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# ON THE GENUS *ROPRONIA* PROVANCHER, 1886 (HYMENOPTERA: ROPRONIIDAE) OF TAIWAN AND FUKIEN, CHINA[1]

by
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**Abstract:** Four *Ropronia* species, including two new ones *insularis* and *maai* are hereby recorded from Taiwan and Fukien, Southeastern China. In addition to the records, descriptions and illustrations of the those four, a checklist of and a synoptic key to the 12 species of the entire genus are provided in this paper.

## INTRODUCTION

*Ropronia* Provancher, 1886 is the only genus of the very small family Roproniidae (superfamily Serphoidea). In venational characters, in particular, it is closely related to the genera *Helorus* Latreille, 1802 (family Heloridae) and *Vanhornia* Crawford, 1909 (family Serphidae). Some earlier authors assigned *Ropronia* to Heloridae but the characters of the head and gaster are so distinctive that *Ropronia* seems to be justified to stand as the type genus of an independent family.

The first species of the genus was described 100 years ago. Since then 8 species (including the 2 new ones hereby described) are known from China, Japan and Sakhalin, 3 from Canada and the USA, and 1 from Burma. It is therefore apparent that *Ropronia* is largely found in the Holarctic Region, and its occurrence in the Oriental Region (Burma, Taiwan) is mostly confined to higher altitudes. It is also interesting to note that no *Ropronia* has ever been discovered in the western Palearctic Region.

This paper is solely based on the collection in the Taiwan Agricultural Research Insittute. The Taiwanese specimens recorded herewith were collected by sweepings and by the Malaise traps by: K. C. Chou (KCC), L. Y. Chou (LYC), S. P. Huang (SPH), C. N. Lin (CNL), K. S. Lin (KSL), S. C. Lin (SCL), T. Lin (TL), C. C. Pan (CCP), W. S. Tang (WST), C. H. Wang (CHW); from the following localities in central Taiwan: TAICHUNG Hsien, Anmashan 2,275 m, Chiapaotai 750 m. NANTOU Hsien, Tsuifeng 2,300 m, Meifeng 2,150 m, Sungkang 2,100 m, Tungpu 1,200 m.

## Genus **ROPRONIA** Provancher

*Ropronia* Provancher, 1886:154. Type-species: *Ropronia pediculata* Provancher, by monotypic.

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*Roptronia* Ashmead, 1898:132. Error.

## A check list of the genus *Ropronia* Provancher of the World

*brevicornis* Townes, 1948:88, ♀ ♂. China (Taiwan, Fukien, Shansi), Japan.
*californica* Ashmead, 1898:133, ♀ ♂. U. S. A. (California, Oregon).
*garmani* Ashmead, 1898:132, ♀ ♂. U. S. A. (New Hampshire to Georgia, west to Iowa).
*insularis* sp. nov. ♀ ♂. China (Taiwan).
*ishiharai* Yasumatsu, 1956:118, ♀ ♂. Japan.
*maai* sp. nov. ♀. China (Fukien).
*malaisei* Hedqvist, 1959:137, ♂. Burma.
*pediculata* Provancher, 1886:154, ♀. Canada (Ontario), U. S. A. (New York).
*szechuanensis* Chao, 1962:378, ♀ ♂. China (Taiwan, Szechuan).
*townesi* Yasumatsu, 1956:122, ♀. Japan.
*watanabei* Yasumatsu, 1958:112, ♂. Sakhalin.
*zhejiangensis* He, 1983:279, ♂. China (Chekiang = Zhejiang).

## Key to known species of *Ropronia* Provancher

(Modified from Hedqvist, 1959 and Chao, 1962)

