

**A New Species of the Genus *Prothemus* (Coleoptera: Cantharidae)
from Taiwan, with Records of Taiwanese Cantharidae
in the SHIBATA Collection**

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Abstract A new species of the genus *Prothemus* is described from Taiwan under the name *P. shibatai* and illustrated. Seventy-four species of Taiwanese Cantharidae in the Shibata collection are recorded with collecting data and illustrations for all the species and notes for some species. Taxonomic changes are proposed for the following species: *Themus* (*Themus*) *pallidipes* WITTMER, transferred from the subgenus *Haprothemus*; *Walteriella sanguinea brevemarginata* (WITTMER), comb. nov., and its nominotypical subspecies, *W. s. sanguinea* (WITTMER), comb. nov., transferred from the genus *Lycocerus*.

Up to the present, 21 genera and 157 species of cantharid beetles have been known from Taiwan (KAZANTSEV & BRANCUCCI, 2007, etc.). Most species of them are peculiar to this island though several species are known also from mainland China or the Ryukyu Islands of Japan. For the genus *Prothemus* CHAMPION, 1926, nine species have been known from Taiwan (WITTMER, 1984, 1987; OKUSHIMA & SATÔ, 2002).

Recently, I had an opportunity to investigate cantharid beetles in the Shibata collection through the courtesy of Dr. Kiyoshi ANDO who was one of the pupils of the late Mr. Taichi SHIBATA. They were collected in the period of the 1960s to the 1980s by members of the Osaka Coleopterological Society established by Mr. T. SHIBATA. Some of them were correctly identified by Mr. Yutaka KIMURA, one of the members of the society, though further specimens are left unidentified.

Fortunately, I was able to find a strange species in unidentified materials of the collec-

tion, which should belong to the genus *Prothemus*. After a careful examination, it has become clear that this species must be new to science. It will be described in this paper under the new name *Prothemus shibatai* on the material in SHIBATA's collection combined with those from other sources.

Seventy-four species of Taiwanese Cantharidae were recognized in the Shibata collection. They will be listed and illustrated with collecting data. Besides, some taxonomic changes or notes will be given in the list.

The type series of the new species to be described in this paper are deposited in the following institutions, which are referred to in the text by the following abbreviations: CBM: Natural History Museum and Institute, Chiba; EUMJ: Ehime University, Matsuyama; KCMI: Kashihara City Museum of Insect; KURA: Kurashiki Museum of Natural History; NMNS: National Museum of Natural Science, Taichung.

The methods of anatomy and sketch were followed OKUSHIMA (2005).

Before going further, I wish to express my hearty thanks to Dr. Shun-Ichi UÉNO of the National Museum of Nature and Science, Tokyo, for critically reading the manuscript and giving me kind advice, to members of the Osaka Coleopterological Society, especially Dr. Kiyoshi ANDO, Dr. Yasuhiko HAYASHI and Mr. Yutaka KIMURA, for giving me the opportunity to investigate the SHIBATA collection, to the late Dr. Masataka SATÔ, Dr. Nobuo OHBAYASHI (EUMJ), Dr. Akiko SAITO (CBM) and Dr. Jean J. MENIER (Muséum national d'Histoire naturelle, Paris) for their kind support by loaning specimens under their care or from private collections, and to Dr. Vladimír ŠVIHLA (National Museum, Praha), Dr. Michel BRANCUCCI (Naturhistorisches Museum, Basel), Dr. Fumiaki KIMURA (KCMI) and Dr. Naoki TAKAHASHI (Junshin Junior College, Fukuoka), for their kind help in various ways.

This paper is dedicated to the memory of the late Mr. Taichi SHIBATA.

Description of a New Species

Prothemus shibatai OKUSHIMA, sp. nov.

(Figs. 1–2, 53)

Type series. Holotype: ♂, Sungkang, Nantou Hsien, Taiwan, 26. V. 1998, C. LOU leg. (NMNS) (Fig. 1). Paratypes: Taiwan: [Taipei City] 2♂♂, Mt. Yangming, 9. V. 1968, Y. HAYASHI leg. (Shibata Collection, KCMI) (Fig. 53). [Nantou Hsien] 1♂, Sungkan (= Sungkang) — Meifeng, 25–26. V. 1972, M. SAKAI leg. (EUMJ); 1♂, Tsuifen, 4. V. 1979, S. TSUYUKI leg. (EUMJ); 1♂, near Meifeng, 1. V. 1983, M. HASEGAWA leg. (KURA); 1♂, Cho-she-ta Shan, 2,450–2,500 m alt., Jen-ai Hsiang, 18. V. 1991, A. SAITO leg. (CBM-ZI 25370). [Chiayi Hsien] 1♂, Alishan, 16. V. 1968, Y. WATANABE leg. (EUMJ); 1♂, Alishan, 17. V. 1968, H. SAWADA leg. (EUMJ); 2♂♂, Alishan, 22. V. 1973, K. MASUMOTO leg. (EUMJ).



