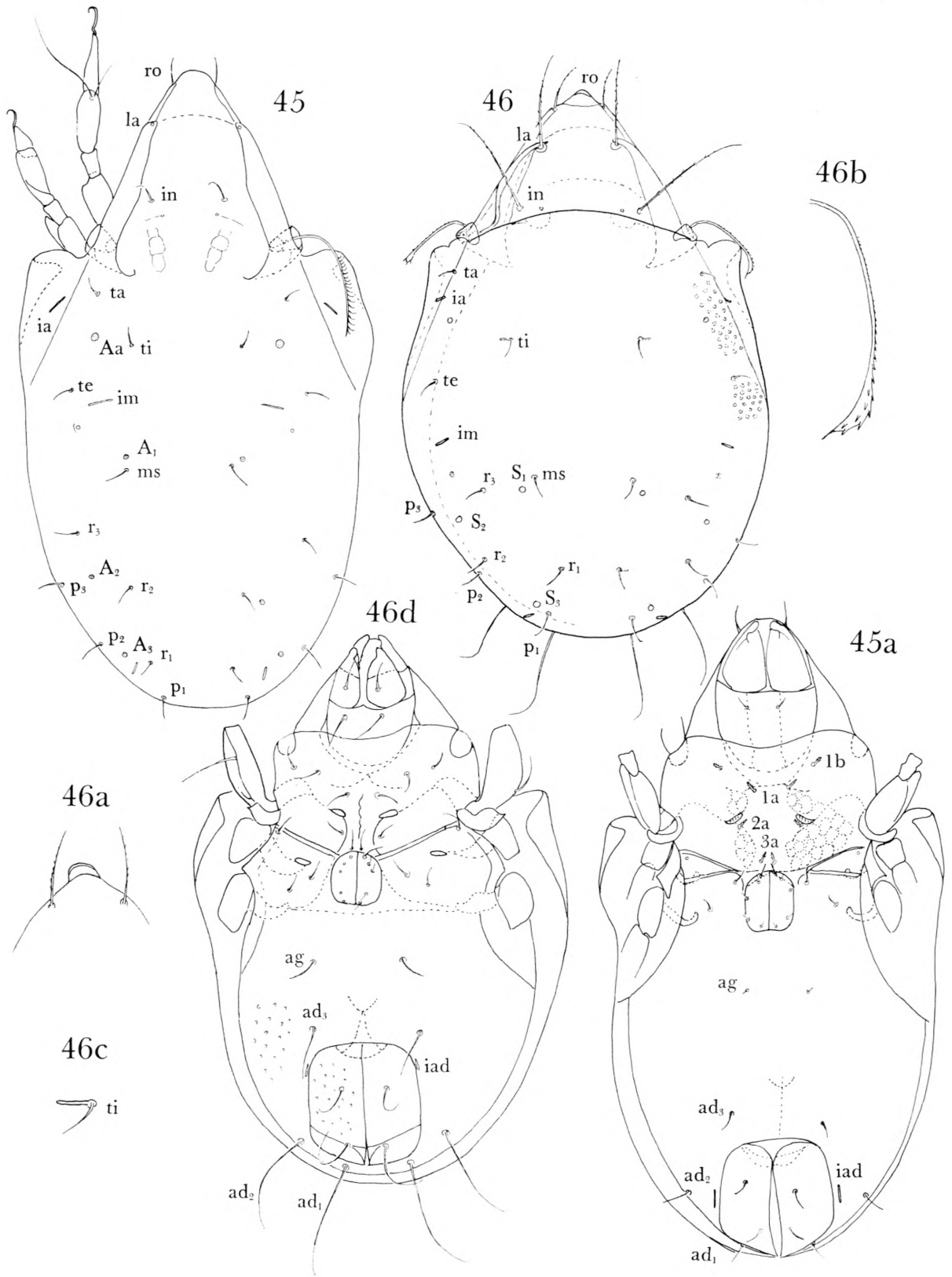


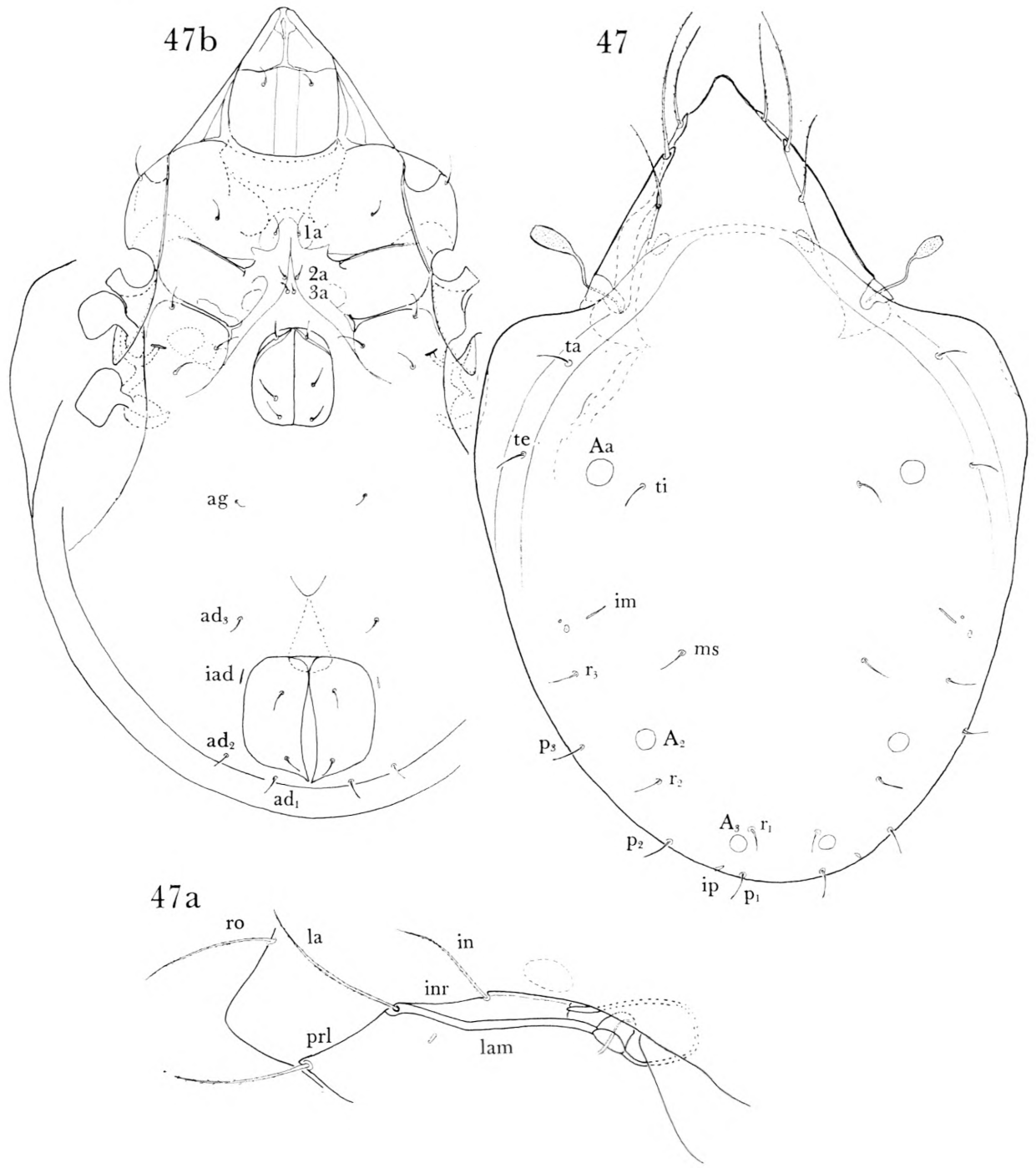






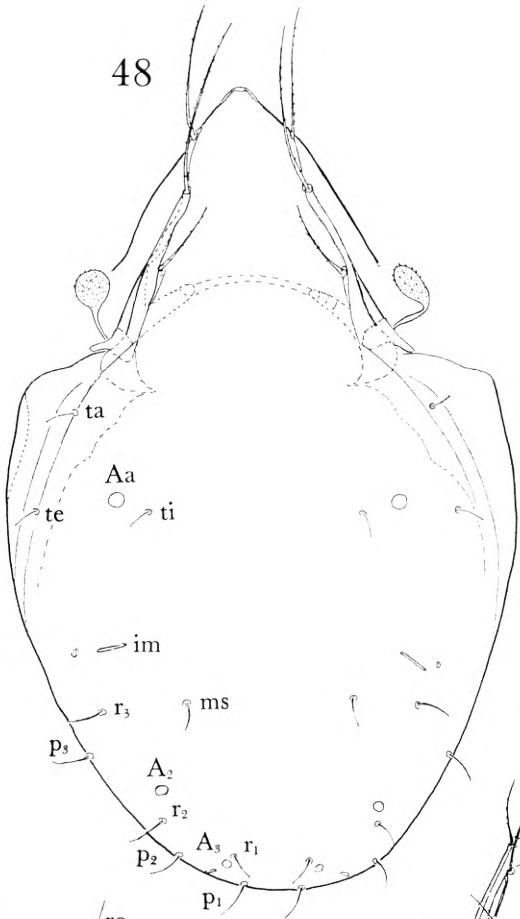




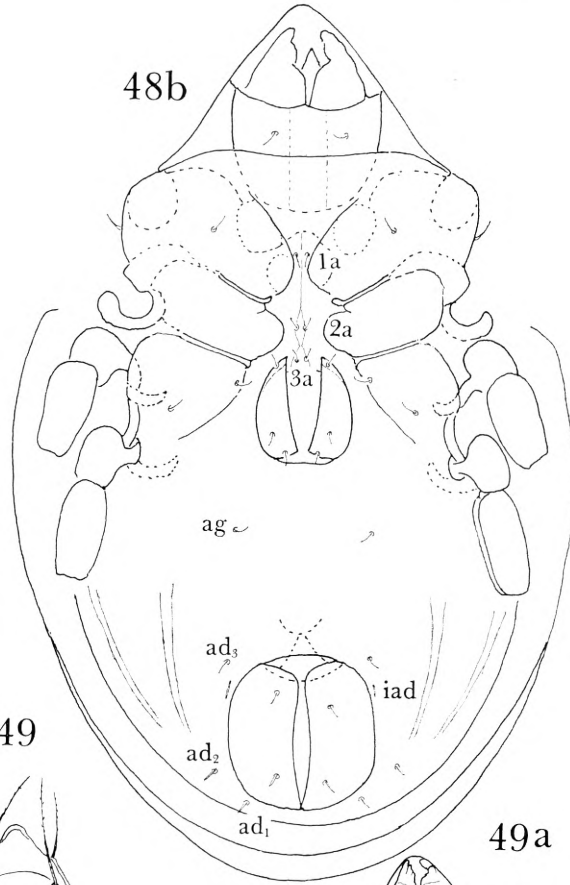




