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SUCKING LICE OF THE GENUS *HOPLOPLEURA*  
(ANOPLURA : INSECTA) FROM AUSTRALIAN MURIDAE.

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MEMBERS of the genus *Hoplopleura* have a world-wide distribution on Muridae (Rodentia, Mammalia). Although Australia is known for her rich and very distinct endemic fauna of Muridae (Tate, 1951) only two species of *Hoplopleura* have been recorded from that continent so far. Recently Dr. John H. Calaby, Wildlife Survey Section, Commonwealth Scientific and Industrial Research Organization (CSIRO), Canberra, has collected sucking lice on Australian rodents systematically. We are much indebted to him (and the other collectors) for allowing us to see this material. Also we are obliged to Professor A. Brizard (Toulouse) for sending us the type-specimens of *Hoplopleura bidentata* (Neumann, 1909) on loan.

Among the material from Australia at hand are nine forms of *Hoplopleura*, of these *Hoplopleura bidentata* and *H. calabyi* Johnson, 1960 have been described before. Three others are represented by material that is at present insufficient in our opinion for naming them.

We have enumerated the material of each species so that the specimens from one particular host-individual are given the same number.

The diameter of the abdominal spiracles is a good character for identifying the species of *Hoplopleura* known from Australia. We have measured it in the fifth abdominal segment.

The paratergal plates of the abdominal segments 6, 7 or 8 are sexually dimorphic. The posterior lobes of these plates are somewhat better developed in the female than in the male.

We have always illustrated, but not described, the male genitalia. The differences between the different species are slight but constant in a number of individuals compared.

We have added some remarks about the status of the host species from Tate (1951). Of course, we had to rely on the original determination of the hosts.

*Hoplopleura uromydis* n. sp.

MATERIAL EXAMINED. On *Uromys caudimaculatus*, Australia, Moresby Range, Innisfail, Queensland, 4 ♂, 4 ♀, 1. v. 1959 (NF 1413).

HOLOTYPE ♂ in the Division of Entomology Museum, CSIRO, Canberra.

PARATYPES. 3 ♂, 4 ♀.

Figs. 1-4.

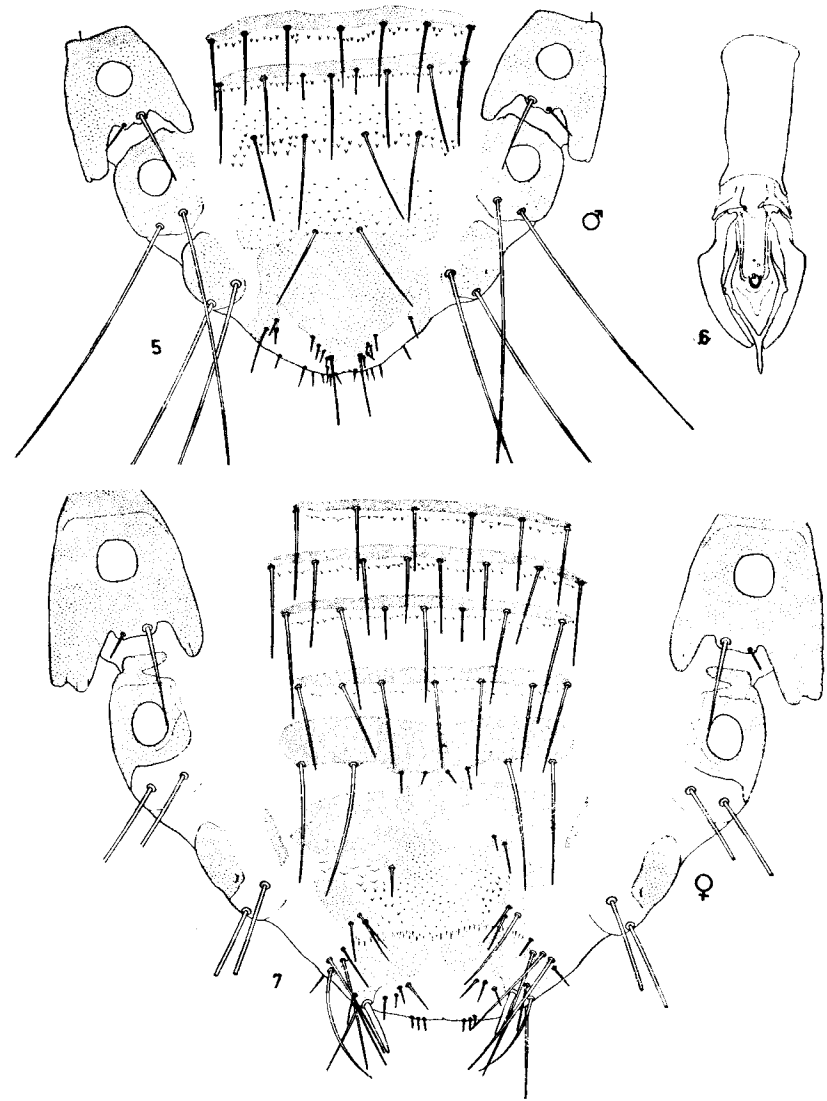


*Hoplopleura uromydis* n. sp. 1, ♂, dorsal view on the left, ventral view on the right side (80×); 2, ♀, dorsal (left) and ventral (right) views of the head (160×); 3, thoracic sternal plate (160×); 4, ♀, left paratergal plates (80×).

**Diagnosis.** *Hoplopleura* with exceedingly large abdominal spiracles (diameter 0.034–0.037 mm). Thorax with a long seta mesal to the mesothoracic spiracle. ♂ with one tergite and two sternites on abdominal segments 3 to 6, ♀ with three tergites and three sternites on each of these segments. Paratergal plates 4 to 6 with two setae of medium length, the dorsal one shorter. Anterior sternite of abdominal segments 3 to 6 with one very short seta on each side of median seta.

**Description.** The mounted specimens are comparatively broad (fig. 1). The total length of the holotype is 1.15 mm, 3 male paratypes are 1.11–1.14 mm long, 4 female paratypes measure 1.40–1.47 mm.

Figs. 5-7.



*Hoplopleura uromydis* n. sp. 5, ♂, posterior end, ventral view; 6, ♂, genitalia; 7, ♀, ventral view of the posterior end. (Figs. 5-7: 160×).

**Head.** Preantennal part of medium length and markedly truncate. Sensory pits on the posterior side of the antennal segments 4 and 5 are very large. Distal seta on the dorsal side of the third antennal segment not markedly sexually dimorphic. Postantennal angles rounded and not

very prominent. Breadth of head at the postantennal angles is 0.165–0.170 mm in males and 0.172–0.180 mm in females. Behind them, lateral margins slightly convex and convergent to 'neck-region'. Four setae on each side, second and third of which are shifted to dorsal side. For the arrangement of the other setae of the head see fig. 2.

