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NOTES ON A COLLECTION OF DERMAPTERA PRESENT IN ZOOLOGISK MUSEUM, COPENHAGEN

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ABSTRACT

The present paper deals with 26 species (excluding 3 determined up to generic level) belonging to 20 genera, from Thailand, of which two species, namely, *Paralabis henriki* and *Chaetolabia pygidiata* are new to Science. In addition, *Paratages sakaii* gen. and sp. n., are also described. Brief notes on certain species are given.

Introduction

The present paper is based on a small collection of Dermaptera from Thailand with exception of 1 example each from Australia and Cooks Isl. (New Zealand). Altogether 26 species (excluding 3 identified up to generic level, since represented by females only) belonging to 20 genera are treated, including *Paralabis henriki* and *Chaetolabia pygidiata* as new to science. Besides, a new genus and species viz., *Paratages sakaii* are described from Thailand.

According to Ramamurthi (1973) and available literature a total of 21 species are reported from Thailand. As result of present study another 18 species are added to the fauna of the area.

PYGIDICRANIDAE

Pygidicraninae

Cranopygia modesta (Bormans)

Pygidicrana modesta Bormans, 1884, *Annali Mus. civ. Stor. nat. Giacomo Doria*, (2) 14 : 375 (♂, ♀ ; Burma).

Material examined : Thailand : Chieng Mai Province Doi Suthep N. P. Konthathan, 6-700 m, 1 ♂ (genitalia mounted between two coverslips and pinned with the specimen), 30.ix.1981.

Remarks : Originally described from Burma it has since been recorded from Java and Philippines Isls. as well.

Echinosomatinae

Echinosoma sp.

Material examined : Thailand : Doi

Suthep-Pui natn. Park, Doi Pui Road, 1000 m, 1 ♀ , 23-26.x.1979.

Remarks : It is not possible to determine this isolated female up to species level.

PROLABISCINAE

Prolabisca infernalis (Burr)

Chaetospania infernalis Burr, 1913, *Ent. Mitt.*, 12 : 67, figs. (Taihorin, 1♂, 7♀♀ and nymphs, excluding 1♂ (nec ♀), Kosempo).

Prolabisca infernalis : Srivastava, 1984, *Bull. zool. Surv. India*, 5(2 & 3) : 105 (♂ genetalia of Lectotype).

Material examined : Thailand : Doi Suthep-Pui nath. Park, Konthathan waterfall area, 600 m, 1 ♀ , 20-27.x.1979.

Remarks : This characterstic species could be easily determined even on the isolated females.

It appears to be widely distributed throughout the Oriental Region.

CARCINOPHORIDAE

PLATYLABIINAE

Platylabia major Dohrn

Platylabia major Dohrn, 1867, *Stettin. ent. Ztg.*, 28 : 347 (♀, Celebes-Holotype in PAN Zoologiczny Instytut, Warszawa, Poland) ; Srivastava, 1983, *Bull. zool. Surv. India*, 4(1) : 104, figs. 1-5.

Material examined ; Thailand : Doi Suthep-Pui natn. Park, Doi Pui Road 1000 m, 7 nymphs, 23-26.x.1979, Chieng Mai Province, Doi Saket, 950 m, 3 nymphs, 3.x.1981, N. F. Mahidol Waterfall, 1250 m 1 ♀ , 27.x.1981.

Remarks : Appears to be widely distributed in the Oriental Region.

CARCINOPHORINAE

Gelotolabis cavaleriei (Borelli)

(Fig. 1)

Anisolabis cavaleriei Borelli, *Bull. Mus. Hist. nat. Paris*, 27 : 158 (♂, ♀ ; Kouy Ichéou).

Anisolabis (*Gelotolobis*) *cavaleriei* : Bey-Bienko, 1959, *Ent. Obzor*, 38 : 600.

Material examined : Thailand : Chieng Mai Province, Doi Inthanon NP, main road, 1900 m, 1 ♂ (genitalia mounted between two coverslips and pinned with the specimen), 2 ♀ ♀ and 1 nymph, 6.x.1981 ; 1 ♂ (genitalia mounted between two coverslips and pinned with the specimen), 1 ♀ and 5 nymphs, 15.x.1981.

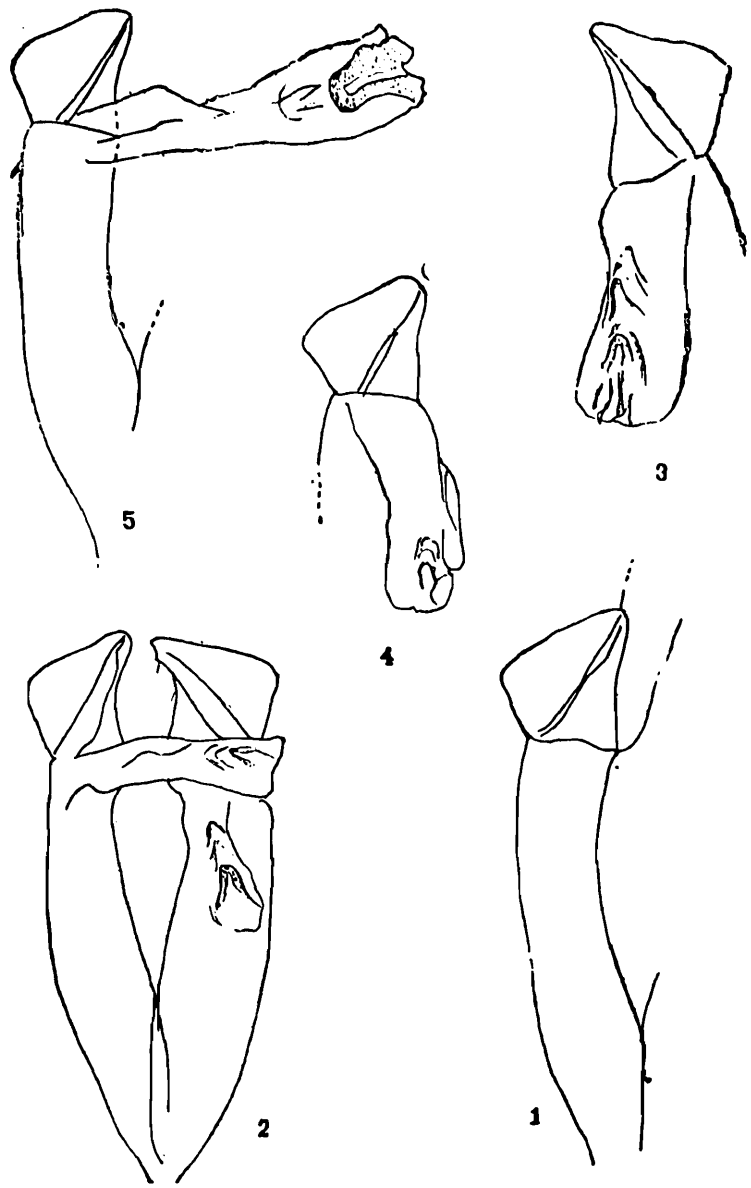
Remarks : There appears to be some variation in the colour of legs. In males it is uniform dark brownish yellow whereas in the females femora in basal half may be sometimes dark brownish black.