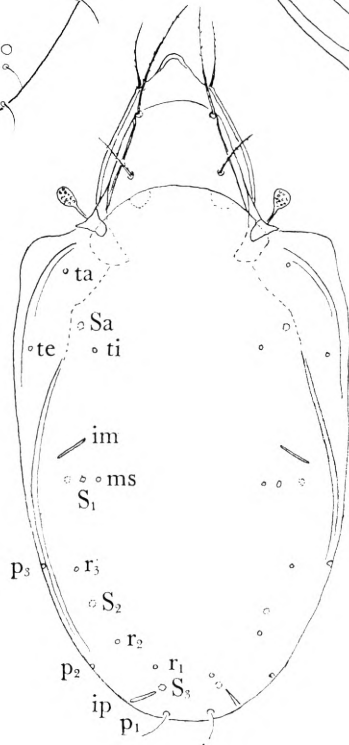
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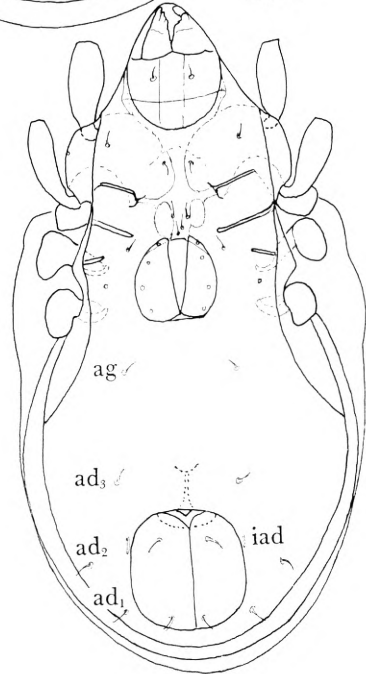
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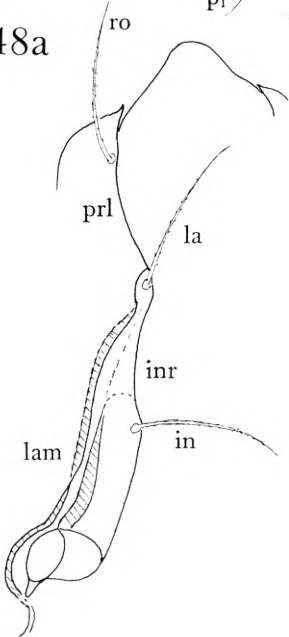