Fig. 1. *Prothemus shibatai* OKUSHIMA, sp. nov., ♂ (holotype), from Sungkang, Taiwan.

Distribution. Taiwan: northern to central areas.

Description. Male. Body mostly dusky yellowish brown; eyes black; antennae except for yellowish 1st segment, apical portions of femora, tibiae, tarsi and vertex blackish brown; a pair of vague markings on pronotum and abdominal sternites of 2nd to 7th dusky brown; mandibles and claws reddish yellow. Body closely covered with fine pale pubescence which is shorter on antennae and longer on elytra; apical margin of clypeus fringed with pale bristles.

Body slender. Head slightly shorter than its width; dorsum faintly convex on vertex, and depressed along the apical margin of clypeus and in lateral areas before eyes; surface smooth without lustre; clypeus arcuate at apical margin; eyes very large, globular and strongly prominent, ratio of the diameter of an eye to interocular space 1: 1.33; mandibles slender and roundly curved; labial palpus with broadened cultellate apical segment; maxil-

lary palpus with faintly warped cultellate apical segment; antennae filiform and slender, attaining to apical fourth of elytra, 1st segment clavate, 2nd dilated apicad, 3rd to 11th sub-cylindrical, each of 4th to 11th segments with a short groove on the dorso-external side a little basal to the middle, but those of 4th and 11th are vague, relative lengths of antennal segments as follows: 25 : 10 : 20 : 30 : 32.5 : 32.5 : 33 : 33 : 30.5 : 27.5 : 30.

Pronotum mostly circular, 1.01 times as wide as head in the holotype (range 0.93–1.03), 0.90 (0.84–0.94) times as long as wide; anterior margin semicircular without corner on each side; posterior margin gently arcuate with rounded corner on each side; lateral margins gently arcuate and approaching to each other forwards; disc convex, especially so in posterior area, antero-lateral areas hollowed, marginal area along circumference depressed; surface smooth without lustre. Scutellum triangular with blunt apex.

Elytra conjointly 1.48 (1.39–1.57) times as wide as pronotum, 3.12 (2.87–3.23) times as long as wide, sides subparallel though slightly arcuate around basal third; dorsum devoid of lustre and rugosely punctate, but the punctures are vague in basal portions; each elytron provided with two vague costae.

Legs very slender; each femur mostly straight; each tibia feebly arcuate in basal part