*Thorax.* Seta on the dorsal side mesal to the mesothoracic spiracle very long. Sternal plate has short anterior and a long posterior process (fig. 3). Seta on each side of dorsum of metathorax set close to midline.

*Abdomen.* Abdomen is relatively broad in mounted specimens. Paratergal plates of segments 2 to 6 have a free ventral and dorsal process (fig. 4). Dorsal one broader. Both processes not scaly, rounded and slightly bilobate, their posterior margin smooth and not serrate. Between the two processes the paratergal plates are emarginate and bear two setae, of medium length in the segments 2 to 6, in segments 4 to 6 dorsal seta is shorter, but never minute. Paratergal plate 2 has a short additional seta in its middle. Paratergal plates of segments 7 and 8 have no free processes. As in the other members of the genus there are two long marginal setae on each side of these segments. Excessively large abdominal spiracles present on the segments 3 to 7, vestigial ones on segments 2 and 8. Area between paratergal plates and tergites or sternites free of setae. First sternite of abdominal segment 3 bears a pair of very stout and long setae on each side, and there is a short seta on each side of the medium seta in the row behind the anterior sternite of the segments 3 to 6 or 7.

♂. Two rather narrow sternites and one moderately broad tergite on the segments 4 to 6, each bearing a row of 7 to 9 setae on its posterior margin which are mostly of medium length. Genital region and genitalia see fig. 5 and 6. Outline of subgenital plate vague in material at our disposal.

♀. Three sternites and three tergites in each of the abdominal segments 4 to 6. All are comparatively narrow. Paratergal plate of segment 7 has a small posterior process dorsally, which is however, not free. Sternites bear a row of 6 to 8 setae on their posterior margin, tergites a row of 5 to 7. Genital area see fig. 7.

*Host.* The host of the type series should be referable to *Uromys caudimaculatus caudimaculatus* (Krefft, 1867). This subspecies is found on the Cape York Peninsula, Queensland. Two other subspecies occur in New Guinea.

*Hoplopleura gyomydis* n. sp.

MATERIAL EXAMINED. On *Gyomys fumeus*, Silverband Falls, Grampians, Victoria, Australia: (1). 1♂, 3♀, 28. x. 1962 (R. M. Warneke). (2). 3♂, 4♀, 27. x. 1962 (R. M. Warneke).

HOLOTYPE ♂ in the Division of Entomology Museum, CSIRO, Canberra.  
PARATYPES. 3♂, 7♀.

*Diagnosis.* A slender *Hoplopleura* with very short forehead and a long seta mesal to the mesothoracic spiracle. ♂ with one broad and lens-shaped tergite and two broad sternites, ♀ with three broad sternites and three broad tergites in each of the abdominal segments 4 to 6. Paratergal plates 3 to 5 roughly triangular, rounded and without a sclerotized transverse bar anteriorly. Ventral and dorsal apical lobes of paratergal plates of segments 3 to 5 deeply bilobate and serrate. Dorsal seta of paratergal plate 4 to 6 minute. Paratergal plate 6 with undivided dorsal and ventral lobe. Paratergal plates 7 and 8 without posterior projections. For the characteristic sternal plate of the thorax see fig. 10.

*Description.* The mounted specimens are slender (fig. 8). Total length of male holotype 1.21 mm, ♂ paratypes 1.21–1.24 mm long, and female paratypes 1.49–1.60 mm.

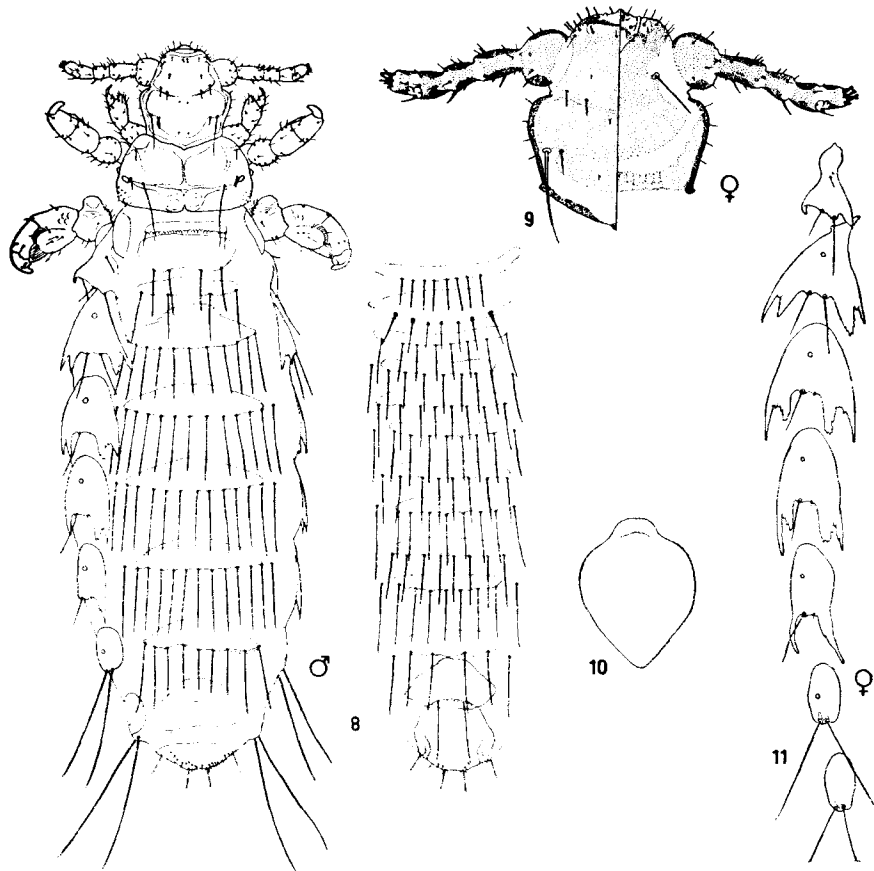
*Head.* Preantennal part very short (fig. 9). Distal seta on dorsal side of antennal segment 3 not sexually dimorphic. Postantennal angles of head broadly rounded and not prominent. Breadth of head at postantennal angles 0.154 mm in holotype, 0.154–0.167 in the male paratypes, and 0.156–0.163 mm in the female paratypes. Lateral margins of postantennal part of head straight and convergent, the four small marginal setae on each side standing all in one row, foremost on top of postantennal angle. For the arrangement of the other setae on the head see fig. 9.

*Thorax.* Seta on dorsal side mesal to mesothoracic spiracle very long. Seta behind it short and widely separated from its counterpart on the other side. Sternal plate heart-shaped with a rounded anterior projection (fig. 10).