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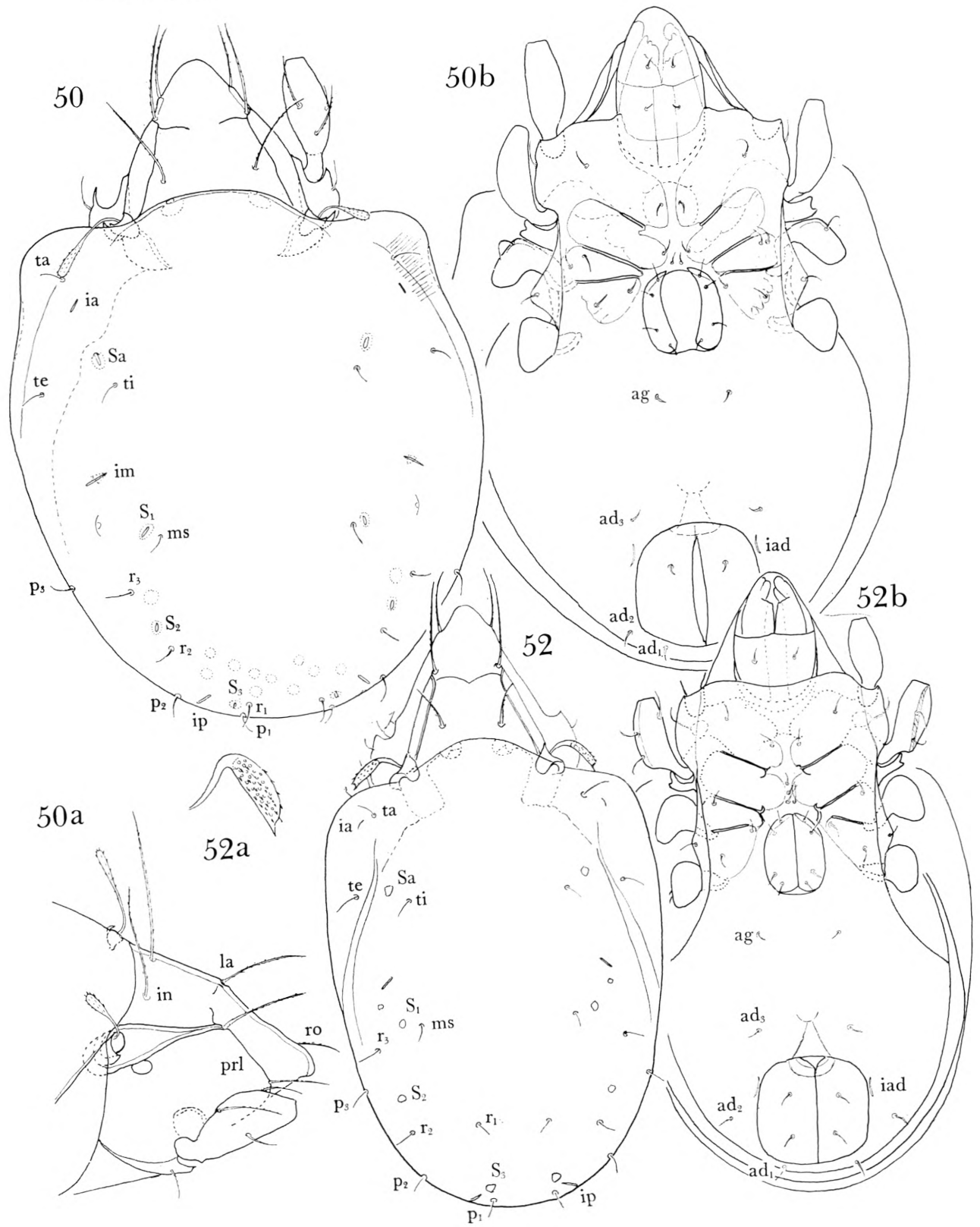


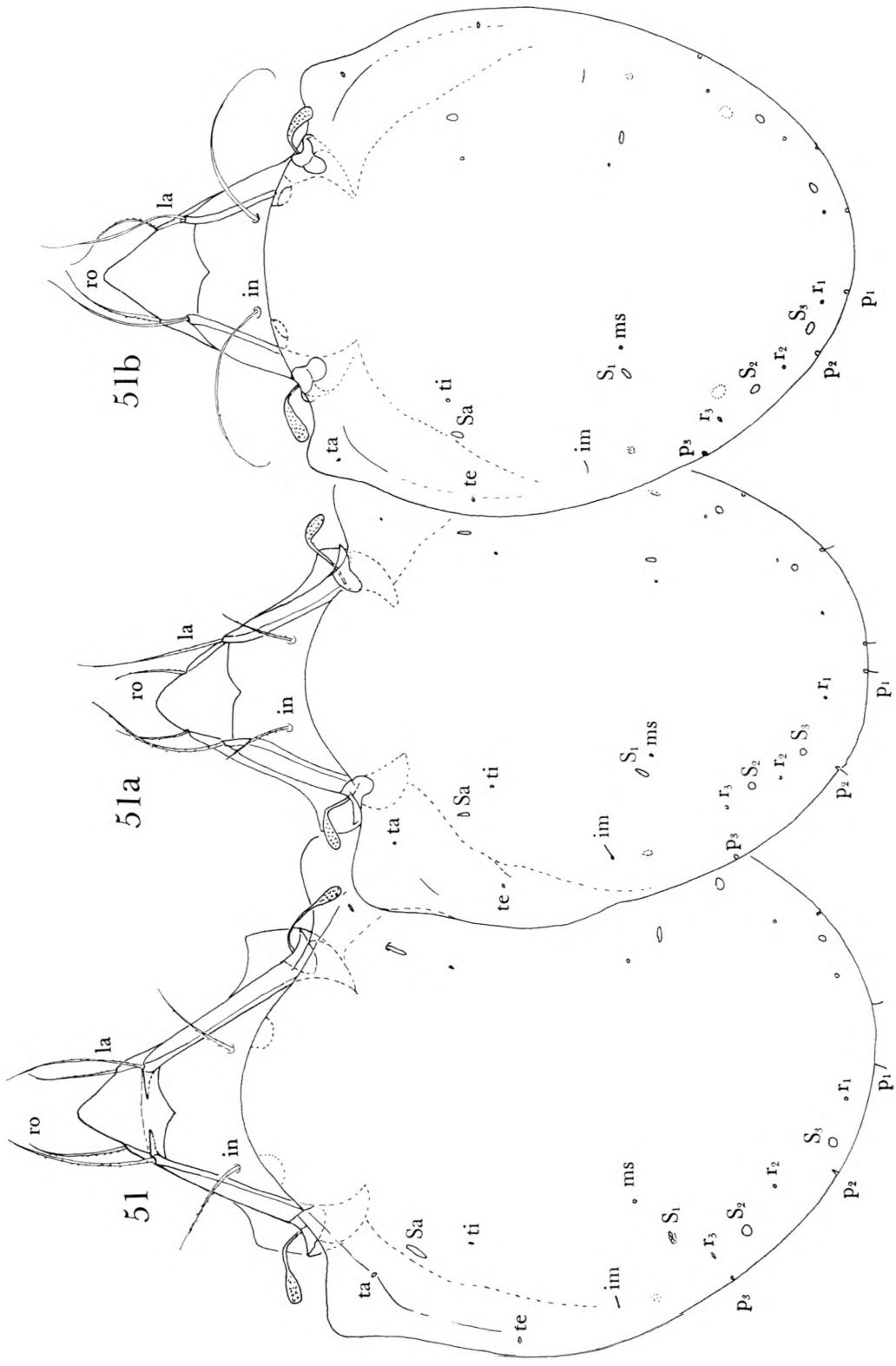
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