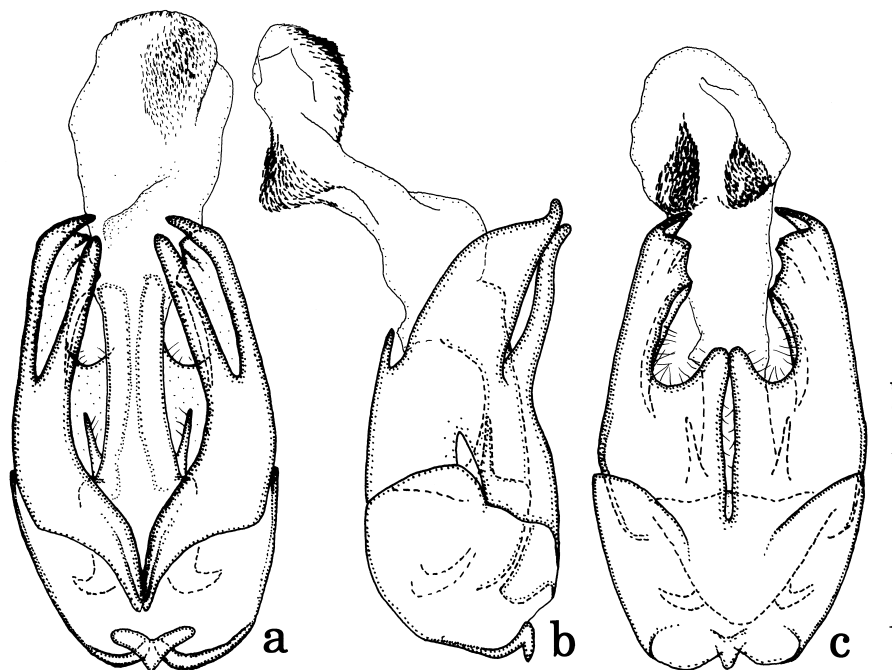


Fig. 2. Male genitalia of *Prothemus shibatai* OKUSHIMA, sp. nov.: a, ventral view; b, lateral view; c, dorsal view. (Scale: 1.0 mm.)

in fore legs, and feebly arcuate throughout in middle and hind legs; each outer claw of fore and middle legs provided with a small lobe at the base.

Male genitalia: Tegmen elongate and suboval. Ventral process of each paramere slender, flat, feebly sinuate, with blunt tip; dorsal plate of each paramere forming a hook with pointed tip at apex, inner margin obtusely angulate at several portions near the apex, roundly concave and forming a developed projection with rounded tip in the middle, almost straight but feebly sinuate near the base. Each laterophysis not so long, slender and almost straight with pointed tip. Inner sac lengthened and swollen dorso-posteriorly, a little shorter than tegmen, closely and partly haired on apical portion (Fig. 2).

Length of body: 11.73 mm (in the holotype; range 9.53–11.73, measured from the anterior margin of clypeus to the apices of elytra); breadth of body: 2.85 (2.45–3.00) mm (measured at the widest part of conjoint elytra).

Female. Unknown.

Notes. Some colour variations are recognized in the type series. Blackish areas of head, pronotum and appendages are often reduced and becoming paler in colour in some paratypes. Besides, one paratype from “Mt. Yangming” has blackish brown elytra (Fig. 53).

This new species closely resembles *P. hisamatsui* WITTMER, 1984, from Taiwan in the size and coloration of body, but can be easily distinguished from the latter by the shape of male genitalia which are elongate and suboval in this new species against transversely broad in *P. hisamatsui*. On the other hand, this new species seems closely related to *P. kanoi* WITTMER, 1984, from Taiwan in the structure of male genitalia, but can be distinguished from the latter not only by the differences of body size and body coloration but also by dorsal plate of the paramere provided with a conspicuous projection rounded at the tip in the middle of inner margin in this new species.

Etymology. The specific name is given to the memory of the late Mr. Taichi SHIBATA who was the founder of the Osaka Coleopterological Society.

List of Taiwanese Cantharidae in the Shibata Collection, with Collecting Data and Notes

Higher taxa are arranged after KAZANTSEV and BRANCUCCI (2007), and genera and specific names are arranged alphabetically in each tribe.

Synonymic lists are provided only for species with taxonomic changes or notes in this list.

Old or different names of localities of the specimens examined should be read as follows:

[Taipei City] Yangmingshan (= Mt. Yang-Ming, Mt. Yangming)

[Ilan Hsien] Suao (= Suou)

[Taoyuan Hsien] Shihmenshuiku (= Shihmen Reserver [sic])

[Nantou Hsien] Hohuanshan (= Mt. Hohuan); Lienhuachih (= Lienhwachi); Lushan (=

Roshan); Meifeng (= Meifo); Nanshanchi (= Nanshanci); Wushe (= Musha)

[Chiayi Hsien] Alishan (= Mt. Ali); Fenchihu (= Fungchiifo, Funchiihu, Funchiifo, Funchifu)

All the specimens recorded here with the exception of type series are now under the care of Mr. Yutaka KIMURA (Ikoma, Nara), as a part of the Shibata Collection of the Osaka Coleopterological Society.

Subfamily **Cantharinae** Tribe **Podabrini**

1. *Asiopodabrus taiwanus* (WITTMER, 1982)

(Fig. 3)

Specimens examined. [Taichung Hsien] 2♂♂, Mt. Lishan, 5. IV. 1973, Y. KIYOYAMA leg. (Fig. 3). [Chiayi Hsien] 1♂, Funchiifo, 24. III. 1970, T. KOBAYASHI leg.