1. Metanotum elevated as an acute pyramid; head and thorax mostly or entirely ferruginous. ♀ ♂ ..... ***californica*** Ashmead, 1898
– Metanotum convex, not conspicuously elevated; head and thorax brown to black, sometimes marked with white. ..... 2
2. Nervulus antefurcal; frons and top of head coarsely rugose-punctate. ♀ ..... ***pediculata*** Provancher, 1886
– Nervulus postfurcal; frons and top of head not rugose-punctate. ..... 3
3. Fore wing with a large fuscous spot below stigma. ..... 4
– Fore wing without such spot. ..... 5
4. Side scrobe of pronotum almost smooth and shining; anterior margin of clypeus incised medially; vertex, mesoscutum posteriorly, scutellum and metanotum posteriorly almost smooth and shining, with sparse, fine punctures; fuscous spot of fore wing reaching to radius; gaster except petiole ferruginous. ♀ ♂ ..... ***szechuanensis*** Chao, 1962
– Side scrobe of pronotum punctate-rugose except a small lower disk smooth; anterior margin of clypeus broadly rounded; vertex, mesoscutum posteriorly, scutellum and metanotum posteriorly with rather coarse punctures; fuscous spot of fore wing larger, reaching to radius and medius; gaster black. ♀ ♂ ..... ***brevicornis*** Townes, 1948
5. Head much wider than high in front view. ..... 6
– Head subcircular in outline viewed from front. ..... 7
6. Vertex with rather close, sharp medium-sized punctures; mesoscutum with medium-sized punctures separated by about their diameter ♀ ♂. ..... ***garmani*** Ashmead, 1898
– Vertex with coarse, weak punctures; mesoscutum with medium-sized punctures, the diameter of puncture greater than interdistance between two neighboring punctures. ♂ ..... ***watanabei*** Yasumatsu, 1958
7. Second abscissa of cubitus (2–SR+M) of fore wing longer than 1st transverse cubitus (2–SR); vertex and mesoscutum finely punctate; scutellum smooth. ♂ .... ***malaisei*** Hedqvist, 1959

– Second abscissa of cubitus (2–SR+M) of fore wing shorter than 1st transverse cubitus (2–SR). ..... 8

8. Temple about as long as eye in lateral view of head; dorsal area of gastral petiole densely distinctly punctate; 2nd discoidal cell of fore wing narrow, distinctly more than twice as long as wide. ♀. ..... ***townesi*** Yasumatsu, 1956

– Temple either shorter or longer than eye; dorsal area of gastral petiole either with some irregular sculptures or smooth and shining; 2nd discoidal cell of fore wing variable in shape. ..... 9

9. Area between postocelli flattened or with a short longitudinal furrow. ..... 10

– Area between postocelli with a short longitudinal ridge. ..... 11

10. Vertex strongly elevated; area between postocelli without a short longitudinal furrow. ♂. ..... ***zhejiangensis*** He, 1983

– Vertex very weakly convex; area between postocelli with a short longitudinal furrow. ♀. ..... ***maai*** sp. nov.

11. Temple distinctly longer than eye in lateral view of head; dorsal area of gastral petiole with some irregular sculptures; gaster black. ♀ ♂. ..... ***ishiharai*** Yasumatsu, 1956

– Temple distinctly shorter than eye in lateral view of head; dorsal area of gastral petiole smooth in female but sculptured in male; gaster ferruginous. ♀ ♂. ..... ***insularis*** sp. nov.

## ***Ropronia brevicornis*** Townes
(Figs. 1–3, 7–8)

*Ropronis brevicornis* Townes, 1948:88–89, fig., ♂ ♀. Holotype in U.S. Nat. Mus., reared from *Periclista* sp. in Fukien: Foochow.

*Ropronia brevicornis* Chao, 1957:73–76, ♂ ♀, redes., figs.

Host: *Periclista* sp. (Tenthredinidae).

Distribution: China (Taiwan, Fukien, Shansi), Japan.

Specimen examined: ♂, Meifeng, IV. 1984, Malaise trap (KSL & KCC).

## ***Ropronia szechuanensis*** Chao
(Figs. 4–6, 9–11)

*Ropronia szechuanensis* Chao, 1962:378–381, figs., ♂ ♀. Szechuan: Chengtu, Mt. Omei. Holotype in Zool. Inst. Acad. Sinica.

Distribution: China (Taiwan, Szechuan).

Specimen examined: ♀, Chiapaotai, 14–18. X. 1980 (KSL & CHW); ♂, Tungpu, 28–29. VI. 1978 (LYC); ♂, 5–6. X. 1981; ♀, 18–23. XI. 1981 (TL & WST); ♀, 2♂♂, X. 1985; 5♂♂, XI. 1985; ♀, XII. 1985, Malaise trap (KSL).