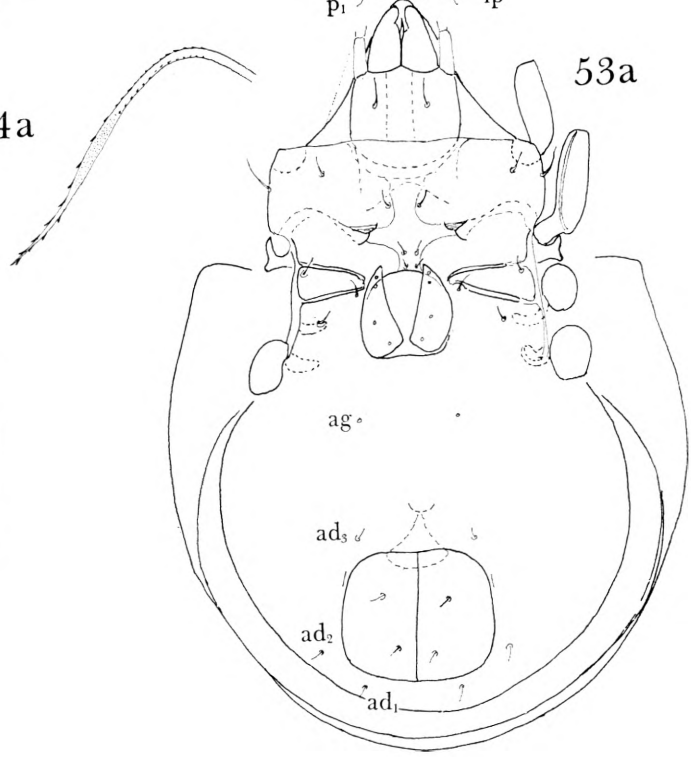
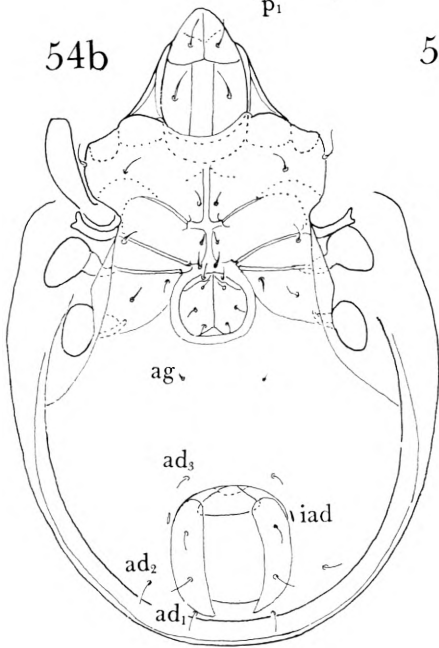
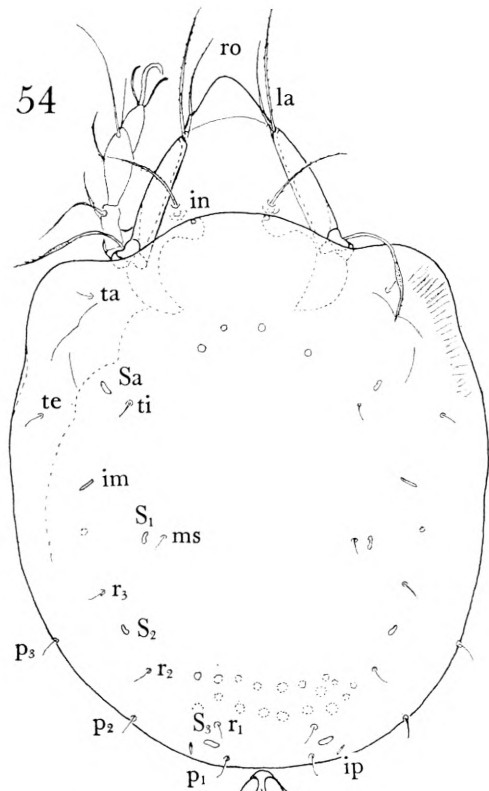
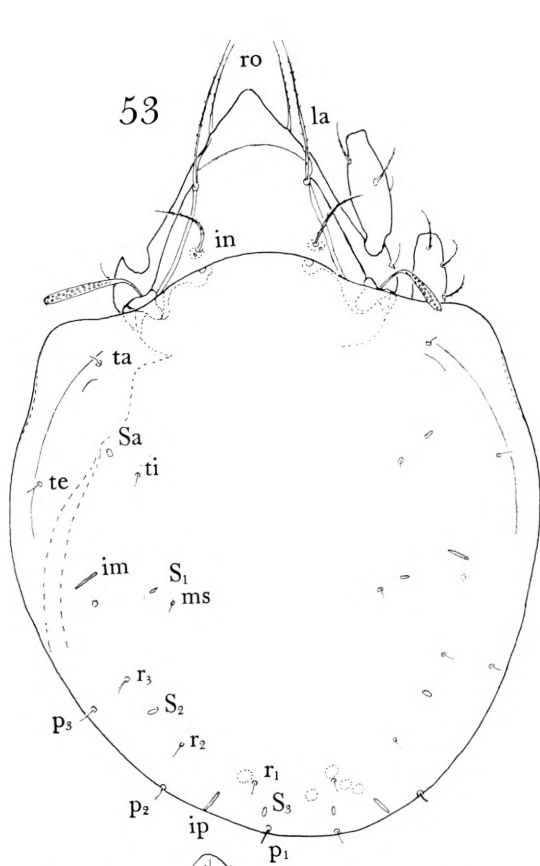