Gelotolabis affinis (Ramamurthi)

(Figs. 2-3)

Mongolabis affinis Ramamurthi, 1973, *Steenstrupia*, 3 : 12 (♂, ♀ ; Thailand NE, Doi-Suthep and Phu Kradung).

Material examined : Thailand : Doi Suthep-Pui natn. Park, Konthathan, waterfall area, 500 m, 1 ♂ (genitalia mounted between two coverslips and pinned with the specimen), 1 nymph, 20-27.x1979 ; Doi Pui road, 1000 m, 1 ♀ , 6 nymphs, 23-26.x 1979 ; Doi Pha Hom Pok, NW of Fang, 1550-1600 m, 1 ♂ (genitalia mounted between two coverslips and pinned with the specimen), 4 ♀ ♀ , 3 nymphs, 21.x.1981 ; 7 km NW of Fang, Horticultural Experimental Station, 2 ♀ ♀ , 1 nymph, 30.x.-2.xi.1981 ; Chieng Mai Province, Doi



Figs. 1-5 : *Gelotolabis cavaleriei* (Borelli), ♂, 1. A portion of genitalia ; *Gelotolabis affinis* (Ramamurthi), ♂, 2 and 3. A portion of genitalia ; *Gelotolabis omei* Bey-Bienko, ♂, 4 and 5. A portion of genitalia.

Suthep, 14-1500 m, 1 ♂ (genitalia mounted between two coverslips and pinned with the specimen), 2.x.1981.

Remarks : In view of confused taxonomy of various genera of Carcinophorinae it is considered desirable here to follow Burr's (1915) arrangment with some minor modifications.

The genus *Gelotolabis* Zacher, includes those species which possess parameres about as long as broad or slightly longer, external apical angle slightly produced and tip narrowed, often produced like a snout.

It may be pointed out here that genera based on the shape of parameres may be considered as valid. The other minor characters, viz, presence or absence of virga or teeth are of some value only at species level in combination with other morphological characters. Accordingly, it

is proposed to transfer this species here from *Mongolabia* Zacher to *Gelotolabis* Burr.

As indicated by Bey-Bienko (1959, p. 541), the genus *Mongolabis* Zacher should include those species which have the abdomen expanded posteriorly as in the genus *Gonolabis* Burr. However, it needs further investigation.

Gelotolabla omei Bey-Bienko
(Figs. 4-5)

Anisolabis (*Gelotolabis*) *omei* Bey-Bienko, 1959, *Ent. Obzor*, 38 : 542, figs. 19, 21 (♂, China, Szechwan, Omei Shan).

Material examined : Thailand : Chieng Mai Inthenon N.P., Main Road, 1900 m, 2 ♂♂ (genitalia mounted between two coverslips and pinned with the specimen), 1 ♀ and 7 nymphs, 7.x.1981.

Remarks : The males agree with the original description of the species except that the sides of abdominal segments are regulose and striate but without any carina. Ultimate tergite sublaterally above in posterior half provided with a trace of tubercle and distal lobes of genitalia with denticulated pads.