## ***Ropronia maai*** Lin, sp. nov.
(Figs. 12–17, 24)

Female: Fore wing 6.6 mm long. Head in dorsal view wider than thorax (39:31), and parallel-sided behind eyes; in front view lower than wide (32:37). Surface with rather dense setigerous punctures except at median area of vertex; temple and gena posteriorly with distinctly sparser punctures; vertex very weakly raised, with a short longitudinal groove behind anterior ocellus; ocelli ar-

ranged in a low triangle, LOL:POL:OOL about 3:5.5:10.5; occiput, temple and upper area of frons with some weakly, transversely wrinkled; with fine longitudinal rugae before anterior ocellus; frons weakly depressed laterally. With a keel between antennal toruli and reaching to lower face, dorsal margin of keel undulate in profile. Face with dense punctures. Clypeus about 3.4 as wide as long, with punctures somewhat coarser than those on face, lateral areas wrinkled. Malar space short, about 0.3 as high as eye. Eye relatively small, about 1.5 as high as wide; gena and temple convex, the latter slightly longer than eye. Antennal flagellomeres gradually attenuate and bent, except terminal segment which is cylindrical; relative lengths and widths of segments 8:4; 4:3; 10:3; 8.5:3; 8.5:2.7; 7.5:2.5; 7:2.4; 6.9:2.4; 6:2.3; 6:2.3; 5.5:2; 5.4:1.9; 5:1.8; 7:1.7.

Thorax covered with dense setigerous punctures, pronotum densely punctate and wrinkled, side of pronotum obliquely wrinkled, lower portion with a small polished area; epomia distinct. Mesoscutum shorter than wide, posterolateral margin raised, submarginal groove narrow; notauli distinctly foveate; anterior parallel lines and lateral lines distinct; punctures on anterior and lateral portions rather fine and dense, those on inner side of lateral line slightly sparser. Prescutellar groove deep, with 5 or 6 longitudinal ridges. Scutellum covered with coarse punctures similar to those on posterior portion of median lobe of mesoscutum; lateral depression with transverse rugae. Mesopleuron with punctate-rugulose anteriorly, densely punctate on lower portion, posterior disk convex, longitudinal depression smooth, posterior groove foveate. Metanotum weakly convex, largely punctate-reticulate, more strongly so at anterolateral areas. Metapleuron rugose-reticulate except the disk area which is convex, almost smooth, with a few fine punctures. Fore wing as fig. Legs finely punctate and haired. Propodeum rugulose-areolate, with a weak median carina anteriorly, submedian carinae distinct. Gastral petiole about 3.7 as long as deep, punctate ventrally and laterally; smooth dorsally, anterior portion with sculptures laterally and weak ridge; gaster smooth with short hairs; venter behind petiole with punctures, more densely so near base.

Body brownish black, clothed with greyish white hairs; brownish yellow on lower half of head, mandible (apex brown), maxillary palpus, posterior margin and posterolateral portion of pronotum, fore leg, mid coxa, bases of all trochanters, both ends of mid and hind femora, tibiae and tarsi, and base half of hind tibia; brown on tegula, mid and hind legs; antennae brownish dorsally, pale fulvous venterally; wings hyaline, apical portion of fore wing very weakly infuscate, veins brownish.

Male: Unknown.

Distribution: SE China: Fukien.

Specimen examined: Hologype ♀, Fukien: Shaowu Hsien 1,200–1,500 m, 10. VI. 1942 (TCMaa), left antennal flagellomeres mutilated.

As shown by couplet 10 of the key, this new species is separable from *zhejiangensis* He by having the vertex not strongly elevated and having the area between postocelli with a short longitudinal furrow. The name is in honor of Prof. T. C. Maa.

### *Ropronia insularis* Lin, sp. nov.

(Figs. 18–23)

Female: Fore wing 5.2–5.6 mm long. Head in dorsal view wider than thorax (27:23), weakly convergent behind eye; in front view lower than wide (23:27); surface with dense setigerous punctures which are sparser on vertex, occiput, temple and gena. Vertex weakly convex, with a weak short, longitudinal ridge behind anterior ocellus; ocelli arranged in a very low triangle, LOL:POL:OOL about as 3:7:11.5. Frons flattened, coarsely punctate, rugulose anterolaterally and before