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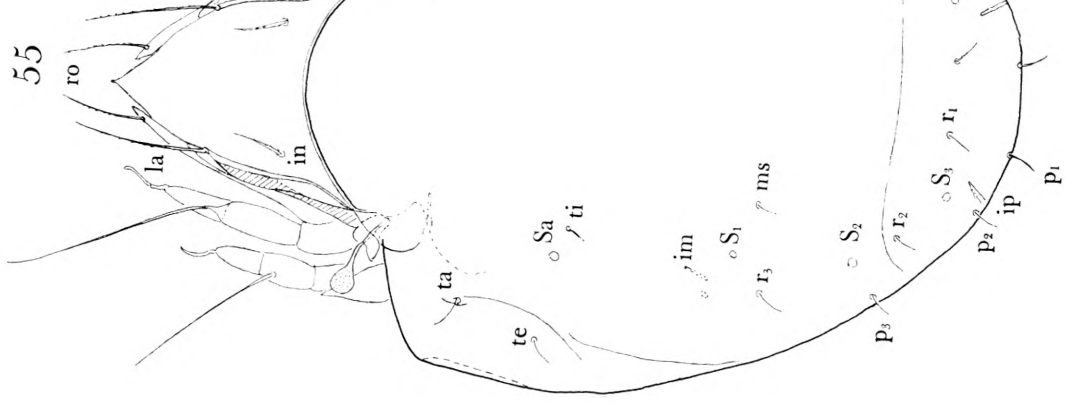




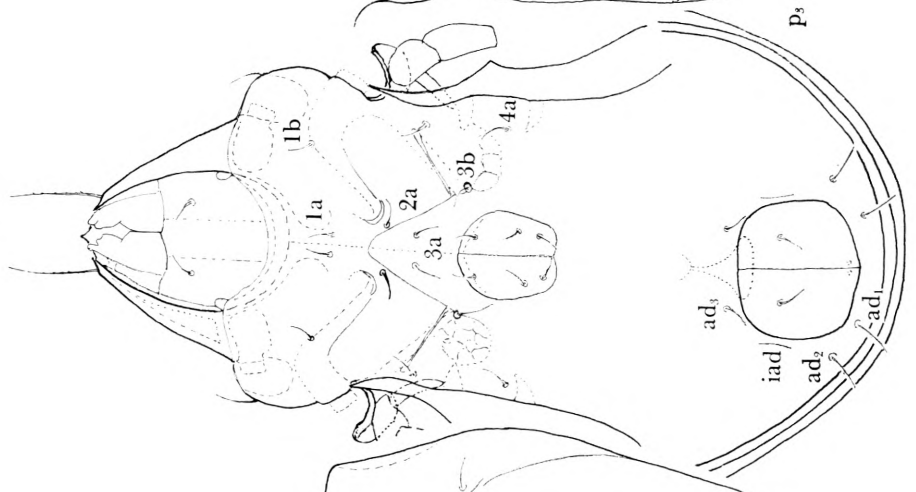




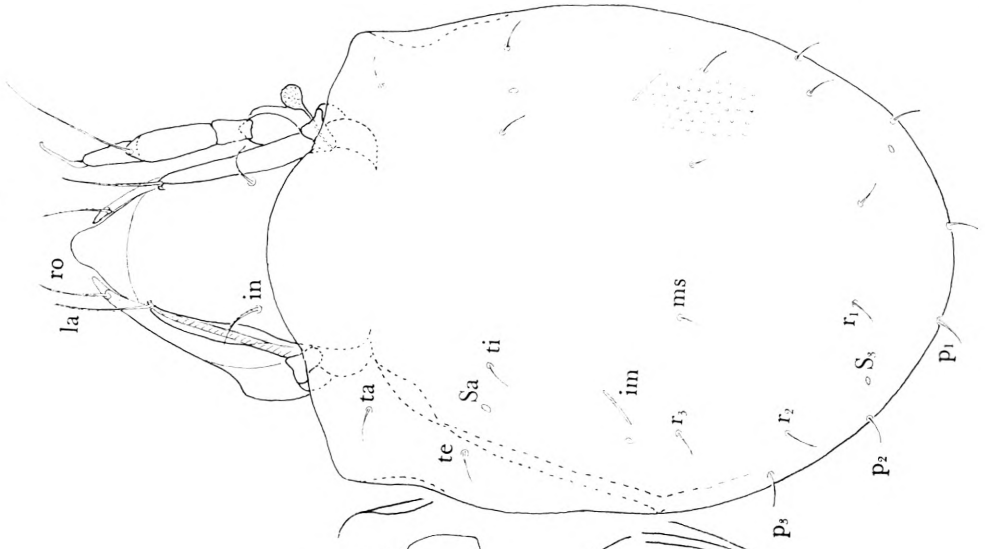