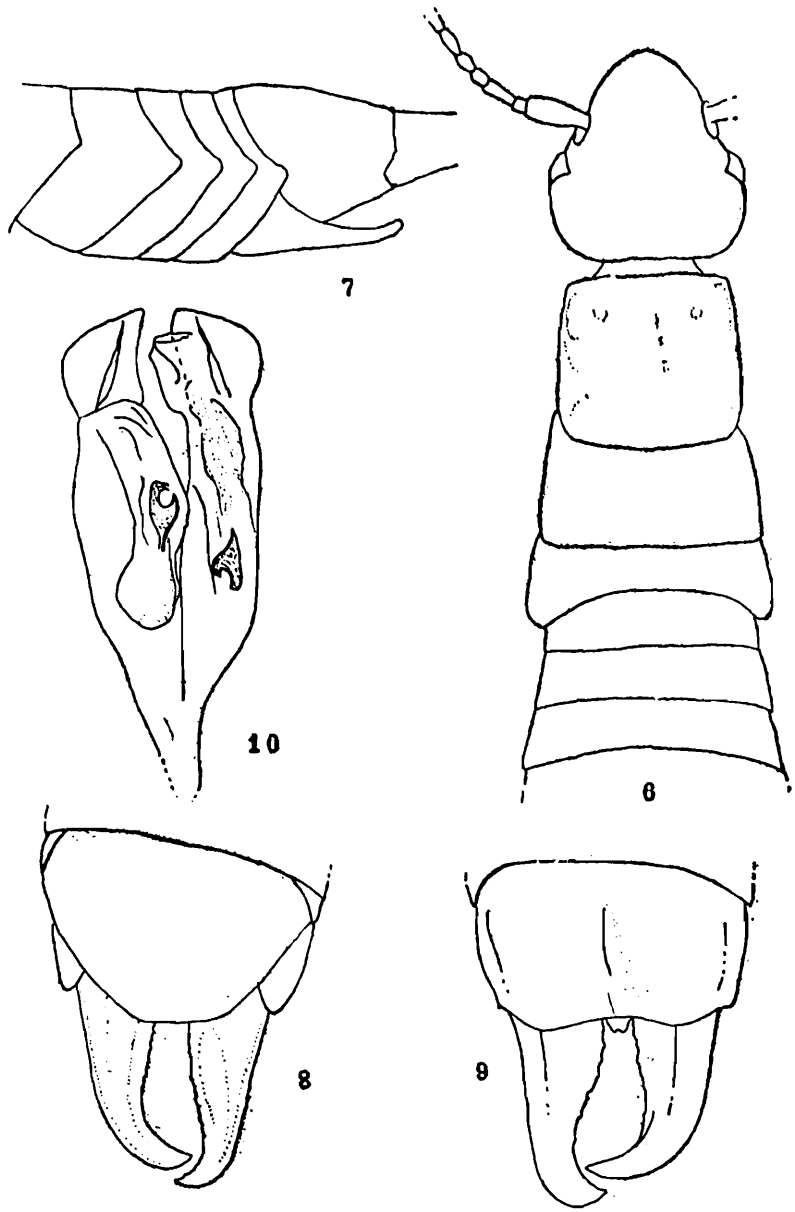
Legs are generally uniform brownish yellow but in a few nymphal forms, the femora are banded with dark brown in basal half only.

Hitherto it was known by its types from China, Szechwan Province and the present record is new for Thailand.

Paralabis henriki sp. n.
(Figs. 6-10)

♂ : General colour brownish black, hind margin of abdominal tergites and forceps reddish in part. Antennae light brownish black with basal two and basal half of the third segment yellowish brown. Legs yellowish brown, femora with longitudinal patches of black.

Head slightly longer than broad, frons convex, sutures fine, hind margin almost straight. Eyes not prominent, distinctly shorter than the post-ocular length. Antennae 19-segmented, 1st stout, narrowed at base, almost equal to the distance between antennal bases ; 2nd small, about as long as broad ; 3rd long and slender ; 4th stouter than the preceding and succeeding segments ; 5th slightly shorter than the 3rd ; 6th onwards segments gradually increasing in length and a few preapical ones thin. Pronotum about as long as broad, quadrate, all margins straight, smooth median sulcus obsolete ; prozona weakly raised and well demarcated from weakly depressed metazona. Mesonotum about twice as broad as long, hind margin truncate. Metanotum broadly emarginate posteriorly. Sternal plates typical for the genus. Legs normal, hind tarsi with 1st segment distinctly longer than the 3rd. Abdomen gradually enlarging posteriorly, almost smooth or obscurely punctulate, moderately depressed, sides of segments 6th to 9th acute angled, rugose, with a faint, oblique rugosity on the segments 7th to 9th only. Penultimate sternite smooth, triangular, narrowed posteriorly with hind margin truncate, a few long hairs present. Ultimate tergite transverse, faintly punctulate, disc moderately convex, sublaterally above with a faint convexity, posteriorly in middle scarcely depressed and sloping, median sulcus faintly marked, hind margin trisinuate, laterally above the base of forceps oblique. Forceps remote at base, tapering apically, almost straight in basal



Figs. 6-10 : *Paralabis henriki* sp. n., Holotype, ♂, 6. Anterior portion of body, 7. Sides of abdominal segments, 8. Penultimate sternite and forceps, 9. Ultimate tergite and forceps, 10. Genitalia.

half, afterwards gently curved with tip hooked and pointed, trigonal above in basal one third, afterwards depressed, inernal margin faintly serrated. Genitalia with parameres semicircular, external margin regularly convex, inner margin lightly concave, tip narrowed and obtuse, membrane narrow, distal lobes with characteristic chitinous, dentate pads.

♀ : Agrees with male in most characters except that the colour slightly darkar, pronotum gently windened posteriorly, penultimate sternite obtusely triangular, ultimate tergite narrowed posteriorly, forceps

simple and straight, internal serrations slightly more prominent.

Measurements (in mm) :

	Holotype	
	♂	♀
Length of body	14.8	14.0
Length of forceps	2.6	2.9

Material examined : Thailand : Chieng Mai Province, Doi Inthanon N. P., main Road, 1600 m, Holotype ♂ (genitalia mounted between two coverslips and pinned with the specimen), 15.x.1981 ; 1 ♀ , same data, 2200 m, 7.x.1981 ; deposited in the Zoologisk Museum, Copenhagen.

Remarks : The female specimen, referred here may be treated with some reserve since it is not yet possible to say with certainity about isolated females. It has been collected from the type locality but at a slightly higher elevation and on a different date. Perhaps it is correctly assigned since it agrees well the Holotype ♂.

Amongst the Oriental species of the genus, it comes close to *P. montshadskii* Bey-Bienko from China but differs in having the pronotum about as long as broad (vs slightly longer than broad in *P. montshadskii*) ; sides of abdominal segments 6th to 9th rugose, acute angled posteriorly, with a faint, oblique rugosity on 7th and 8th only (vs punctulate, obtuse angled and without rugosity) ; penultimate sternite truncate posteriorly (vs feebly emarginate) ; genitalia with paramere semicircular and distal lobes provided with characteristic chitninous dentate pad (vs paramers somewhat oval with external margin briefly arcuate, distal lobes without any chitinous dentate pad).

The species is named after Dr. Henrik Enghoff, Zoologisk Museum, Copenhagen, Denmark.

BRACHYLABINAE

Metisolabis caudelli (Burr)

Brachylabis caudelli, Burr, 1908, *Ann. Mag. nat. Hist.*, (8) 2 : 251 (♂, ♀ ; Burma).