anterior ocellus; antennal scrobes very strongly elevated laterally. Between antennal toruli with a keel, its posterior half very strongly elevated, triangulate in profile; in posterodorsal view, the keel diverging 2 ridges and with very deep median longitudinal furrow; anterior half of keel weakly raised and reaching past midway of face. Face rather densely punctate. Clypeus about 3.8 as wide as long, with rather longitudinal punctures medially and obliquely punctate laterally, anterior margin smooth, evenly rounded, sometimes very broadly concavely curved. Malar space short, about 0.2 as high as eye; eye about 13:10, distinctly protruding, broader than temple; temple convex, rounded posteriorly. Antennal flagellum gradually attenuate toward apex and all except terminal segment weakly bent; relative lengths and widths of segments as 6:3; 2.5:2.5; 7.5:2.4; 7.5:2.2; 7:2; 7:2.1; 6:2.1; 6:2.1; 5.7:2; 5.5:1.8; 4.7:1.8; 4.5:1.7; 4.5:1.7; 6:1.7.

Thorax covered with dense setigerous punctures. Side of pronotum with punctures distinctly sparser than those on lower disk. Epomia distinct. Notauli foveolate, posterior fovea rather coarse and deep; anterior parallel lines not distinct, lateral lines weak; punctures coarse but those on anterior region slightly smaller and denser; posterolateral margin weakly raised, submarginal groove foveolate. Prescutellar groove deep, with 4–5 longitudinal ridges. Mesopleuron with irregular rugae anteriorly, sometimes with 1 or 2 curved submarginal ridges; posterior disk smooth and shining; longitudinal depression smooth, anterior half foveolate and with a transverse carina; lower portion with rather densely punctate and with some transverse wrinkles; posterior groove foveate. Metanotum with large foveae anteriorly, with a median and a pair of weak submedian ridges; posterior portion slightly convex, irregularly rugulose. Metapleuron with irregular rugae and weak carinae. Fore wing as in fig. Propodeum with areolate-rugose, 4 large foveae anteriorly, sometimes with median carina anteriorly. Gastral petiole about 3.8 as long as deep when viewed laterally, hairs on venter denser than those on lateral surface; dorsal surface smooth medially, punctate-reticulate anteriorly, lateral ridge past midway or percurrent, with uniseriate small punctures posterolaterally; lateral surface with irregularly rugulose posteriorly. Gaster smooth and with short sparse hairs.

Black; ferruginous on mandibular apex and gaster; pale yellow on lower half of head, venter of scape, base of mandible, palpi (terminal segments slightly darker), lateral hind margin and lower portion of pronotum, fore and mid coxae and trochanters, venter of femora and basal half of hind tibia; brownish on tegula, base of mid coxa, dorsum of fore and mid femora and terminal tarsomeres. Antenna brown, its venter fulvous; hind leg brown. Wings hyaline, apex of fore wing very weakly infuscate, veins brown.

Male: Fore wing 5.4–6.2 mm long. Essentially similar to female, but head usually black; often with yellowish markings on lateral areas of face and clypeus, sometimes even on entire lower half of head; but anterior margin of clypeus always blacke, palpi and legs usually dark brown, dorsum of fore and mid coxae dark brown to black. Gastral petiole with more or less longitudinal sculptures on dorsal surface.

Distribution: Taiwan.

Specimen examined: Holotype ♀, Taiwan: Nantou Hsien, Tsuifeng 2,300 m, IX. 1985, Malaise trap (KSL).

Paratypes: Anmashan, ♂, 6–9. VII. 1979 (LYC). Tsuifeng, 2♂♂, 16. VII. 1982 (SCL & CNL); ♂, 15–16. VIII. 1984 (KCC); ♂, VI. 1984; 3♀♀, 40♂♂, VII. 1984; ♀, 27♂♂, VIII. 1984; 3♂♂, IX. 1984; 8♀♀, 20♂♂, X. 1984, Malaise trap (KSL & KCC). Meifeng, ♂, 2–12. X. 1979, Malaise trap; ♂, 19–21. IV. 1983 (KCC & SPH); ♀, V. 1984; 4♀♀, 5♂♂, VI. 1984; 5♀♀, 5♂♂, VII. 1984; 2♀♀, 7♂♂, VIII. 1984; ♀, IX. 1984; 4♀♀, 4♂♂, X. 1984, Malaise trap (KSL & KCC). Sungkang, 2♀♀, X. 1984, Malaise trap (KSL & KCC); 3♀♀, 2♂♂, X. 1985, Malaise trap (KSL). Alishan, ♂, 17–20. VIII. 1982 (KCC & CCP).

