

Notes on the Taiwanese Megalopodinae with Description of a New Species (Coleoptera, Chrysomelidae)

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Abstract Keys are made to separate *Temnaspis pretiosa pretiosa* (REINECK, 1923) from *T. pretiosa elegantula* (GRESSITT, 1942) and *T. laosensis* PIC, 1922, and *Colobaspis elegans* (CHÛJÔ, 1951), which is transferred from *Temnaspis*, from *C. septemmaculata* (HOPE, 1831). A new species, *Colobaspis fraxini*, is described with a few ecological observations. A key to the seven known Taiwanese species of Megalopodinae is provided.

Introduction

Six species of Megalopodinae have hitherto been recorded from Taiwan. The first account was made by REINECK in 1923, in which he described three species, *Colobaspis formosana*, *C. sauteri* and *Poecilomorpha pretiosa*, based on SAUTER's collection. The succeeding two *Colobaspis*-species, *C. rubus* and *C. shirakii*, were described by CHÛJÔ in 1932, and the latest description of *Temnaspis elegans* was done again by CHÛJÔ in 1951.

In the present paper, two Taiwanese species, *Temnaspis pretiosa pretiosa* (REINECK, 1923) and *Colobaspis elegans* (CHÛJÔ, 1951), are characterised and separated from the continental populations belonging to the same species or to the closely allied ones. In addition, one new species is described. The remaining four *Colobaspis*-species are not included, because two REINECK's species have never been collected since his original description, and two CHÛJÔ's species seem to be somewhat confusing, that is, the specimens referable to *C. rubus*, which have entirely or largely yellowish head and prothorax, have been collected exclusively from northern Taiwan (Taipei and Taoyuang Hsien), whereas those referable to *C. shirakii*, which have totally blackish head and prothorax, have been found only in the middle and southern parts (Nantou, Chiayi and Kaohsiung Hsien). In the areas between the two groups of localities mentioned above (Miaoli and Taoyuang Hsien, for example), only a few specimens have been collected. However, some of them have blackish pronotum with lateral portion brownish as reported by KIMOTO (1971), or yellowish brown pronotum with a large blackish marking on the median portion, suggesting a cline from entirely blackish form of the south to the totally yellowish one of the north. I prefer to refrain from discussing this problem further in this report, rather leaving it untreated until more specimens are collected in the future.

Notes and Description

1. *Temnaspis pretiosa pretiosa* (REINECK, 1923)

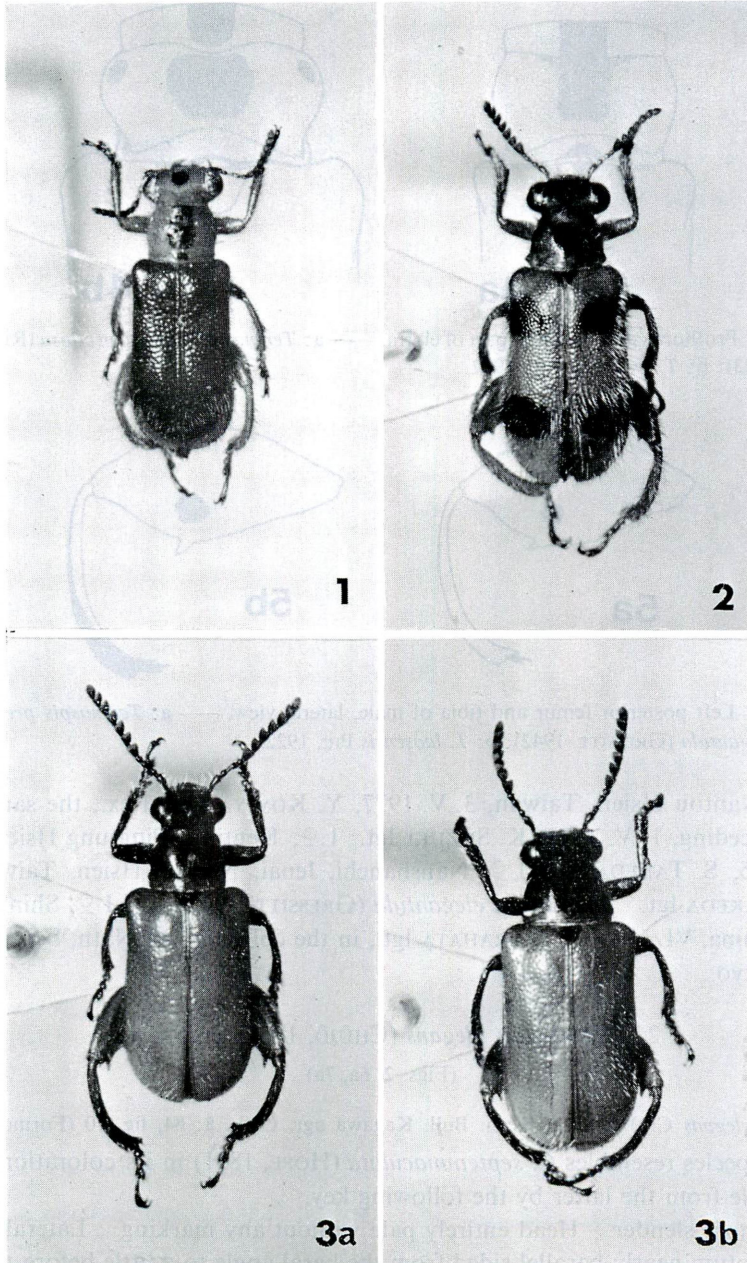
(Figs. 1, 4a)