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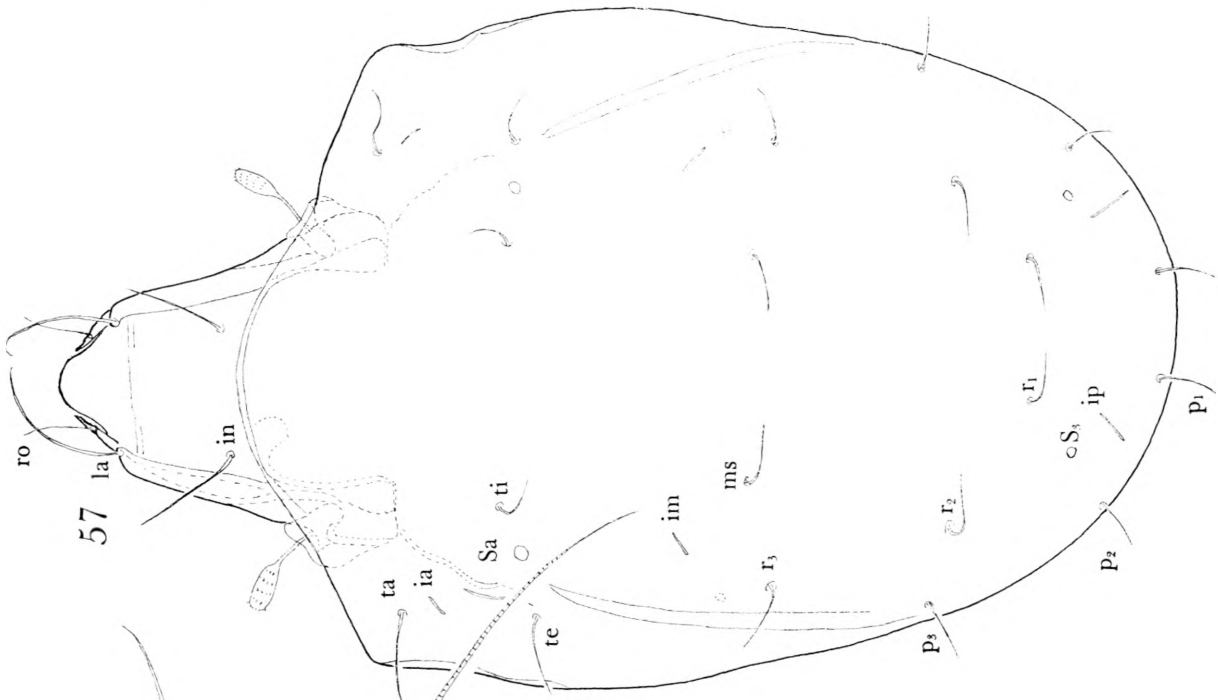


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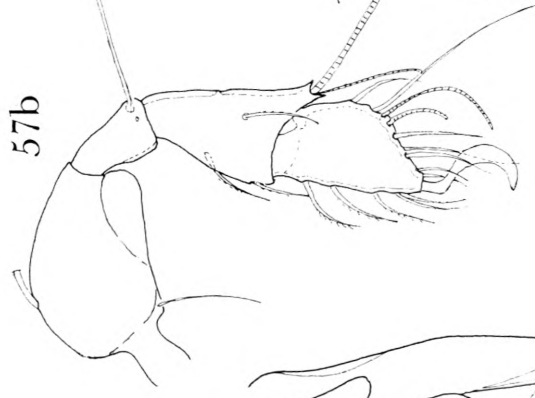


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