This species appears to be closely similar to *R. ishiharai* Yasumatsu, but can be distinguished by the longer eyes and the ferruginous, instead of black gaster.

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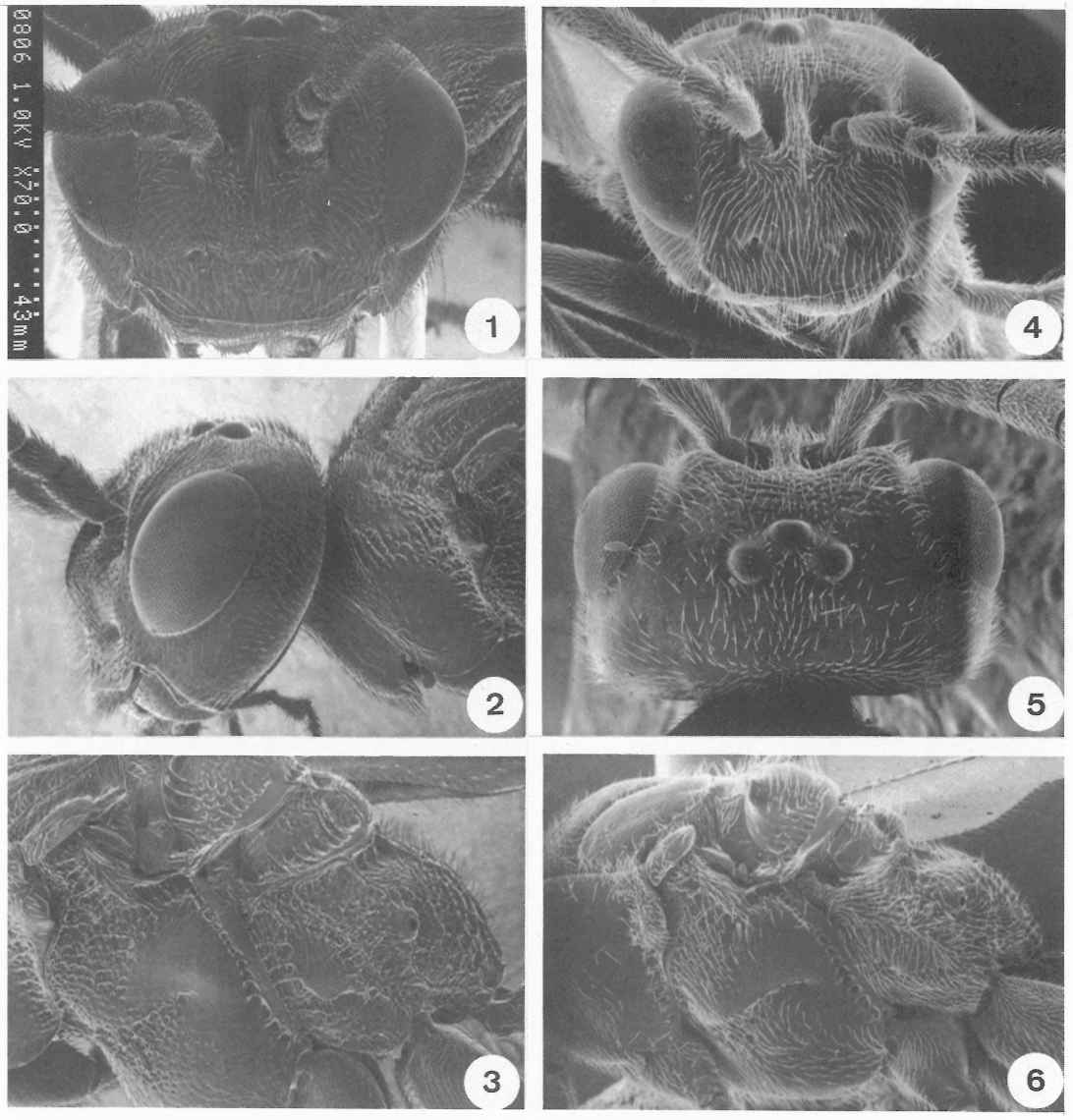
1961. The genera *Eucharis* and *Ropronia* from Shansi, North China. Mushi 35:67–69, fig.