Poecilomorpha pretiosa REINECK, 1923, Dtsch. ent. Z., 6: 609 (Formosa). — CHŪJŌ, 1932, Trans. nat. Hist. Soc. Formosa, 22: 311 (Formosa); 1951, Tech. Bull. Kagawa agr. Coll., 3: 62, fig. 9 (Formosa).

Temnaspis pretiosa: KIMOTO & GRESSITT, 1979, Pac. Ins., 20: 210, figs. 6 a, f and g (S. China, Taiwan).

Temnaspis pretiosa (REINECK, 1923) was suggested to be a colour variation of *T. laosensis* PIC, 1922, by KIMOTO and GRESSITT (1979). Upon closer comparison between the two species, however, the Taiwanese population as well as the continental one referable to *T. pretiosa* can be clearly separated from the latter by the characters to be described in the following key. Taiwanese and continental populations are obviously conspecific, but may be distinguishable by their coloration of pronotum and underside.

1. Body smaller (7.8–8.6 mm); frons with an ill-defined shallow fovea, interocular area with a small black spot; antenna black with the ventral part of 1st segment yellowish; pronotum less strongly widened laterally, widest at the middle of anterior and posterior transverse grooves, with or without a black spot on each side a little before the middle, and with a longitudinal black marking along the median portion interrupted at the posterior transverse groove, reaching the basal margin; elytron bluish with violaceous tinge; underside largely or entirely yellowish; legs yellowish with tarsi, extreme distal end of tibiae in female and a spot on middle and posterior femora blackish, posterior femora armed with a small spine in male on the underside beyond the middle which attaches to femur with a sharp angle. . . . 2
 - Body larger (10.3–11.2 mm); frons with a well-defined deep fovea, interocular area and occiput largely black; antenna yellowish with dorsal part of 1st and 3rd segments, in some specimens, of 2nd segment also, blackish; pronotum rather strongly widened laterally, widest a little behind the middle of anterior and posterior transverse grooves with a black spot on each side a little before the middle, and with another black spot in the median portion near the anterior margin, not reaching the basal margin; elytron blackish with violaceous tinge; underside yellowish with spots on pro-, meso- and metasterna blackish; legs yellowish with tarsi, lateral portion of tibiae and a spot on femora blackish, posterior femora armed with a spine in male on the underside beyond the middle which attaches almost rectangularly to femur. *T. laosensis* PIC, 1922
 2. Pronotum lacking a black spot on each side a little before the middle; underside entirely yellowish. *T. pretiosa pretiosa* (REINECK, 1923)
 - Pronotum with a small black spot on each side a little before the middle; underside yellowish with spots on pro-, meso- and metasterna blackish.
. *T. pretiosa elegantula* (GRESSITT, 1942)
- Specimens examined.* *T. pretiosa pretiosa* (REINECK, 1923); 1 ♀, Tehwashe, Jiu-



Figs. 1-3.— 1. *Temnaspis pretiosa pretiosa* (REINECK, 1923), female. — 2. *Colobaspis elegans* (CHŪJŌ, 1951), female. — 3. *Colobaspis fraxini* Y. KOMIYA, sp. nov.; a: holotype, male; b: paratype, female.