Material examined : Thailand : Chieng Mai Province, Doi Suthep Summit, 600 m, 1 ♂ (genitalia mounted between two coverslips and pinned with the specimen), 30.ix. 1981, Light catch ; Doi Inthanon N. P., Mae Ya, 600-700 m, 1 ♀ , 12.x.1981.

Remarks : Both the specimens are agreeing with the description of the species but the female is slightly more distinctly punctulate and is brownish black whereas male is black with obcure punctulations.

LABIDURIDAE

LABIDURINAE

Labidura riparia (Pallas)

Labidura riparia Pallas, 1773, *Reise Reichs*, 2 : 727 (Shores of Irtysch River, Western Siberia).

Material examined : Thailand, Chieng Mai Province, Fang Agricult. Exp. Station, 550-600 m, 1 ♂ , 20.x.1981.

Remarks : World wide in distribution.

NALINAE

Nala lividipes (Dufour)

Forficula pallipes Dufour, 1820, *Ann. Gener. Sci. Phy. Bruxelles*, 4 : 316 (♂, ♀ ; Lower Catalonia, Spain).

Forficula lividlpes Dufour, 1829, *Ann. Sci. nat.*, 13 : 340 (new name proposed).

Material examined : Thailand : Chieng Mai Province Fang Horticult. Exp. Station,

550-600 m, 1♂, 1♀, 21.x.1981, 2♂♂, 22.x.1981.

Remarks : A widely distributed species throughout the world, especially in tropical parts.

Nala sp.

Material examined : Australia : Queensland, Atherton, 1♀, 30.x.1972, *A. M. Hemmegsen leg.*

Remarks : In the absence of male it is not possible to place this specimen up to the species level.

LABIIDAE

SPONGIPHORINAE

Spongovostox semiflavus (Bormans)

Spongophora semi-flava Bormans, 1894, *Annali Mus. civ. Stor. nat. Giacomo Doria*, (2) 14 : 385 (♂, ♀ ; Burma).

Material examined : Thailand : 7 km NW of Fang, Horticultural Experimental Station, 3♀♀, 30.x.-2.xi.1979 ; Chieng Mai Province, Doi Inthanon N. P., Mae Ya, 6-700 m, 3♀♀, 12.x.1981 ; Fang Horticult. Exp. Station, 550-600 m, 1♂, 22.x.1981.

Remarks : Widely distributed in the Oriental Region.

LABIINAE

Labia curvicauda (Motschulsky)

Labia curvicauda Motschulsky, 1863, *Bull. Soc. Imp. Nat. Moscou*, 36 : 2 (♂, ♀ ; Nura Illia Mountains, Ceylon).

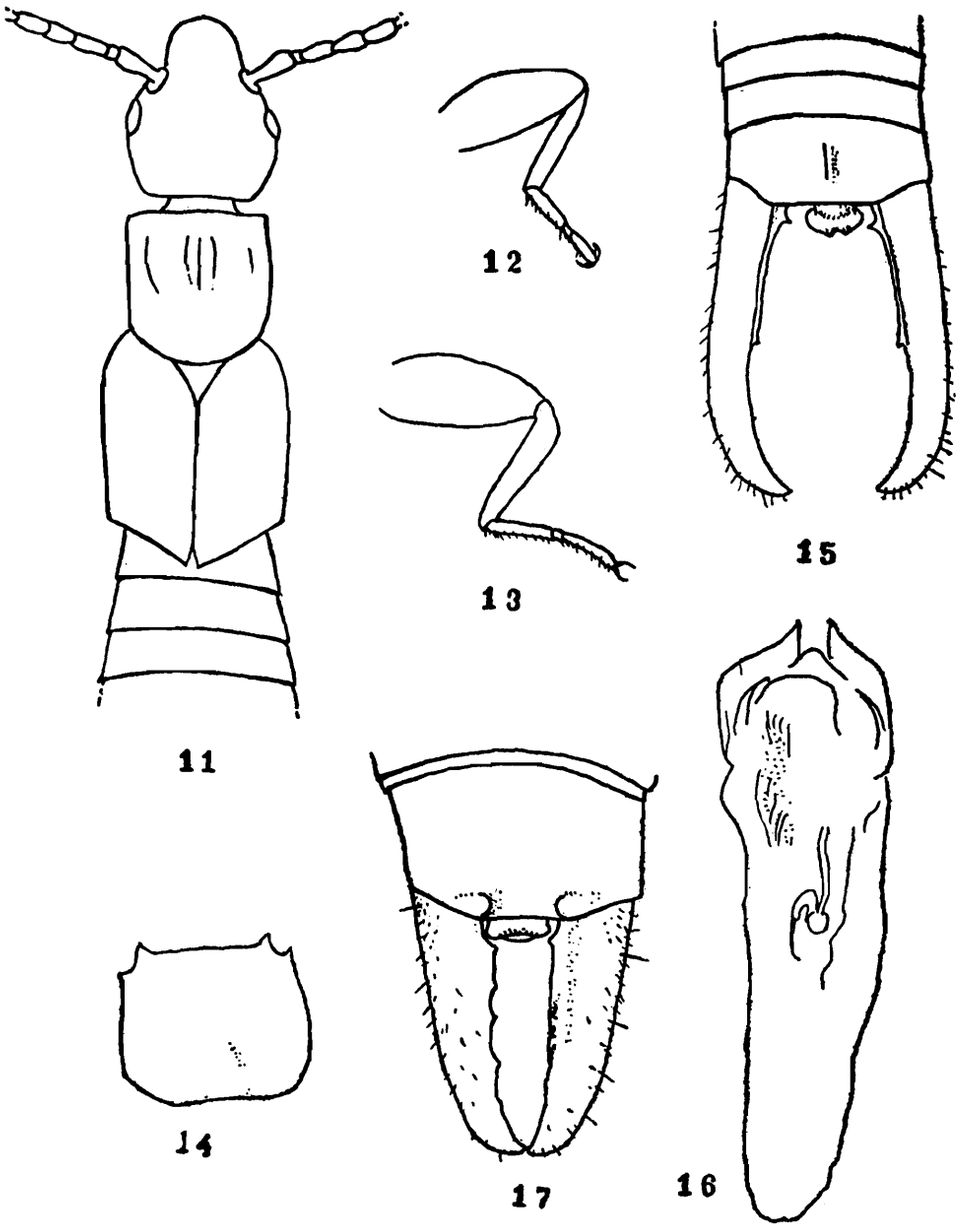
Material examined : Thailand : Doi Suthep-Pui natn. Prrk, Konthathan waterfall area, 600 m, 2♂♂, 9♀♀ and 2 nymphs, 20-27.x.1979 ; 7 km NW of Fang Horticultural Experimental Station, 2♂♂, 1♀, 30.x.-2.xi.1979 ; Chieng Mai Province, Doi Inthanon N. P., Siripum, 13-1400 m, 1♂, 5♀♀, 8.x.1981 ; Mae Klang, 3-400 m, 1♀, 9.x.1981 ; Mae ya, 6-700 m, 1♂, 2♀♂, 12.x.1981, Puai Sai, Luang, 10-110 m, 3♂♂, 14.x.1981, Fang Horticult. Exp. Station, 550-600 m, 1♂, 1♀ and 19.x.1981.