# 窄腹細蜂 *Ropronia* 屬之分類

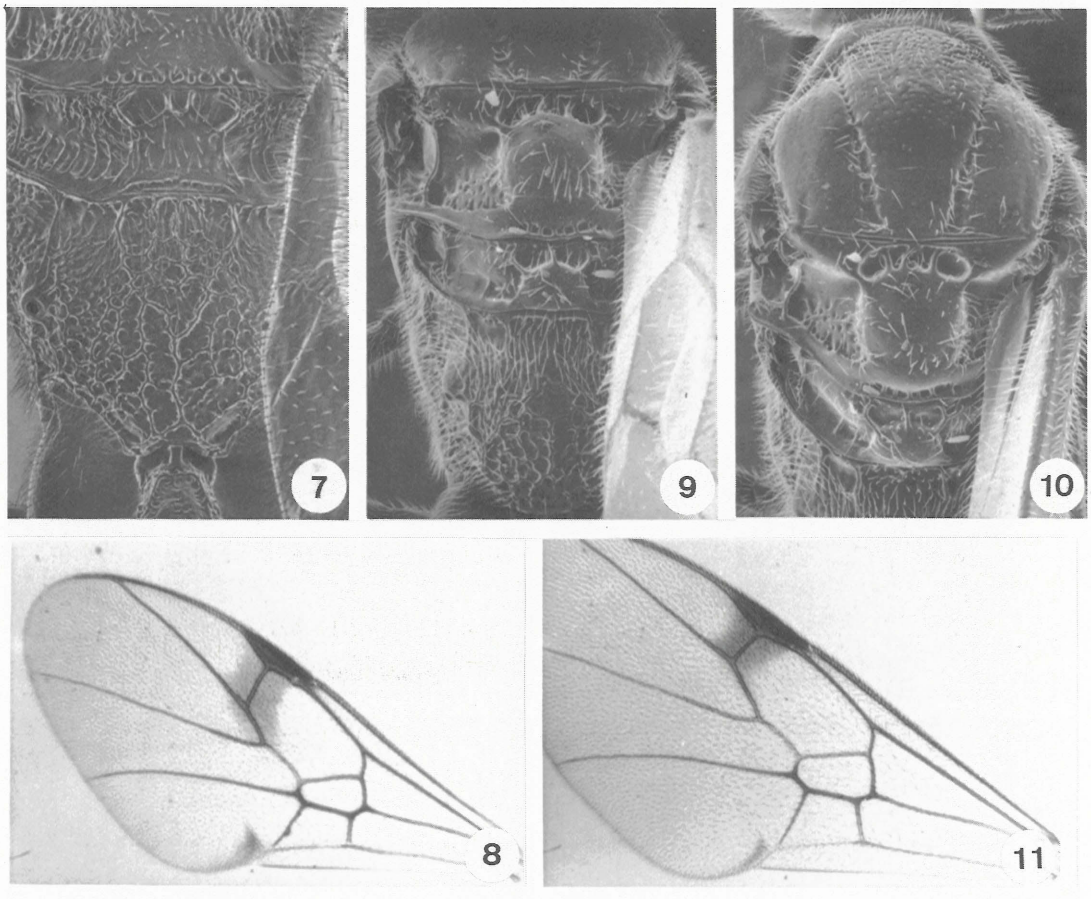
林 珪 瑞

## 中文摘要

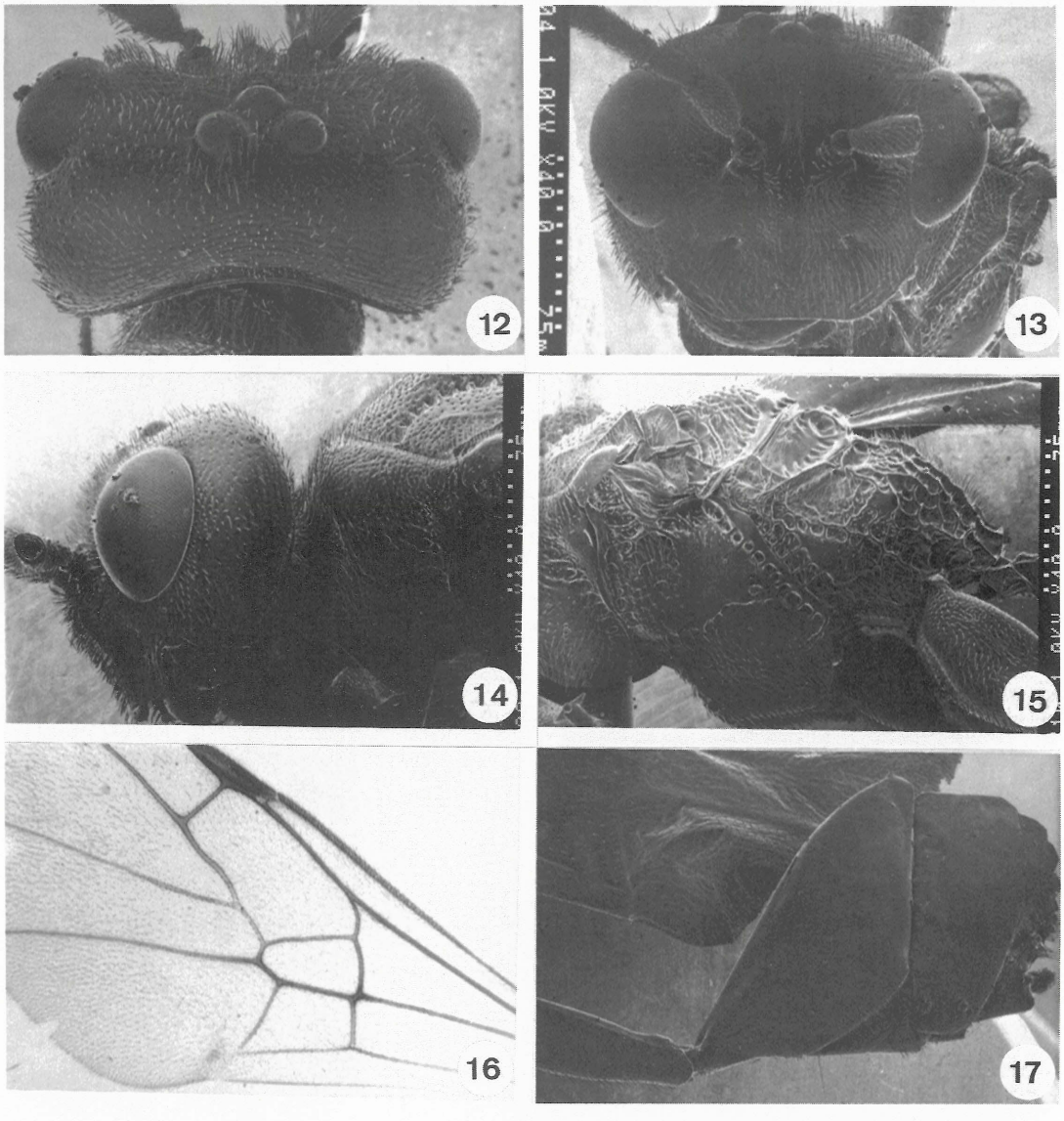
窄腹細蜂科 (Roproniidae) 唯有窄腹細蜂 1 屬，全世共有12種。本文記述臺灣 3 種及福建 1 種，包括寶島窄腹細蜂 *R. insularis* (臺灣)及馬氏窄腹細蜂 *R. maai* spp. nov. (福建)新種記載，並將臺灣發現之四川窄腹細蜂 *R. szechuanensis* Chao 及短角窄腹細蜂 *R. brevicornis* Townes 以及新種均以掃描電子顯微鏡(SEM)照相，並附全世界已知種之名錄及分種檢索表。