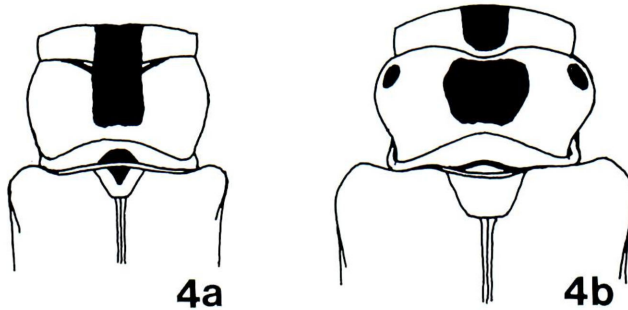


Fig. 4. Prothorax and the basal part of elytra. — a: *Temnaspis pretiosa pretiosa* (REINECK, 1923); b: *T. laosensis* PIC, 1922.

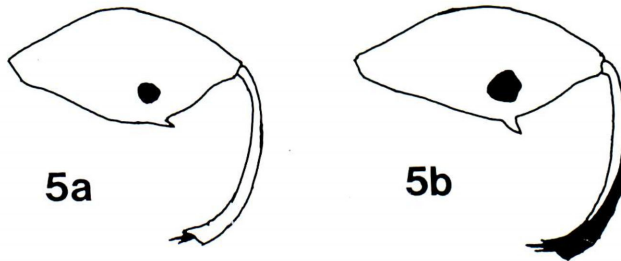


Fig. 5. Left posterior femur and tibia of male, lateral view. — a: *Temnaspis pretiosa elegantula* (GRESSITT, 1942); b: *T. laosensis* PIC, 1922.

yuehtan, Nantou Hsien, Taiwan, 3. V. 1977, Y. KOMIYA lgt.; 1 ex., the same locality as the preceding, 1. V. 1977, K. SUZUKI lgt.; 1 ♀, Kenting, Pingtung Hsien, Taiwan, 17. V. 1975, S. TAKEDA lgt.; 1 ♀, Nanshanchi, Jenai, Nantou Hsien, Taiwan, 28. V. 1975, S. TAKEDA lgt. *T. pretiosa elegantula* (GRESSITT, 1942); 1 ♂ 1 ♀, Shinhua Hsien, Hunan, China, VI. 1945, K. SHIRAHATA lgt., in the collection of Natn. Sci. Mus. (Nat. Hist.), Tokyo.

2. *Colobaspis elegans* (CHÛJÔ, 1951), comb. nov.

(Figs. 2, 6a, 7a)

Temnaspis elegans CHÛJÔ, 1951, Tech. Bull. Kagawa agr. Coll., 3: 64, fig. 10 (Formosa).

This species resembles *C. septemmaculata* (HOPE, 1831) in its coloration, but may be separable from the latter by the following key.

1. Body more slender. Head entirely pale without any marking. Lateral margin of pronotum nearly parallel-sided from the basal angle to a little before the middle, then gradually narrowed to the anterior corner, with an oval black marking on the median portion lacking any black spot on each side. Scutellum concolorous with elytron and pronotum. Each elytron with two transverse black markings; apical flavous portion of elytron with pale hairs except for the extreme marginal

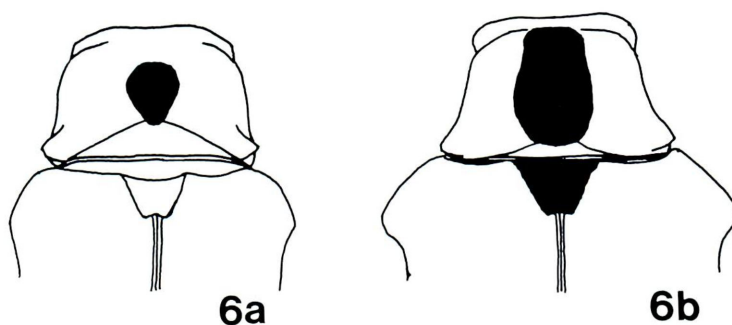


Fig. 6. Prothorax and the basal part of elytra. — a: *Colobaspis elegans* (CHÛJÔ, 1951);
b: *C. septemmaculata* (HOPE, 1831).