Remarks : Widely distributed throughout the globe.

Chaetolabia pygidiata sp. n.

(Figs. 11-17)

♂ : General colour shining blackish brown, shaded with black on various body parts. Abdominal tergites especially hind ones and forceps reddish. Legs and mouth parts yellowish but former with femora in basal half blackish. Antennae partly broken (on the left side only 10 and on the right right 8 segments remaining), segments mostly stout, 1st gently expanded apically, about as long as the distance between antennal bases ; 2nd short, about as long as broad ; 3rd long and slender, about twice as long as broad ; 4th stouter, but shorter than preceding ; 5th longer than 3rd, narrowed basally, afterwards segments very slightly thinning and gradually increasing in length distally. Eyes not prominent, shorter than the post-ocular length. Head slightly longer than broad, smooth, frons convex, sutures obsolate, hind margin feebly emarginate in middle. Pronotum only a trifle longer than broad, sides almost straight and depressed, hind margin convex, prozona weakly raised and feebly differentiated from depressed metazona, median sulcus fairly distinct. Elytra slightly longer than the pronotum, covered with fine pubescence, punctulate, humeral angle weak



Figs. 11-17 : *Chaetolabia pygidiata* sp. n., Holotype ♂, 11. Anterior portion of body, 12. Fore leg, 13. Hind leg, 14. Penultimate sternite, 15. Hind portion of body, 16. Genitalia ; *Chaetospania mandex* Borelli, ♀, 17. Ultimate tergite and forceps.

and anal angle rounded off to show a small, triangular scutellum, meeting along the median line, hind margin oblique. Wings scarcely projecting beyond the elytra. Legs typical for the genus, femora swollen, 1st hind tarsal segment almost equal to 3rd and 2nd short, about as long as broad. Abdomen weakly convex, fine and short pubescence present on sides of certain tergites, smooth, narrowed at base, lateral tubercles on 3rd and 4th tergites obsolete, sides of segments broadly convex. Penultimate sternite transverse, obscurely punctulate, hind margin briefly rounded with slight emargination in middle. Ultimate tergite smooth, rectangular, transverse,

moderately depressed, in the middle of disc with a faint impression, hind margin feebly thickened, trisinuate, oblique above the base of forceps. Pygidium subvertical at base, apically horizontal and somewhat round, in the middle posteriorly with pair of minute tubercle separated by a small but deep emargination. Forcep straight, slightly curving in posterior half, depressed, tapering apically with tip pointed and gently hooked, internal margin ventrally with a triangular tooth at base, directed inwards, followed by another but smaller tooth at a little beyond middle and directed posteriorly, dorsal border sharp in basal two thirds, afterwards merging with the ventral one. Genitalia with parameres broader in basal two thirds, afterwards narrowed with tip acute, preputial sac provided with rows of fine chitinous teeth, virga short, tubular, at base with a vesicle.

♀ : Unknown.

Measurements : (in mm)

	Holotype ♂
Length of body	4.1
Length of forceps	1.2

Material examined : Thailand : Chieng Mai Province, Fang Horticult. Exp. Station, 550-600 m, Holotype ♂ (genitalia mounted between two coverslips and pinned with the specimen), 23.x.1981, deposited in the Zoologisk Museum, Copenhagen, Denmark.

Remarks : On the basis of its general appearance the described species may be referred under the genus *Chaetolabia* Brindle, which at present is known by three species from Micronesian Islands and five others from Africa. Some of the Oriental species, now included under *Chaetospania* Karsch, will have to be transferred under *Chaetolabia* when further studies on the latter are taken up.

The described species differs from all the known species of the *Chaetolabia* in the combination of various characters. It, however, comes very close to *Chaetospania dexter* Steinmann, from Thailand but differs by the shape of pygidium in being rounded posteriorly with a short but distinct emargination, bounded on either side by two small tubercles (vs narrowed posteriorly with margin shallowly concave in *C. dexter*) and genitalia with parameres broader in being twice as long as broad and narrowed at apex to a sharp point (vs parameres narrower, about three times longer than broad, gradually narrowed apically).

Chaetospania mandex Borelli

Chaetospania mandex Borelli, 1932, *Konowia*, **11** : 90, 1 text fig. (♂ ; Tanasserim Tadang) ; Srivastava, 1981, *Annali Mus. civ. Stor. nat. Giacomo Doria*, **83** : 296, figs. 15-20.