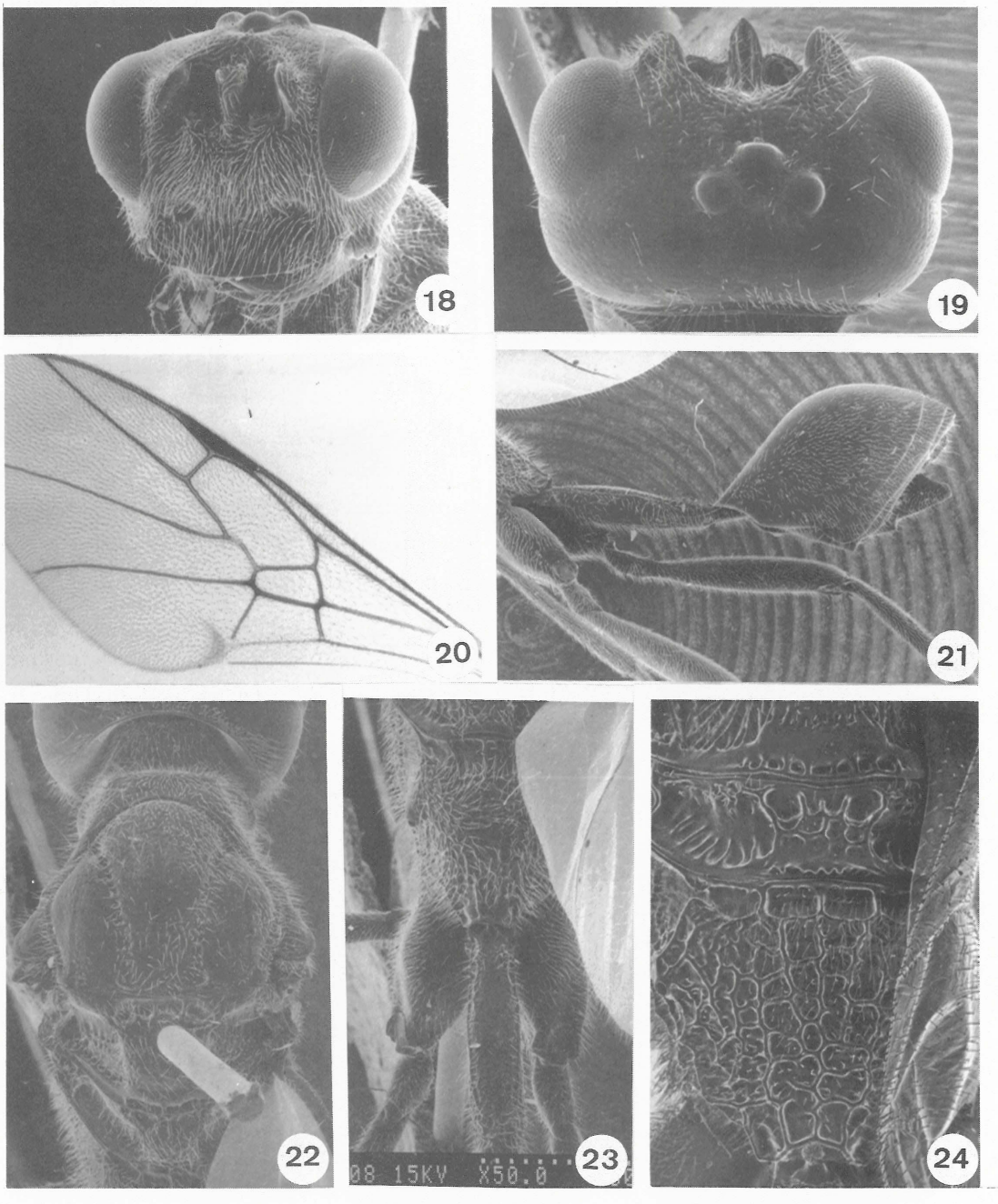

Figs. 1–6. *Ropronia brevicornis* Townes (1–3) male and *R. szechuanensis* Chao (4–6) male. 1, 4, heads in frontal view; 2, head and pronotum in lateral view; 5, head in dorsal view; 3, 6, thoraces in lateral view. (All specimens SEM, 1–3 uncoated 1 kv; 4–6 gold coated 15 kv)




Figs. 7–11. *Ropronia brevicornis* Townes (7–8) male and *R. szechuanensis* Chao (9–11) male. 7, 9, 10, thoraces in posterodorsal view (7, 9) and 10 in dorsal view; 8, 11, fore wings. (Specimens SEM, 7 uncoated 1 kv; 9, 10 gold coated 15 kv)




Figs. 12–17. *Ropronia maai* sp. nov., holotype, female. 12, 13, heads in dorsal and frontal view; 14, head and pronotum in lateral view; 15, thorax in lateral view; 16, fore wing; 17, gaster. (12–15, 17, specimens SEM, uncoated 1 kv)




Figs. 18–24. *Ropronia insularis* sp. nov., (18–23) paratype, female and *R. maai* sp. nov., (24) female. 18, 19, heads in frontal and dorsal view; 20, fore wing; 21, gaster; 22, thorax in dorsal view; 23, propodeum and gastral petiole in dorsal view; 24, metanotum and propodeum in posterodorsal view. (18–19, 21–23 specimens SEM, gold coated 15 kv; 24, uncoated 1 kv)