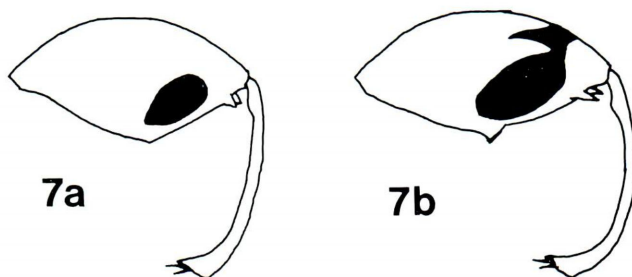


Fig. 7: Left posterior femur and tibia of male, lateral view. — a: *Colobaspis elegans*
(CHÛJÔ, 1951); b: *C. septemmaculata* (HOPE, 1831).

area where the hairs are dark; lateral margin of each elytron entirely pale to its apex. Underside largely fulvous with meso- and metasterna, mesepisternum and metacoxa partly dark brown or piceous. Posterior femur armed with a pair of spine near the distal end, attaching rectangularly, with a small tubercle-like elevation near the middle of underside in male, and decorated with a black oval spot a little beyond the middle on the lateral side near the posterior margin, lacking any spot on middle femur.....*C. elegans* (CHÛJÔ, 1951)

- Body wider, more robust. Head with two black or piceous markings, one, small, in interocular area, the other, relatively large, on vertex. Lateral margin of pronotum straightly narrowed from the basal angle to the anterior corner with a longitudinal black marking on the median portion, and with another one on each side. Scutellum dark brown to piceous. Each elytron with two obliquely situated transverse black markings; a narrow black line extending from the posterior one to the apex along the lateral margin; apical flavous part of elytron covered with blackish hairs. Underside largely dark brownish with prothorax, median and lateral portions of the remaining part pale. Posterior femora armed with a pair of spines near the distal end, attaching obliquely, with an additional small denticle near the middle of underside in male, and decorated

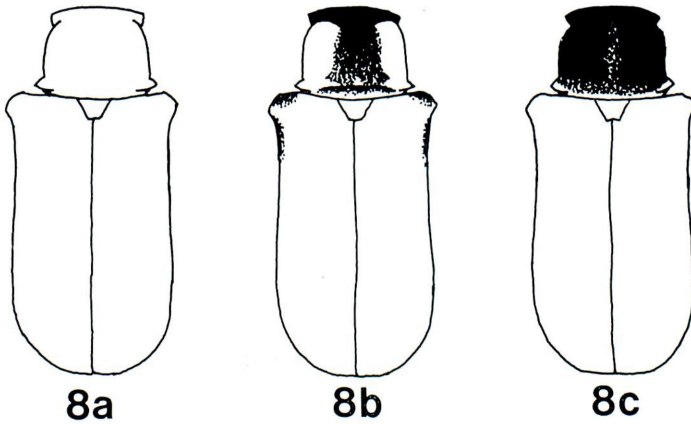


Fig. 8. Colour variation of *Colobaspis fraxini* Y. KOMIYA, sp. nov.; a and b: male; c: female.

with a large oblique black marking on the lateral side from the middle to the distal portion. Middle femur with a round brownish spot on the lateral side near the distal end. *C. septemmaculata* (HOPE, 1831)

Specimens examined. 1 ♀, Mt. Tayuanshan, Liukuei, Kaohsiung Hsien, Taiwan, 23. V. 1984, Y. KOMIYA lgt.; 1 ♀, the same locality as the preceding, 29. IV.–8. V. 1982, H. TAKIZAWA lgt.; 1 ♂, Kuantzunging, Tainan Hsien, Taiwan, 2.–3. VII. 1975, H. TAKIZAWA lgt.

3. *Colobaspis fraxini* Y. KOMIYA, sp. nov.

(Figs. 3, 8–9)

Male. Body elongate, parallel-sided. Head pitchy black, with anterior portion of clypeus and labrum yellowish brown, mouth-part and lateral portion of neck region behind eye more or less brownish; antenna dark brown to pitchy with distal end of segments 1 to 4 somewhat reddish brown; prothorax dark brown, much darker in front, almost pitchy black near the anterior margin, paler towards the base, nearly ochraceous in the posterior margin and in the lateral projecting area; scutellum brownish with the central portion darker; elytron orange ochraceous near the base, gradually changing to pale yellowish near the apex; underside reddish brown with mesepisternum dark brown; anterior and middle legs dark brownish to pitchy, hind leg reddish brown with distal part of tibia and tarsi darkened.