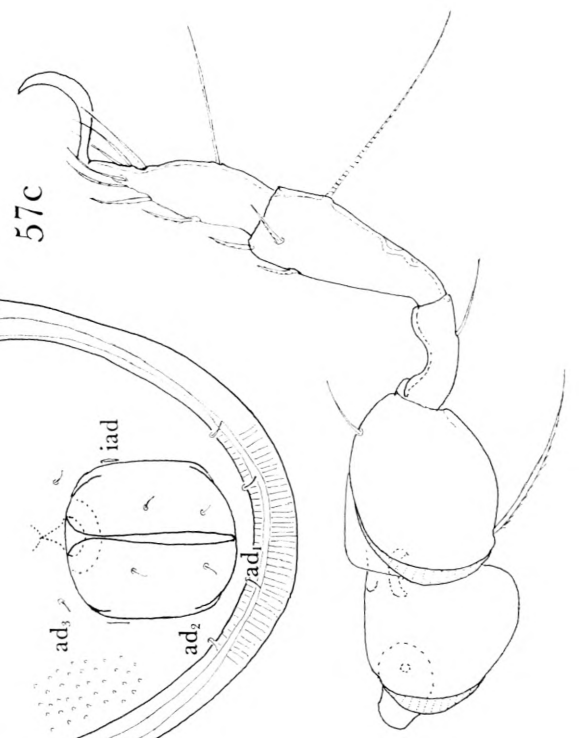




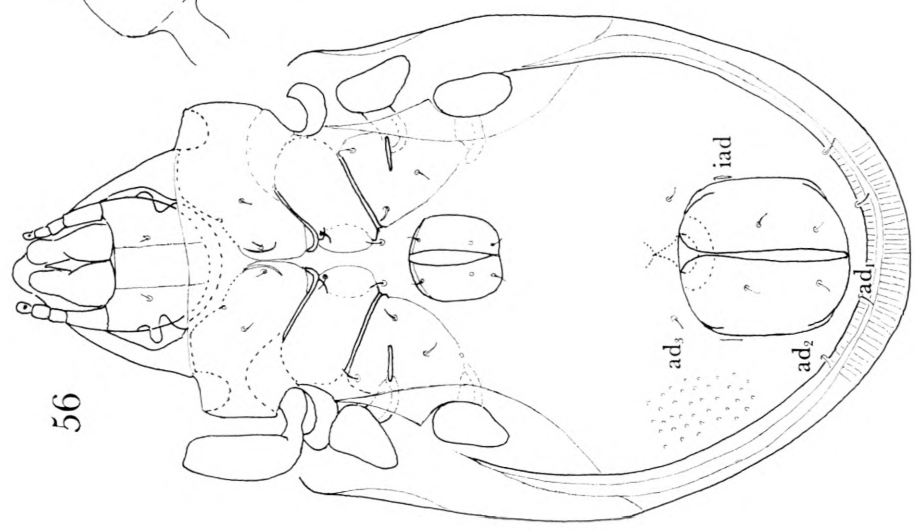
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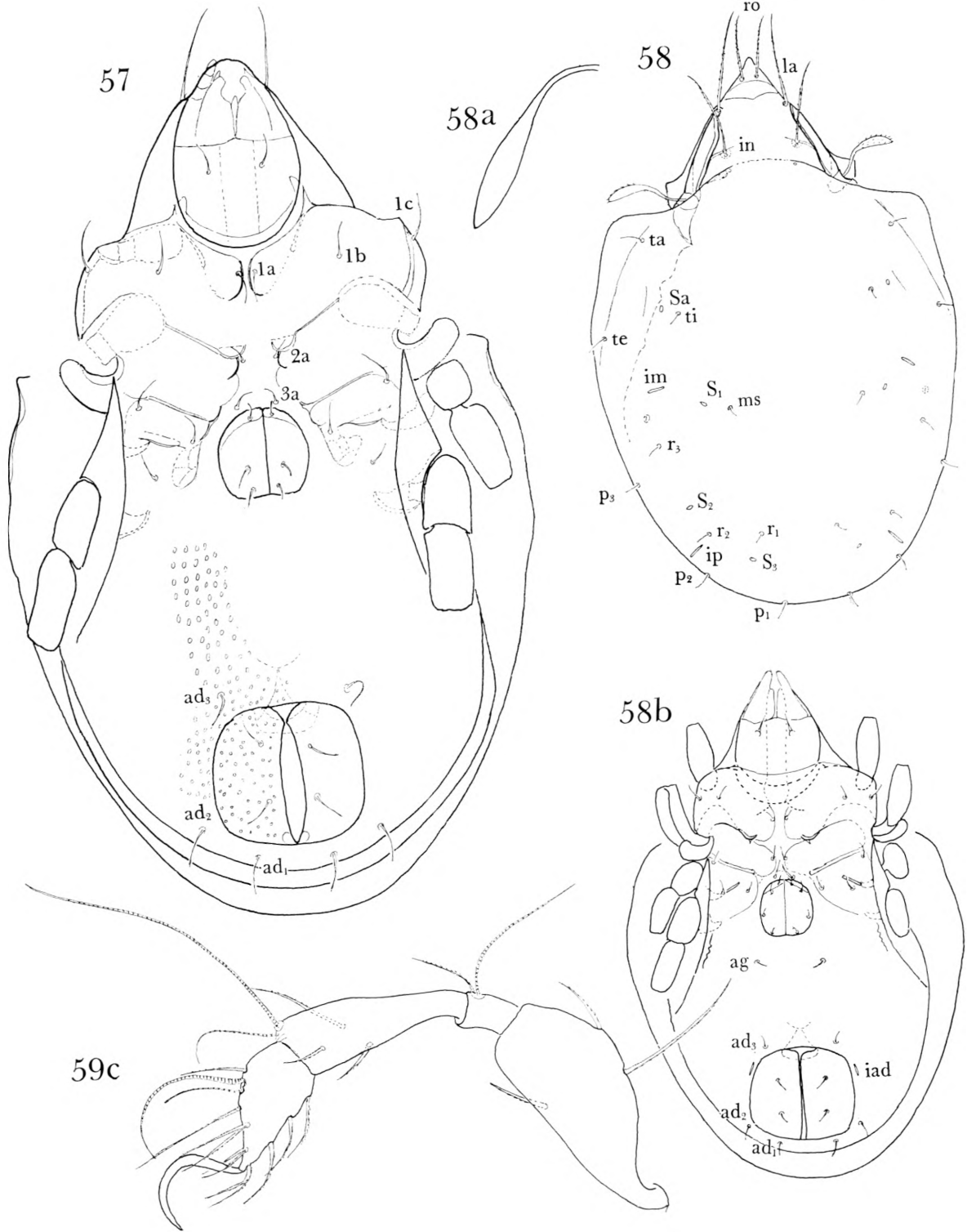