*Abdomen.* Paratergal plates of segments 3 to 5 have free dorsal and ventral lobes which are deeply bilobate and have a serrate margin (fig. 11). In paratergal plates 2 and 6 lobes are undivided; those of segments 7 and 8 are rounded and without any processes. Paratergal plates of the different segments widely separated from each other in our material. Anteriorly, they are rounded and show no trace of a sclerotized transverse bar at their base as in many other *Hoplopleura*. Each paratergal plate has two setae at its posterior margin, paratergal plate 2 has an additional very short seta in middle immediately behind vestigial spiracle. Of two posterior setae of this plate, dorsal one is of medium length or long, ventral one is slightly shorter. Both setae of paratergal plate 3 and the ventral setae of paratergal plates 4 to 6 of medium length, dorsal setae of the paratergal plates 4 to 6 minute. As in other *Hoplopleura* segments 7 and 8 have two very long marginal setae. Spiracles of segments 3 to 7 small (diameter 0.007–0.009 mm), spiracles of segments 2 and 8 vestigial. Setae of anterior sternite of third segment only slightly modified.

♂. Two broad sternites and one broad tergite on each of segments 4 to 6. Tergites (fig. 8) lens-shaped, i.e. their anterior and posterior margins convex, laterally pointed. Each of tergites 3 to 6 carries a row of 11 (10 to 13) setae on its posterior margin. Segments 4 to 6 with an additional seta

Figs. 8-11.

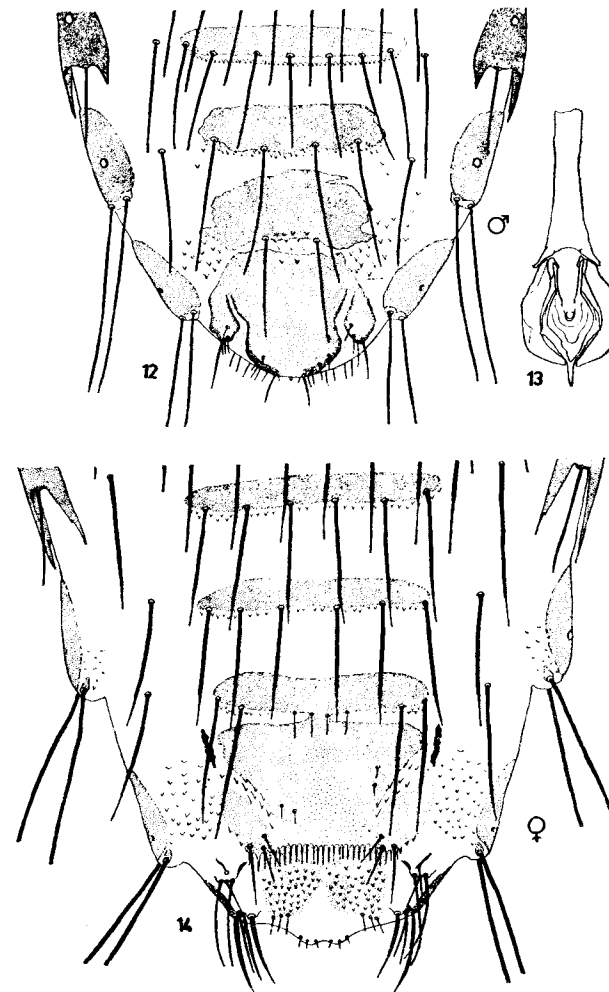


*Hoplopleura gyomydis* n. sp. 8, ♂, dorsal view (left) and sclerotizations and setae of the ventral side (right), (80×); 9, ♀, dorsal (left) and ventral (right) views, (160×); 10, thoracic sternal plate (160×); 11, ♀, left paratergal plates (80×).

lateral to tergites. Segments 4 to 6 have two broad sternites each, anterior one less expanded laterally and bearing a row of 7 setae on its posterior margin. An additional seta lies between it and the corresponding paratergal plate. Posterior sternite of these segments has behind it a row of 8 setae. For genital area and genitalia see figs. 12 and 13.

♀. Abdominal segments 4 to 6 have three comparatively broad sternites and tergites each. Plates of each segment decrease in length posteriorly, i.e. most anterior one is longest, and it also has more setae (9) than middle and posterior sternite of each of these segments. Between sternites and paratergal plates are single setae which have no connection with sternites. Posterior lobes of paratergal plate 6 longer than in the male. For the genital area see fig. 14.

Figs. 12-14.



*Hoplopleura gyomydis* n. sp. 12, ♂, ventral view of posterior end; 13, ♂, genitalia; 14, ♀, ventral view of posterior end. (Figs. 12-14: 160×).

*Host.* Tate (1951) considers the Australian *Gyomys* a subgenus of *Pseudomys*. Of *Pseudomys* (*Gyomys*) *fumeus* (Brazenor, 1934) Tate knew only the type from Turton's Pass, Otway Forest, Victoria.

**REMARK.** The hosts of *H. gyomydis* and of *H. calabyi* are considered to be closely related by Tate (1951), but these two species of *Hoplopleura* are not more closely related to each other than is one of them to any other *Hoplopleura* from Australia (except the aberrant *H. bidentata*.)

*Hoplopleura irritans* n. sp.

**MATERIAL EXAMINED.** On *Rattus assimilis*, Australia: (1). Olsen's Bridge, Victoria, 14 ♂, 13 ♀, 88 larvæ, 15. vi. 1962 (R. M. Warneke, R.A. 2381). (2). Olsen's Bridge, Victoria, 3 ♂, 3 ♀ mounted and 6 ♂, 5 ♀, 4 larvae in alcohol, 15. vi. 1962 (R.A. 2379). (3). Olsen's Bridge, Victoria, 3 ♂, 4 ♀, 15. vi. 1962 (R. M. Warneke, R.A. 2380). (4). Balook, 12 ml. S. of Traralgon, Victoria, 6 ♂, 5 ♀, 12 larvae mounted and 9 ♂, 7 ♀, 2 larvae in alcohol, 10. iii. 1962 (R. M. Warneke, R.A. 2082). (5). Heathmere, Victoria, 6 ♂, 3 ♀ mounted and 10 specimens in alcohol, 23. xi. 1962 (R. M. Warneke, 2451). (6). Mt. Macedon, Victoria, 3 ♂, 3 ♀ mounted, 5 ♀ in alcohol, 18. xii. 1963 (R. M. Warneke). (7). Whites River, Kosciusko, N.S.W., 1 ♂, 4 ♀ mounted, 5 ♀ in alcohol, 16. i. 1962 (J. H. Calaby).

On *Rattus lutreolus*, above Silverband Falls, Grampians, Victoria, Australia: (8). 3 ♀, 28. x. 1962 (R. M. Warneke). (9). 8 ♂, 17 ♀, 7 larvae mounted and 10 specimens in alcohol, 3. xi. 1962 (R. M. Warneke, 2435). (10). 4 ♂, 7 ♀, 4. xi. 1962 (R. M. Warneke).