Head distinctly broader than prothorax, covered with fine but distinct punctures laterally, each puncture bearing a long erect dark brownish hair, but a pale yellowish one in clypeus and labrum, interstices of punctures smooth and shining; clypeus almost flat, well-delimited from behind by a transverse depression, anterior margin nearly straight, with the central portion almost devoid of puncture; labrum somewhat convex

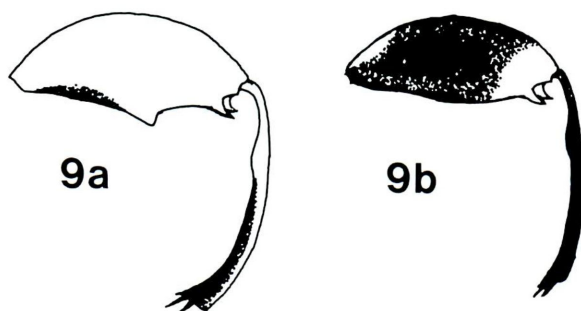


Fig. 9. Left posterior femur and tibia of *Colobaspis fraxini* Y. KOMIYA, sp. nov.; a: male; b: female.

in the middle with anterior margin slightly emarginate; gena very short with the surface distinctly reticulate; frons nearly flat, slightly depressed laterally with the median portion almost impunctate; vertex with a well-defined fovea in the middle. Eye prominent, deeply emarginate near the antennal insertion. Antenna relatively short, reaching a little behind humerus; segments 1–4 partly reticulate but shining, and sparsely punctured with long yellowish hairs, segments 5–11 strongly serrate, rugosely granulate, covered thickly with dark hairs and sparsely with long ones in the distal portion; segment 1 incrassate and curved, nearly $3\times$ as long as broad, 2 short, a little longer than broad, 3 slender, $1.3\times$ as long as 2, 4, shortest, about a half of 3, 5–10 broadened, nearly as broad as long, 10 distinctly broader than long, 11 slightly longer than broad with apex rounded. Pronotum subquadrate, $1.2\times$ as broad at base as long; lateral margin not bordered, nearly parallel from the base to a little beyond the middle, then slightly narrowed anteriorly with a constriction near the front end; anterior margin almost straight, not bordered; basal margin distinctly bordered, and gently sinuate; dorsum evenly convex on each side with a shallow longitudinal depression in the middle, connecting anteriorly and posteriorly with shallow transverse depressions, covered with sparse fine punctures, being closer near the anterior margin, each puncture bearing a long erect yellowish hairs, distinctly tuberculate near the basal corner; interstices of punctures nearly smooth and shining. Scutellum trapezoidal, lateral margin slightly sinuate, apex feebly emarginate; dorsum smooth and shining, covered sparsely with hair-bearing punctures. Elytron elongate, nearly parallel-sided, slightly widened posteriorly; dorsum irregularly covered with moderate-sized punctures, being slightly larger than those on pronotum, each puncture bearing a long erect dark-coloured hair in basal two-thirds and a yellowish one in apical one-third. Underside moderately covered with fine punctures with pale long hairs; metasternum with a pair of tubercles; apical margin of last visible abdominal sternite nearly straight; pygidium rather evenly rounded apically. Legs stout, covered less densely with fine punctures on femora, more densely with moderately strong ones on tibiae, each puncture having a long pale hair; hind femur strongly incrassate, armed with a pair of spines of almost equal size

at the distal end and with an additional denticle on the lower edge a little beyond the middle; posterior tibia strongly arcuate with a pair of sharp spine at the apex.

Female. Apical margin of last visible abdominal sternite emarginate bisinuate. Pygidium straightly truncated apically. Posterior femur less swollen without denticle on the lower edge a little beyond the middle. Posterior tibia less arcuate.

Colour variation. Pronotal coloration is variable from entirely brownish to mostly pitchy, but even in the darkest specimen, the basal margin including lateral projecting areas remains brownish. Generally female tends to become darker. Elytral coloration also varies from entirely reddish brown to mostly pale yellowish, usually paler towards the apex. In a male specimen, anterior portion of the humerus is stained dark. In some specimens, the mesosternum and mesepimeron are also dark brown to pitchy, entirely or in part. In female, the hind femur and tibia are widely dark brown to pitchy.

Body length: ♂, 7.8–9.4 mm, ♀, 7.6–9.4 mm.