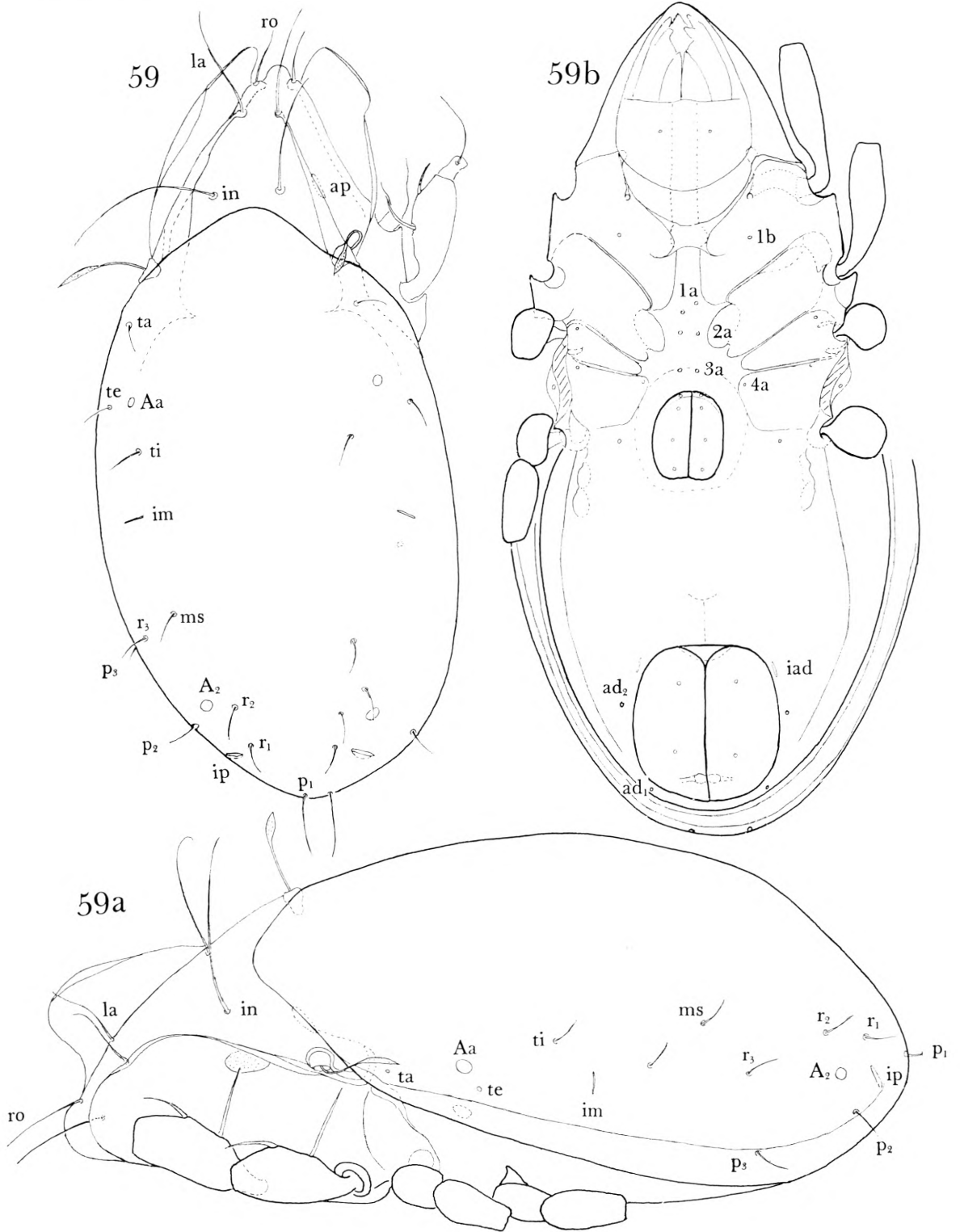
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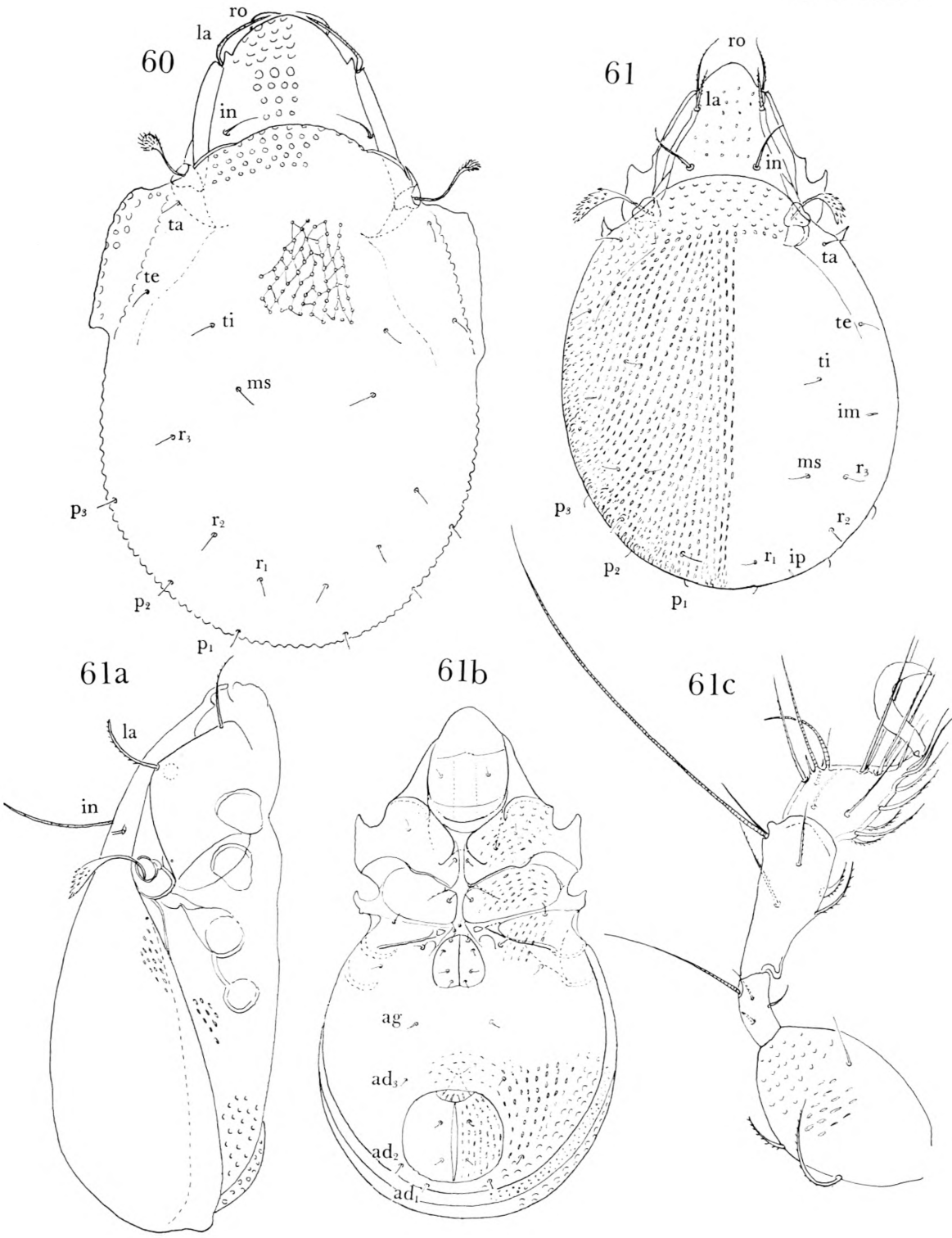
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