On *Rattus lutreolus*, Tasmania: (11). Cradle Mtn., 4 ♂, 4 ♀, 20. iii. 1963 (R. H. Green). (12). Cradle Mtn., 6 ♂, 6 ♀, 27. iv. 1963 (R. H. Green). (13). Maydena, 3 ♀, 2 larvæ, 7. xii. 1961 (B. C. Mollison). (14). Yolla, 2 ♂, 2 ♀ mounted, 6 specimens in alcohol, 16. ii. 1962 (B. C. Mollison). (15). Florentine valley, 2 ♂, 2 ♀, 7. vii. 1959 (B. C. Mollison). (16). St. Valentine's Peak, 2 ♂, 3 ♀ mounted and 12 specimens in alcohol, 13. vii. 1962 (B. C. Mollison). (17). St. Valentine's Peak, 2 ♂, 2 ♀ mounted and 9 specimens in alcohol, 20. ix. 1962 (T. Andersen).

On *Rattus assimilis*, Queensland, Australia: (18). Innisfail, Rain Forest, 4 ♂, 4 ♀, 24. x. 1958 (N.F. 1156). (19). Mena Creek, nr. Innisfail, 1 ♀, 15. vii. 1958 (N.F. 1031). (20). Moresby Range, 3 ♀, 1. v. 1959 (N.F. 1411).

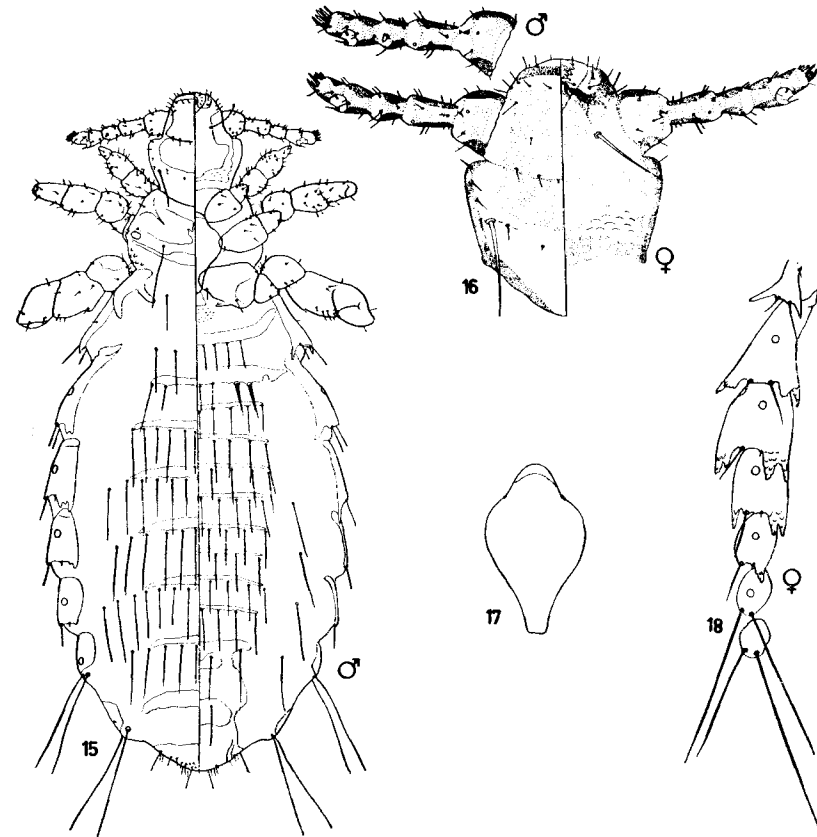
**HOLOTYPE** ♂ (No. 8239) in the Division of Entomology Museum, CSIRO, Canberra, from *Rattus assimilis*, data under (1) above.

**PARATYPES.** 19 ♂, 20 ♀, with data under numbers (1) to (3) above.

**Diagnosis.** *Hoplopleura* with a long seta mesal to mesothoracic spiracle. ♂ with one tergite and two sternites on the abdominal segments 4 to 6. ♀ with three tergites and three sternites on each of these segments. All tergites and sternites very narrow. Distal seta on dorsal side of third antennal segment sexually dimorphic: short and stout in the ♂, longer and slender in the ♀. All paratergal plates with two setæ on posterior margin. Dorsal and ventral lobes of paratergal plates of abdominal segments 3 to 5 bilobate. These lobes spiny and with serrate posterior margin. Paratergal plates of abdominal segments 7 and 8 without posterior projections.

**Description.** This description is based on the holotype and the paratypes. A note on the other specimens provisionally referred to this new species will be subjoined. Total length of the holotype 1.08 mm (see fig. 15), that of 17 male paratypes 1.05–1.15 mm, and that of 20 female paratypes 1.21–1.41 mm.

Figs. 15–18.



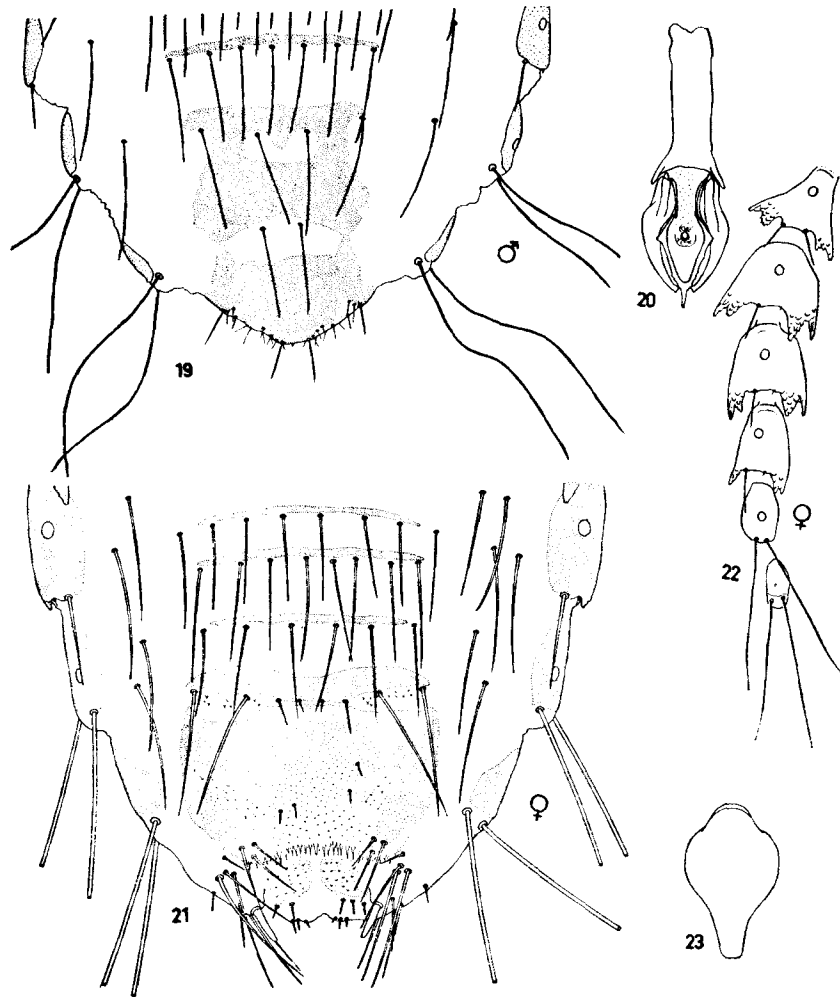
*Hoplopleura irritans* n. sp. 15, ♂, dorsal view on the left, ventral view on the right side (80 ×); 16, dorsal (left) and ventral (right) view of the female head and dorsal view of the left antenna of the male (160 ×); 17, thoracic sternal plate (160 ×); 18, ♀, left paratergal plates (80 ×).