Material examined : Thailand : Doi Suthep-Pui natn. Park, Konthathan waterfall area, 600 m, 1 ♀ , 20-27.x.1979, Chieng Mai Province, Doi Suthep N. P. Konthathan, 600-700 m, 1 ♂ (genitalia mounted between two coverslips and pinned with the specimen), 30.ix.1981.

Remarks : Hitherto known from Burma and the present record is new to Thailand.

Apovostox pygidiatus (Dubrony)

Labia ? pygidiata Dubrony, *Annali Mus. civ. Stor. nat. Giacomo Doria*, **14** : 364.

Material examined : Thailand : Chieng Mai. Province, Doi Inthanon N. P., Siripum,

13-1400 m, 1♂, 1♀, 8.x.1981, Doi Suthep-Pui natn. Park, Doi Pui road, 1000 m, 1♂, 23-26.x.1981.

Remarks : Although widely distributed in the Oriental Region there appears to be no previous record of the species from Thailand.

Apovostox stella (Bormans)

Spongophora stella Bormans, 1899, *Annali Mus. civ. Stor. nat. Giacomo Doria*, 20 : 454 (♂, ♀ : Iles Mentawai, Sipora).

Material examined : Thailand : Doi Suthep-Pui natn. Park, Konthathan waterfall area, 600 m, 1♂, 3♀♀, 5 nymphs, 20-27.x. 1979.

Remarks : It is reported from Thailand, Malaya, Borneo and Philippine Isl.

Srivastava (1985) has resurrected *Apovostox* Hebard.

IRDEXINAE Srivastava (1985)

Irdex nitidipennis (Bormans)

Irdex nitidipennis Bormans, 1894, *Annali Mus. civ. Stor. nat. Giacomo Doria*, 14 : 382 (♂ ; Burma).

Material examined : Thailand : Doi Suthep Pui natn. Park, Doi Pui Road, 1000 m, 1♀, 23-26.x.1979, 7 km NW of Fang, Horticultural Experimental Station, 2♂♂, 3♀♀, 30.x.-2.xi.1979, Chieng Mai Province, Doi Inthanon N. P., Siripum, 13-1400 m, 1♂, 2♀♀, 8.x.1981, Fang Agricult. Exp. Station, 550-600 m, 1♀, 20.x.1981.

Remarks : Srivastava (1915) has discussed in detail the identity of this species.

HOMOTAGINAE Srivastava (1985)

Genus **Paratages** nov.

Body almost bare, without pubescence. Size small (6.4 to 6.9 mm including forceps). Antennae 15-segmented, 1st stout, shorter than the distance between antennal bases, segment 4th onwards conical or subconical, except apical one thin and slender. Eyes half as long as the post-ocular length. Legs long and slender, fore femora slightly swollen, middle and hind ones slender ; tibiae thin and cylindrical ; 1st tarsal segment of fore and middle legs equal to the combined length of 2nd and 3rd ; hind tarsi with 1st segment slightly longer than the combined length of 2nd and 3rd segments ; 2nd almost of uniform width or scarcely narrowed basally and slightly longer than half the length of 3rd one. Elytra and wings well developed, often covering the basal abdominal tergite. Pygidium short but distinct. Forceps simple and straight, internally unarmed.

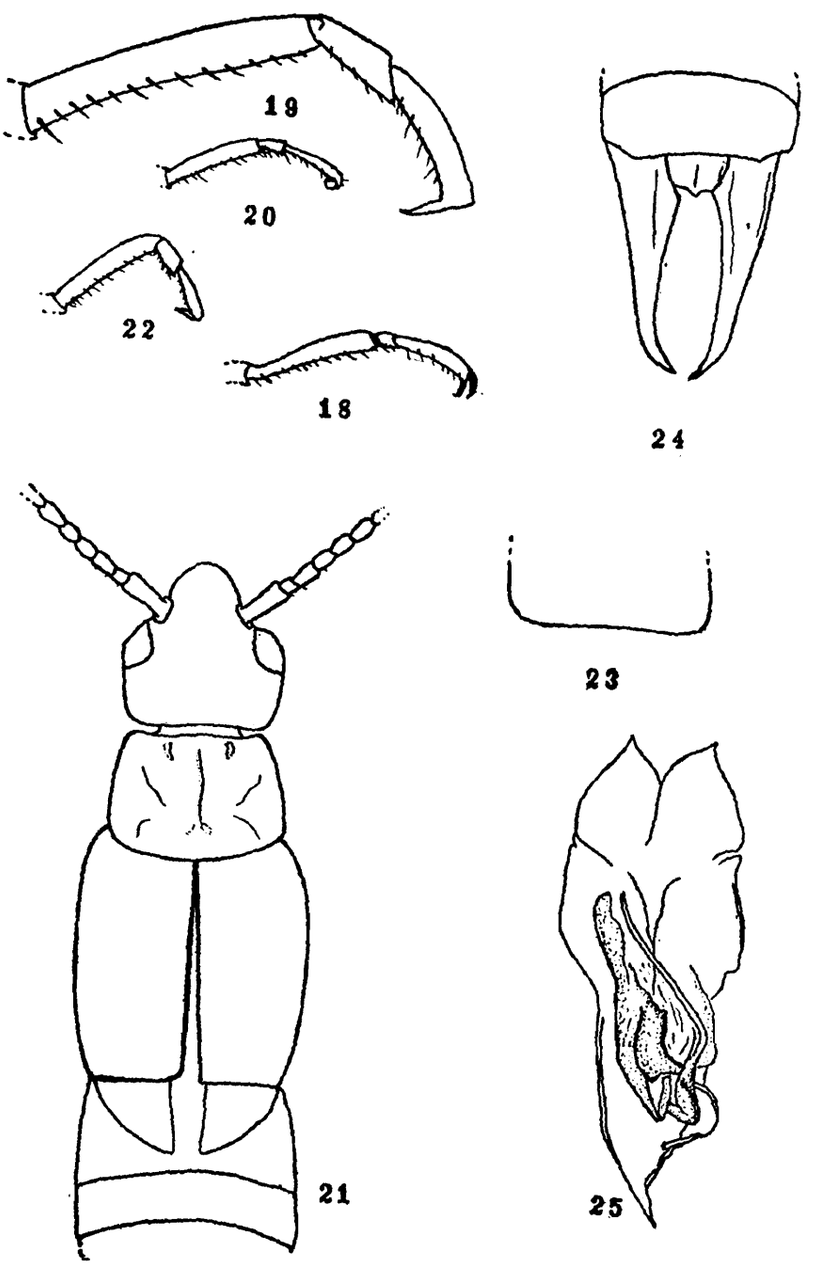
Sternal plates with prosternum longer than broad, narrowed posteriorly, feebly constricted between fore coxae ; mesosternum quadrate, about as long as broad with all margins straight, and metasternum transverse, apically between hind coxae narrowed with hind margin truncate.