Body breadth: ♂, 2.8–3.7 mm, ♀, 3.0–3.7 mm.

Adult food plants: *Fraxinus floribunda* WALL. and *F. griffithii* C. B. CLARKE (Oleaceae).

Holotype: ♂, Mt. Tayuanshan (ca. 1,000 m alt.), Liukuei, Kaohsiung Hsien, Taiwan, 24. V. 1984, Y. KOMIYA lgt. *Paratypes:* 8 ♂♂, 9 ♀♀, the same data as holotype.

The holo- and paratypes are separately deposited in the collection of the National Science Museum (Nat. Hist.), Tokyo, and in that of the author.

The present new species is closely allied to *C. nankinea* PIC, 1914 from Mainland China and Korea and to *C. japonica* (BALY, 1873) from Japan, but is easily separated from them by the coloration of dorsal surface and by the pronotal punctuation. Judging from their close similarity in the body structure and adult food plants, these three species seem to form a species-group. It also resembles *C. formosana* REINECK, 1923 from Taiwan, but may be distinguished by having a pair of spines instead of one in the latter at the distal end of the lower edge of hind femur.

Ecological observations. The beetle was found feeding on sprouts from a stump of the host tree, and seems to prefer those shoots or small sprouts to the taller tree, never found on the leaves of a big tree. It is usually gnawing at the trunk of newly sprouting shoot near the top end with its head upward, sometimes cutting off the top portion of the shoot. When someone is approaching, it moves around the trunk to the opposite side, as some hemipteran insects often do. On further approach, it flies away or falls down. This kind of behavior seems to be shared with the other members of the subfamily, as a similar behavior was also observed in northern Thailand.

A Key to the Taiwanese Species of Megalopodinae

1. Posterior femur without tooth near the distal end, but with a small spine a little beyond the middle of its underside in male; pronotum lacking laterobasal tuber-

- cles; general colour orange ochraceous with elytron blue.....
*Temnaspis pretiosa pretiosa* (REINECK, 1923)
- Posterior femur armed with one or a pair of teeth near the distal end, and with or without an additional denticle a little beyond the middle of its underside in male; pronotum with latero-basal tubercles..... 2
2. Posterior femur armed with a pair of teeth of almost equal size near the distal end. 3
- Posterior femur armed with a sharp spine near the distal end on its outer edge... 4
3. Elytron orange ochraceous with apical one-third somewhat yellowish, lacking black marking on its disc.....*Colobaspis fraxini* Y. KOMIYA, sp. nov.
- Elytron orange-red in basal two-thirds, and pale yellowish in apical one-third, with two transverse black markings.....*Colobaspis elegans* (CHÛJÔ, 1951)
4. Head and prothorax black. 5
- Prothorax yellowish brown to reddish brown; in some specimens pronotum with a dark brown to pitchy marking in the median portion..... 6
5. Antenna long, distinctly longer than the head and prothorax combined; elytron reddish brown in basal half and pale yellowish in apical half.
*Colobaspis shirakii* CHÛJÔ, 1932
- Antenna short, only extending to the basal margin of pronotum; elytron yellowish brown with a long pitchy brown marking on humerus.....
*Colobaspis formosana* REINECK, 1923
6. Elytron reddish brown with apical one-third yellowish; hind femur deep yellowish brown to reddish brown with base somewhat infuscated and apex paler....
*Colobaspis rubus* CHÛJÔ, 1932
- Elytron uniformly yellowish brown; head and pronotum yellowish brown with clypeus, labrum, anterior extremity and latero-basal tubercles of pronotum pitchy brown; hind femur pitchy black with apical extremity yellowish brown.
*Colobaspis sauteri* REINECK, 1923

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摘 要

台湾産カタビロハムシ亜科のうち, *Temnaspis pretiosa pretiosa* (REINECK, 1923) を中国大陸産の亜種 *T. pretiosa elegantula* (GRESSITT, 1942) およびインドシナ半島産の近似種 *T. laosensis* PIC, 1922 から, また本報で所属を *Temnaspis* 属から変更した *Colobaspis elegans* (CHÛJÔ, 1951) を大陸産の近似種 *C. septemmaculata* (HOPE, 1831) から区別した. また新種, *Colobaspis fraxini* の記載を行った. 台湾産カタビロハムシ亜科の 7 種につき検索表を作成した.