**Head.** Forehead short and rounded (fig. 16). Distal seta on dorsal side of antennal segment 3 very different in male from female: short and very stout in the male, longer and more slender and therefore not differing from other antennal setæ in female. Postantennal angles not very distinct. Greatest breadth of postantennal part of head is 0.156–0.180 mm in the males, and 0.156–0.178 mm in females. Foremost of four short marginal setæ of postantennal part situated on top of postantennal angle, two following setæ slightly off straight lateral margin on dorsal side. For the arrangement of the other setæ of the head see fig. 16.

**Thorax.** Seta on dorsal side mesal to mesothoracic spiracle long. Thoracic sternal plate not very characteristic (fig. 17).

**Abdomen.** All paratergal plates bear two setae on their posterior margin (fig. 18). Those of plate 2 and 3 of medium length, dorsal one slightly longer. Plates 4 to 6 have a medium seta on ventral and a minute seta on dorsal side. Behind plate 7 and 8 are two long setae. Paratergal plate 2, which has the usual small seta in its middle, has a ventral and a dorsal smooth and pointed lobe. Posterior lobes of plates 3 to 5 bilobate

Figs. 19-23.



*Hoplopleura irritans* n. sp. 19, ♂, ventral view of posterior end; 20, ♂, genitalia; 21, ♀, ventral view of posterior end; 22, ♀ from Tasmanian *Rattus lutreolus*, left paratergal plates of abdominal segments 3-8 (80×); 23, ♀ from Tasmanian *Rattus lutreolus*, thoracic sternal plate. (Figs. 19-21 and 23: 160×).

and scaly, their margin serrate. Paratergal plate 6 sexually dimorphic, plates 7 and 8 have no posterior lobe. Two largest setae on each side of the first sternite of the third segment quite thick in this species. Diameter of spiracles is 0.012-0.016 mm.

♂. Abdominal segments 4 to 6 have two very narrow sternites and one relatively narrow tergite each, 7 to 8 setae behind sternites and 8 to 10 behind tergites. Individual additional setae situated laterally off sternites and tergites. Paratergal plate 6 has no posterior lobe. For genital area and genitalia see fig. 19 and 20.

♀. The segments 4 to 6 have three very narrow sternites and three very narrow tergites each, 6 to 8 setae behind each sternite, and 4 to 7 behind each tergite. Additional setae are found between sternites and tergites and paratergal plates posteriorly. Paratergal plate 6 has an undivided dorsal lobe. For genital area see fig. 21.

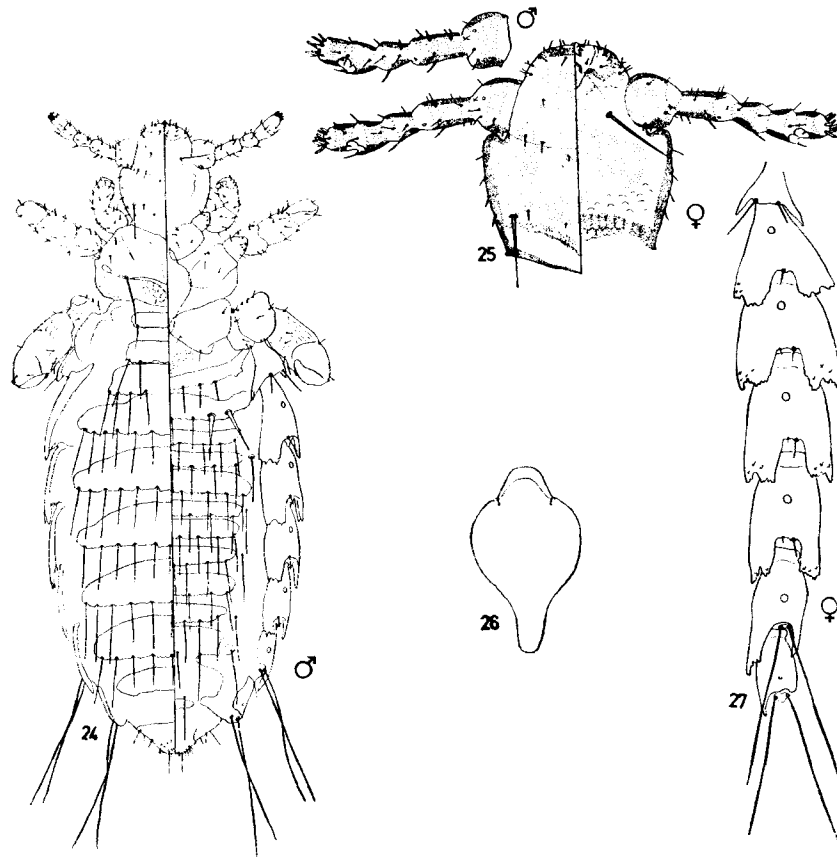
The specimens from *Rattus assimilis* originating from New South Wales and Victoria (material Nos. (4) to (7)) and those from *Rattus lutreolus* from Victoria (Nos. (8) to (10)) essentially agree with the types. The lice taken from *Rattus lutreolus* in Tasmania (material Nos. (11) to (17)) have somewhat broader sternites and tergites and differ in the shape of paratergal plate 6: this has distinct ventral and dorsal lobes in the female, the dorsal one may be bilobate (fig. 22); in the male there is only an undivided dorsal lobe posteriorly. The *Hoplopleura* taken from *Rattus assimilis* in Queensland (material Nos. (18) and (19)) agree with those taken from *Rattus lutreolus* in Tasmania. The three females from Moresby Range (material No. (20)), however, have broader abdominal sternites and tergites than any other *H. irritans* that we have seen. Their forehead is broad and truncate, the postantennal angles are very prominent and rounded, and the posterior part of the head is extremely broad and evenly convex. More material from the two host-species will have to be studied before clearing up this irritating situation.

**Hosts.** Horner and Taylor (1965) have shown that *Rattus assimilis* (Gould, 1858) and *Rattus fuscipes* (Waterhouse, 1839) are conspecific. Material No. (1) to (7) apparently had been obtained from *Rattus fuscipes assimilis* (Gould, 1858) in Victoria and the southernmost part of eastern New South Wales. Material Nos. (8) to (10) comes from *Rattus lutreolus lutreolus* (Gray, 1841). *Rattus lutreolus* from Tasmania represent the subspecies *R. l. velutinus* (Thomas, 1882). The host of the *Hoplopleura* listed under Nos. (18) to (20) may be *Rattus assimilis coracius* Thomas, 1923.