Type-species : *Paratages sakaii* sp. n.

Remarks : This genus is erected for the reception of a undescribed species, *P. sakaii* sp. n. from Thailand.

The described genus is included under the subfamily *Homotaginae* Srivastava (1985) in having the body bare and hind 2nd tarsal segment longer than broad and a little over half the length of 3rd segment. It can be easily separated from the only known genus of the subfamily viz., *Homotages* Burr, by he small size, shape of antennal segments in being stout and conical and forceps simple and unarmed.

It may be mentioned here that members of the subfamily Spongiphorinae belonging to the genera *Spongovostox* and *Marava* possess hind 2nd tarsal segment slightly longer than broad, strongly narrowed posteriorly and is about half as long as the third. Besides, 1st hind tarsal segment is slightly shorter than the combind length of 2nd and 3rd. According to the information available through literature same condition is found amongst the members of the genus *Spongiphora* Serville.



Figs 18-25 : *Labia minor* (L.), ♂, 18. Hind tarsi ; *Homotages feae* (Bormans), ♂, 19. Hind tarsi ; *Spongovotox semiflavus* (Bormans), ♂, 20. Hind tarsi ; *Paratages sakaii* gen. and sp. n., Holotype ♂, 21. Anterior portion of body, 22. Hind tarsi, 23. Posterior margin of penultimate sternite, 24. Ultimate tergite and forceps, 25. Genitalia.

Recently, Srivastava (1985) has presented a new key for the subfamilies of Labiidae on the basis of shape and relative length of hind tarsal segments together with other characters. In this key Spongiphorinae has been placed under the couplet having 2nd tarsal segment broader than long, near to Labiinae. But in the light of foregoing remarks it needs to be transfersed under the category with 2nd tarsal segment longer than broad.

Now the subfamily Homotaginae can be separated from Spongiphorinae by the shape and the relative length of hind tarsal segment. In the former hind 2nd tarsal segment in profile is almost of uniform width or only scarcely narrowed basally and is slightly longer than half the length of 3rd segment, besides 1st segment being slightly longer than the combined length of last two segments.

Paratages sakaii sp. n.
(Figs. 21-25)

♂ : General colour black with antennae, sides of pronotum, sometimes hind margin of abdominal tergites and legs yellowish brown. Body smooth.

Head about as long as broad, moderately convex, sutures obsolete, area behind eyes straight, parallel, hind margin emarginate in middle. Eyes about half as long as the postocular length. Antennae 15-segmented, 1st stout, expanded apically, slightly shorter than the distance between antennal bases ; 2nd short ; 3rd long and slender, only slightly shorter than the 1st ; 4th conical but sometimes globular ; 5th subconical, about as long as broad, both shorter than the 3rd ; 6th equal to 3rd but stouter, remaining gradually increasing in length but cylindrico-conical. Pronotum rectangular, scarcely broader than long, smooth, all margins briefly convex, prozona weakly raised and poorly differentiated from flat metazona, median sulcus faintly marked. Legs long and slender, fore-coxa swollen, hind tarsi with 1st segment slightly longer than the combined length of 2nd and 3rd ; 2nd longer than broad, only slightly shorter than the 3rd ; claw without an arolium.

Elytra and wings well developed, smooth, former with humeral angles prominent, hind margin truncate, about twice as long as the pronotum and the latter about one third as long as the elytra, occasionally extending up to 3rd or 4th abdominal tergites. Abdomen strongly convex, smooth, narrowed posteriorly, in normal condition segments very much telescoped, lateral tubercles on 3rd tergite weakly and on 4th strongly developed, sides of segments rounded. Penultimate sternite in normal condition mostly covered by 8th sternite, transverse, hind margin with a faint emargination in middle, manubrium shorter than the sternite in length, apex broad, rounded. Ultimate tergite transverse, smooth, gently sloping and depressed in middle posteriorly, hind margin between the branches of forceps almost straight, laterally above the branches of forceps oblique and concave. Pygidium scarcely visible from above, generally covered laterally by the bases of forceps, subvertical, slightly longer than broad, gently contracted apically, hind margin provided with minute points, one each laterally and in the middle, at base convex above but depressed near apex. Forceps subcontiguous at base, cylindrical, almost straight, tapering apically, tip arcute and sharply pointed, internally unarmed, at base with a short emargination.

♀ : Unknown.

Measurements : (in mm)

	♂ ♂
Length of body	5.5-5.8
Length of forceps	0.95-1.0

Material examined : Thailand : Chieng Mai Province, Doi Pha Hom Pok, NW of Fang, 1550-1750 m, Holotype ♂ (genitalia mounted between two coverslips and attached with the specimen), Paratypes 3 ♂ ♂ (1 ♂ with genitalia and another 1 ♂ with hind leg mounted between two coverslips and attached with respective specimens), 22.x.1981 ; deposited in the Zoologisk Museum, Copenhagen, except Paratype 1 ♂ with the author.

Distribution : Known from the type locality only.

Remarks : This species has external resemblance with the members of the genera *Spongovostox* Burr and *Marava* Burr, but differs from both by the shape tarsal segments, especially hind pair of legs.