*Hoplopleura mastacomydís* n. sp.

**MATERIAL EXAMINED.** On *Mastacomys fuscus*, Australia. (1) Mt. Kate, Tasmania, 5 ♂, 9 ♀, 6. x. 1963 (R. H. Green). (2) Cradle Mtn., Tasmania, 3 ♂, 3 ♀, 26. iv. 1963 (R. H. Green). (3) Kosciusko, N.S.W., 3 ♀, 3 larvæ, i-ii. 1962 (J. H. Calaby).

Figs. 24-27.



*Hoplopleura mastacomydus* n. sp. 24, ♂, dorsal (left) and ventral (right) views (80×); 25, ♀, dorsal (left) and ventral (right) views of the head of the female and dorsal view of the left antenna of the male (160×); 26, thoracic sternal plate (160×); 27, ♀, right paratergal plates (80×).

**HOLOTYPE.** ♂ in the Division of Entomology Museum, CSIRO, Canberra, data under (1) above.

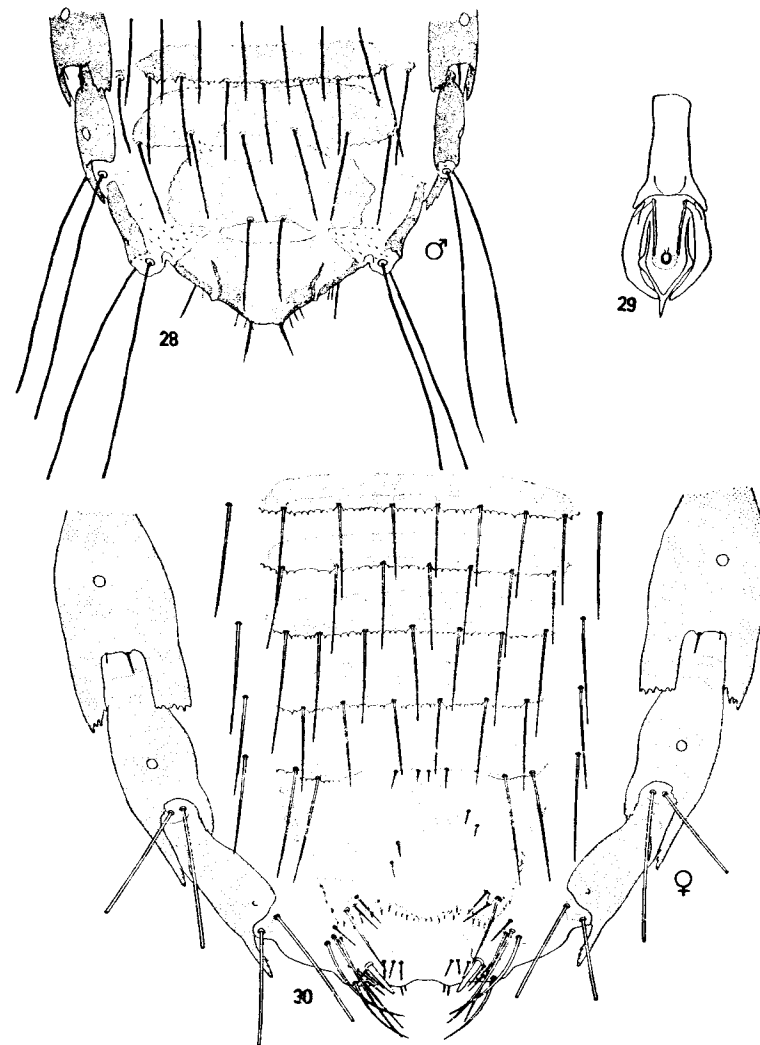
**PARATYPES.** 7 ♂, 12 ♀ with data under numbers (1) and (2) above.

**Diagnosis.** *Hoplopleura* with a long seta mesal to mesothoracic spiracle. ♂ with one tergite and two sternites on abdominal segments 4 to 6, ♀ with three tergites and sternites on each of these segments. All abdominal tergites and sternites very broad. Paratergal plate 3 with one, all other paratergal plates with two setae. ♀ with a free dorsal lobe on paratergal plate 8.

**Description.** (fig. 24) Holotype is 1.06 mm long, length of 7 male paratypes 1.02-1.08 mm, that of 12 female paratypes 1.31-1.44 mm.

**Head.** Preantennal part of head short and more or less rounded (fig. 25) Distal seta on dorsal side of antennal segment 3 not sexually dimorphic. Postantennal angles prominent and directed forward. Breadth of postantennal part 1.53-1.60 mm in males, and 0.160-0.169 mm in females. Lateral margin of postantennal part only slightly convex and convergent. Posterior part of head is broad. Four small setae on lateral postantennal part arranged in one marginal row, foremost of them clearly behind postantennal angle. For the arrangement of the other setae see fig. 25.

Figs. 28-30.



*Hoplopleura mastacomydus* n. sp. 28, ♂, ventral view of posterior end; 29, ♂, genitalia; 30, ♀, ventral view of posterior end.

**Thorax.** Seta on dorsal side mesal to mesothoracic spiracle long. Thoracic sternal plate has a short and broad anterior, and a longer and more slender posterior process (fig. 26). Anterior process is marked off laterally by a notch from the main part of the plate.

**Abdomen.** Broad paratergal plates have a rectangular incision between truncate ventral and dorsal lobes (fig. 27). Free posterior margin of these lobes serrate. Paratergal plate of second segment has narrow, pointed and smooth lobes; two setae on its posterior margin of medium length, dorsal one slightly longer; an additional small seta in middle of this plate. Paratergal plate of segment 3 has only one short and stout seta in posterior incision. Plates of segments 4 to 6 have a short and stout ventral, and a minute dorsal seta each. Spiracles of medium size, diameter 0.011–0.014 mm. Vestigial spiracles present on paratergal plates of segments 2 and 8. Two setae laterally on first sternite of third segment large in this species.

♂. Two broad sternites and one very broad tergite on each of segments 4 to 6. Each tergite bears a row of usually 11 or 12 setae on its posterior margin, each sternite a row of only 7 to 9. Free setae off the sternites, but not off the tergites. Paratergal plate of segment 7 has only a dorsal lobe, that of segment 8 has none. For genital area and genitalia see figs. 28 and 29.

♀. Three broad tergites and sternites in abdominal segments 4 to 6, each with a row of 6 to 9 setae on its posterior margin. Free setae are found off tergites and sternites. Paratergal plate 7 has a ventral and a dorsal, paratergal plate 8 only the mentioned dorsal lobe.

**Host.** Tate (1951) mentions localities of *Mastacomys fuscus* Thomas, 1882 at high altitudes in Tasmania, Gippsland and Otway Forest in Victoria, and on on Mt. Kosciusko in New South Wales.

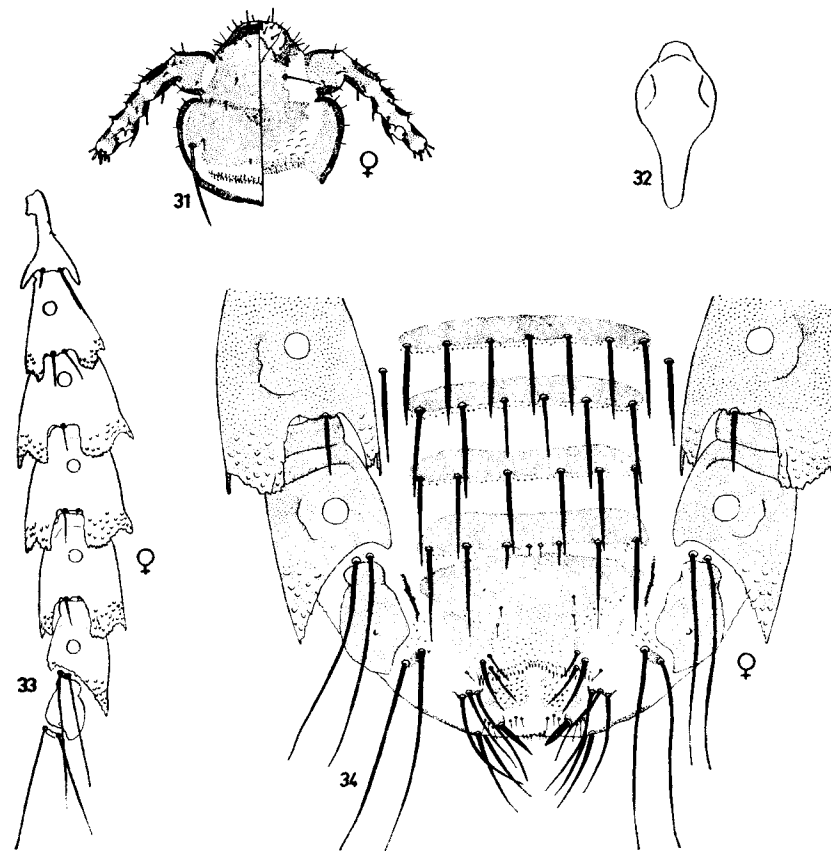
*Hoplopleura* sp.

**MATERIAL EXAMINED.** On *Melomys cervinipes*, 8 ml. W. Innisfail, Queensland, Australia, 1 ♀, 27. ii. 1959 (NF 1303).

This female definitely represents a new species. We do not want to base a new name on a single individual however.

**Description.** Total length 1.34 mm. Preantennal part of the head slightly pointed, postantennal part rounded (breadth 0.146 mm). Four setae on side of postantennal part arranged in one row, most anterior seta of which is placed on top of postantennal angle (fig. 31). Seta mesal to mesothoracic spiracle very long, seta laterally behind the metathoracic tergite very small. Thoracic sternal plate has a very characteristic long and slender posterior process (fig. 32). Abdominal spiracles comparatively large, their diameter 0.025 mm. Paratergal plates 2 and 3 have two medium-sized setae on their posterior margin, plates 4 to 6 a medium-sized ventral and a minute dorsal one, latter, however, missing in paratergal plate 4 of one side. Two long setae placed behind the paratergal plates of the 7th and 8th abdominal segment. Paratergal plate 7 has a

Figs. 31–34.



♀ *Hoplopleura* sp. from *Melomys*. 31, dorsal (left) and ventral (right) views of the head; 32, thoracic sternal plate; 33, left paratergal plates (80×); 34, ventral view of posterior end. (Figs. 31, 32, 34 : 160×).

long and free posterior lobe on the dorsal side, and a trace of such a lobe in paratergal plate 8 (fig. 33). Three rather broad sternites and tergites cover each of abdominal segments 4 to 6. For genital area see fig. 34.

**Host.** The host most probably is *Melomys cervinipes eboreus* Thomas, 1924.

*Hoplopleura calabyi* Johnson, 1960.

**MATERIAL EXAMINED.** On *Pseudomys higginsii*, Waratah, Tasmania, 2 ♂, 1 ♀, numerous specimens in alcohol, 24. ii. 1964 (R. H. Green).

This is the first record of the species after its description by Johnson. Our specimens come from the same host-species as the holotype, which is deposited at the CSIRO in Canberra. *Pseudomys higginsii* (Trouessart, 1897) is restricted to Tasmania.



*Hoplopleura bidentata* (Neumann, 1909).

*Haematopinus (Polyplax) bidentatus* Neumann (1909), *Arch. Parasitol.*, (for 1908), **13**, 515, fig. 18.

*Polyplax bidentatus* Neumann, Johnston & Harrison, 1913, *Proc. Roy. Soc. Queensland*, **24**, 108.

*Hoplopleura (?) bidentata* (Neumann), Kellogg & Ferris, 1915, *Ann. Durban Mus.*, **1**, 155.

*Hoplopleura bidentata* (Neumann), Ferris, 1916, *Proc. Calif. Acad. Sci.*, (4), **6**, 154, 205.

—, Ferris, 1921, *Stanf. Univ. Public., Univ. Ser., Biol. Sci.*, **2**, (2), 129-131, figs. 86, 87.

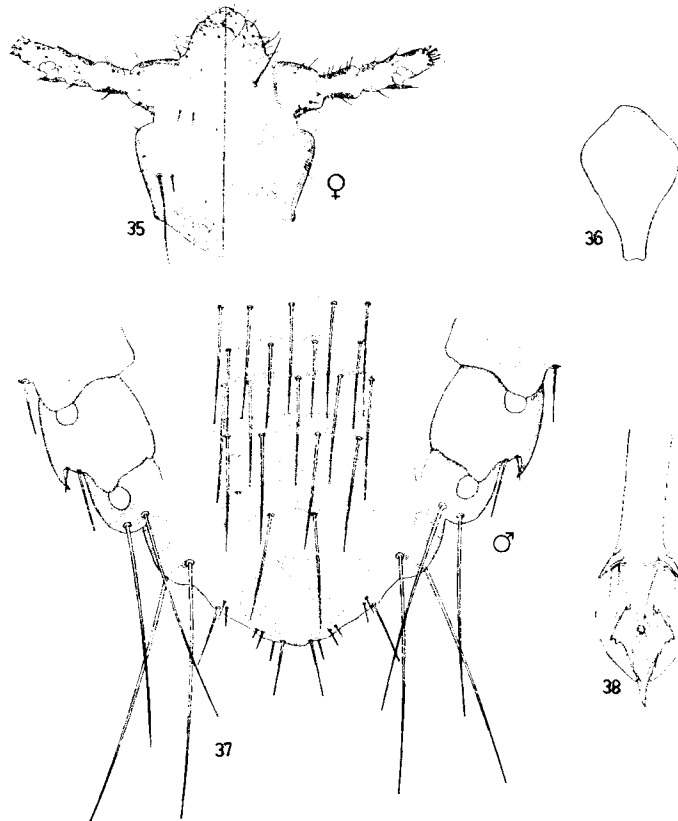
—, Ferris, 1951, *Mem. Pacific Coast Entom. Soc.*, **1**, 126, 133-134, 297.