The species is named after Prof. Dr. S. Sakai, Daito Bunka University, Tokyo, Japan, who has made notable contributions in Dermaptera.

CHELISOCHIDAE

CHELISOCHINAE

Hamaxas feae (Bormans)

Chelisoches feae Bormans, 1894, *Annali Mus. civ. Stor. nat. Giacomo Doria*, (2) 14 : 393 (♂, ♀ : Burma).
Hamaxas feae : Srivastava, 1981, *Annali Mus. civ. Stor. nat. Giacomo Doria*, 83 : 297, figs. 24-29 (Lectotype ♂ and Paralactotypes 2♂♂ designated).

Material examined : Thailand : Doi Suthep-Pui natn. Park, Konthathan waterfall area, 600 m, 3 ♂ ♂ (in one ex. right arm of forceps totally missing and in the other one only apical portion seems to be broken off due to injury), 2 ♀ ♀ , 20-27.x. 1979 ; Chieng Mai Province Doi Suthep N. P., Konthathan, 6-700 m, 1 ♀ , 30.ix.1981.

Remarks : The male forceps exhibit usual macrolabic and mesolabic froms.

Cheliosches sp.

Material examined : Cooks Isl., Rarotonga 1 ♀ .....xi. 1977, N.L.H. Krauss leg.

Remarks : Although it agrees with female of *Chelisoches morio* it is not possible to determine it, with certanity, up to specific level in the absence of a male.

FORFICULIDAE

ALLODAHLINAE

Allodahlia scabriuscula (Serville)

Forficula scabriuscula Serville, 1839, *Histoire Naturelle des Insectes Orthopteres* : 38 (♀).

Material examined : Thailand : Doi Suthep Pui natn. Park, Doi Pui Road, 1000 m, 2 ♂ ♂, 4 ♀ ♀ , 23-26.x. 1979 ; Chieng Mai Province, Fang Horticult. Exp. Station, 550-600 m, 1 ♂ , 21.x. 1981 ; 3 ♀ ♀ , 22. x. 1981.

Remarks : It generally occurs in the mountains of Oriental Region between 150 m and 1700 m.

Allodahlia coriacea (Bormans)

Anechura coriacea Bormans, 1894, *Annali Mus. civ. Stor. nat. Giacomo Doria*, 2(14) : 304 (♂, Burma).

Material examined : Thailand : Chieng Mai Province, Fang Horticult. Expt. Station, 550-600 m, 2 ♂ ♂, 4 ♀ ♀ , 21.x.1981, 2 ♂ ♂ 30.x.-2. xi.1979 ; Doi Suthep-Pui natn. Park,

Konthathan waterfall area, 600 m, 1 nymph, 20-27.x.1979 ; Doi Inthanon N.P., Hui Sai Luang, 10-1100 m, 1 ♂, 1 ♀, 14.x.1981.

Remarks : It has been reported occurring in the mountains of Oriental Region between 1680 and 3100 m.

OPISTHOCOSMIINAE

Eparchus simplex (Bormans)

Opisthocosmia simplex Bormans, 1894, *Annali Mus. civ. Stor. nat. Giacomo Doria*, (2) 14 : 396 (♂, ♀ ; Burma).

Eparchus simplex Srivastava, 1981, *Annali Mus. civ. Stor. nat. Giacomo Doria*, 83 : 302, fig. 42-50 (Lectotype and Paralectotypes designated).

Material examined : Thailand : 7 km NW of Fang, Horticultural Experimental Station, 1 ♂ (♂ genitalia mounted between two coverslips and pinned with the specimen), 30.x.-2.xi. 1979.

Remarks : Srivastava (1981) has clarified the status of the species on the basis of syntypes.

In the present specimen sides of abdominal segments are ecarinate and convex, forceps simple, horizontal without any tooth internally near apex.

Eparchus insignis (Haan)

Eparchus insignis Hann, 1842, *Verh. Nat. Gesch. Nederl. Overzee Bezitt, Orth.*, 1 : 243, pl. 23, fig. 14 (♂, ♀ ; Java).

Material examined : Thailand : Chieng Mai Province, Doi-Inthanon N.P., Siripum, 1 ♂, 4.x.1981 ; Doi Suthep-Pui natn. Park, Konthathan waterfall area, 600 m, 3 ♀♀, 20-27.x.1979.

Remarks : A common species throughout the Oriental Region.

Timomenus lugens (Bormans)

Opithocosmia lugens Bormans, 1894, *Annali Mus. civ. Stor. nat. Giacomo Doria*, (2)14 : 398 (♂, ♀ ; Burma).

Material examined : Thailand : 7 km NW of Fang, Horticultural Experimental Station, 1 ♂, 2 ♀♀, 2 nymphs, 30.x.-2.xi. 1979 ; Chieng Mai Province, Fang Horticultural Exp. Station, 550-600 m, 1 ♀, 22.x.1981 ; Doi Saket, 950 m, 1 ♀, 30.x.1981.

Remarks : The speciment are brownish black. The basal antennal segment in males stout, rather swollen and cylindrical whereas in females comparatively less stout and slender.

Hypergus humeralis (Kirby)

Opisthocosmia humeralis Kirby, 1981, *J. Linn. Soc. (Zool.)*, 23 : 532 (♀ ; Ceylon).

Material examined : Thailand : Chieng Mai Prov., Fang Horticul. Exp. Station, 550-600 m, 2 ♂♂, 19.x.1981, 1 ♂, 1 ♀, 21.x. 1981.

Remarks : Although widely distributed in the Oriental Region it does not appear to have been recorded from Thailand.

Hypergus grata (Hebard)

Sadyia grata Hebard, 1923, *Mem. Dep. Agric. India Ent. Ser.*, 17(11) : 223 (♂, ♀ ; Sadiya, Assam).

Material examined : Thailand : Chieng Mai Province Fang Horticult. Exp. Station, 550-600 m. 1 ♂, 21.x.1981.

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