**MATERIAL EXAMINED.** On "*Mus rattus*, Australie Sud," 5 ♂, 5 ♀, "juin 1909 (N. C. Rothschild)".

**LECTOTYPE** ♂ on slide No. 18 in the collection of the Ecole Vétérinaire de Toulouse, France.

**PARALECTOTYPES.** 4 ♂, 5 ♀.

Figs. 35-38.



*Hoplopleura bidentata* (Neumann, 1909). 35, ♀, dorsal (left) and ventral (right) views of the head; 36, thoracic sternal plate; 37, ventral view of posterior end of the male; 38, ♂, genitalia. (Figs. 35-38: 160 ×).

Through the kindness of Prof. Brizard we have been able to see the syntypes of this species, and to select a lectotype from them. Among the Australian *Hoplopleura* that we have seen, this is the most aberrant form. We have not seen the material on which the drawings and the redescription by Ferris (1921) have been based, but most probably it belongs here. We will shortly supplement the descriptions by Neumann, 1909 and Ferris, 1921.

**Description.** Total length of the lectotype 1.00 mm; three male paralectotypes measure 0.88-1.02 mm, five female paralectotypes 1.26-1.42 mm.

**Head.** Forehead narrow and prominent. Distal seta on dorsal side of antennal segment 3 not sexually dimorphic. Postantennal angles prominent. Breadth of postantennal part 0.135-0.154 mm. Lateral margin of postantennal part straight and slightly converging towards midline. Four small setae laterally on postantennal part not in a row, most anterior one situated on most antero-lateral point of postantennal angle. For the arrangement of the other setae see fig. 35.

**Thorax.** Seta on dorsal side mesal to mesothoracic spiracle long. For thoracic sternal plate see fig. 36.

**Abdomen.** Spiracles large, they measure 0.025-0.028 mm in diameter. Paratergal plate of segment 2 large and prominent. Tergites and sternites narrow, female with only two sternites in abdominal segments 4 to 6. For the genital area and the genitalia of the lectotype see figs. 37 and 38.

**Host.** Neumann thought that his specimens had been taken from a house rat (*Rattus rattus*), but Johnston & Harrison (1913) have shown that this was not the case, and that these lice had been collected from *Hydromys chrysogaster* Geoffroy, 1804 at Lake Torrens. From this locality the host-specimen most probably was *Hydromys chrysogaster fulvolavatus* Gould, 1853 according to the map in Tate (1951, p. 232).

**Key to the Australian members of the genus *Hoplopleura*:**

1. Abdominal spiracles large, diameter more than 0.020 mm . . . . . 2.
- Abdominal spiracles small, diameter less than 0.020 mm . . . . . 3.
2. Abdominal spiracles excessively large, diameter more than 0.030 mm; ♀ with three sternites on the abdominal segments 4 to 6 . . . . . *H. uromydis*
- Abdominal spiracles between 0.020 and 0.030 mm in diameter; ♀ with two sternites on the abdominal segments 4 to 6 . . . . . *H. bidentata*
3. Distal seta on dorsal side of antennal segment 3 markedly sexually dimorphic (fig. 16), tergites and sternites narrow (fig. 15) . . . . . *H. irritans*
- Distal seta on dorsal side of antennal segment 3 not or only slightly sexually dimorphic (fig. 25), tergites and sternites at least as broad as shown in fig. 8 . . . . . 4.
4. Paratergal plate of segment 3 with one short seta only . . . . . *H. mastacomydis*
- Paratergal plate of segment 3 with two setae of medium length . . . . . 5.
5. Paratergal plate of segment 7 without posterior projection . . . . . *H. gyomydis*
- Paratergal plate of segment 7 with a posterior lobe, only dorsal in the ♂, dorsal and ventral in the ♀ . . . . . *H. calabyi*

SUMMARY.

The Australian members of the genus *Hoplopleura* (Hoplopleuridae, Anoplura) are revised. *Hoplopleura uromydis* n. sp. from *Uromys caudimaculatus caudimaculatus* (Krefft, 1867), *H. gyomydis* n. sp. from *Pseudomys (Gyomys) fumeus* (Brazenor, 1934), *H. irritans* n. sp. from *Rattus fuscipes assimilis* (Gould, 1858) and *H. mastacomydis* n. sp. from *Mastacomys fuscus* Thomas, 1882 are described. Some other apparently new forms of *Hoplopleura* are mentioned but not named since sufficient material is not available. A key to the named species of *Hoplopleura* from Australia is given.

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THE GENERIC STATUS OF THE AUSTRALASIAN  
TYPHLOPIDS (REPTILIA : SQUAMATA).

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THE genus *Typhlops* as it stands to-day, contains almost two hundred species and is represented in Africa, Madagascar, tropical America, and the Oriental and Australo-Papuan Regions (excluding New Zealand).

Studies which I am making on the internal anatomy of members of the genus have convinced me that the Australo-Papuan species, as well as some of the Pacific Islands and south-east Asian species, differ so markedly from the remainder of the group in some aspects of the reproductive system as to warrant their removal to a separate genus. I wish to present here a summary of the evidence on which this conviction is based.

OBSERVATIONS.

In an earlier paper (Robb, 1960) on the internal anatomy of the Australian species of *Typhlops*, I gave a detailed description of the male and female reproductive systems. I made the mistake, however, of supposing the Australian species to be typical in this respect, as they are in most others, of the remainder of the genus, and did not at the time appreciate how significantly the male reproductive system differs from that of typhlopids from other parts of the world.

The greatest degree of difference occurs in the organs of the post-anal region of the male (fig. 1). In the majority of typhlopids the post-anal reproductives conform to the typical saurian pattern; but in the Australian species the paired male organs are solid, externally grooved, protrusible structures, each of which is enclosed in a connective tissue sheath (figs. 2 and 3). Retraction is effected by a pair of long, slender muscles attached by one end to the posterior wall of the cloaca, while the other end is fused with the hemipenial tissue. Each hemipenis and its sheath are coiled to a greater or lesser extent and the degree of coiling appears to be fairly constant within each species. For example, in *T. nigrescens* (fig. 4) there are six distinct coils in the organ, while in *T. grypus* (fig. 5) the degree of coiling is very slight.

The male of the Australian and related species also has a pair of elongate, thick-walled hollow structures, resembling blind caeca, which lie dorso-laterally in the very posterior part of the body cavity. These two structures, referred to in the earlier paper as 'retro-cloacal formations' from a comment by Guibe (1948), become confluent posteriorly and have a common opening into the cloaca through the mid-dorsal wall of the proctodaeum (figs. 1 and 5). Their function is as yet uncertain, but it appears likely that they are sperm sacs (Robb, 1966).