2. *Asiopodabrus sakaii* (WITTMER, 1982)

(Fig. 4)

Specimens examined. [Taipei City] 2♂♂, Mt. Yangming, 10. V. 1968, Y. HAYASHI leg. (Fig. 4). [Chiayi Hsien] 1♀, Mt. Ali, 18. V. 1981, T. ITO leg.

Tribe **Cantharini**

3. *Cantharis (Taiwanocantharis) pallidithorax* WITTMER, 1984

(Fig. 5)

Specimen examined. [Nantou Hsien] 1♀, Mt. Yushan, 9. VI. 1980, M. YAMAMOTO leg. (Fig. 5).

4. *Cantharis (Taiwanocantharis) tripunctata* WITTMER, 1984

(Fig. 6)

Specimens examined. [Taichung Hsien] 1♂, Mt. Lishan, 4. IV. 1973, Y. KIYOYAMA leg. (Fig. 6). [Nantou Hsien] 3♀♀, Sungkang, 19. IV. 1973, Y. KIYOYAMA leg. [Chiayi Hsien] 1♀, Funchiihu, 25. IV. 1973, Y. KIYOYAMA leg.

5. *Lycocerus arisanensis* (WITTMER, 1954)

(Fig. 7)

Specimens examined. [Taipei City] 1♀, Mt. Yangming, 9. V. 1968, Y. HAYASHI leg.; 1♀, Mt. Yang-Ming, 9. V. 1968, Y. HAYASHI leg.; 1♂, Mt. Yang-Ming, 30. V. 1968, Y. HAYASHI leg. [Taipei Hsien] 1♀, Loloshan, 8. V. 1983, F. KIMURA leg. [Nantou Hsien] 1♀,

Sungskang, 4. IV. 1970, T. KOBAYASHI leg.; 1♂, 2♀♀, Sungkang, 19. IV. 1970, Y. KIYOYAMA leg.; 1♀, Sungkang, 4. IV. 1971, H. NOMURA leg.; 1♀, Sungkang, 19. IV. 1973, Y. KIYOYAMA leg.; 1♀, Sungkang, 8. V. 1973, Y. KIYOYAMA leg.; 1♀, Tsuifeng, 3. V. 1982, F. KIMURA leg.; 1♂, Meifo, 9. IV. 1971, M. MIHARA leg. (Fig. 7); 1♀, Meifo, 4. V. 1971, Y. HAYASHI leg.; 1♀, Mt. Lishan, 5. IV. 1973, Y. KIYOYAMA leg. [Hualien Hsien] 1♀, Tayuling, 2. V. 1982, T. ITO leg. [Chiayi Hsien] 1♀, Mt. Ali, 23. IV. 1973, Y. KIYOYAMA leg.

6. *Lycocerus atroopacus* (PIC, 1937)

(Fig. 8)

Specimens examined. [Taipei Hsien] 2♂♂, Loloshan, 9. V. 1983, H. MIYATA leg. [Taichung Hsien] 1♂, Lishan, 29. III. 1971, H. NOMURA leg.; 1♂, 1♀, Mt. Lishan, 5. IV. 1973, Y. KIYOYAMA leg. [Taoyuan Hsien] 1♀, Shihmen Reserver [sic], 7. IV. 1970, H. NOMURA leg. [Nantou Hsien] 2♂♂, 3♀♀, Meifeng, 18. VI. 1980, M. YAMAMOTO leg. (Fig. 8); 1♂, Sungkang, 4. IV. 1970, T. KOBAYASHI leg.; 1♀, Sungkang, 4. IV. 1971, H. NOMURA leg.; 1♀, Sungkang, 19. IV. 1973, Y. KIYOYAMA leg.; 1♀, Sungkang, 1. IV. 1981, Y. YAMAMOTO leg.; 1♂, 1♀, Musha, 31. III. 1970, T. KOBAYASHI leg.; 2♀♀, Tsuifeng, 3. V. 1982, F. KIMURA leg.; 1♀, Howang Hsi, 5. IV. 1981, F. KIMURA leg. [Chiayi Hsien] 1♂, Mt. Ali, 23. VII. 1970, T. KOBAYASHI leg.; 2♂♂, Mt. Ali, 23. VI. 1971, Y. MAEDA leg., at light.

7. *Lycocerus bipartitus* (WITTMER, 1972)

(Fig. 9)

Specimens examined. [Nantou Hsien] 1♂, Chitou, 2. VII. 1972, Y. MAEDA leg. (Fig. 9). [Chiayi Hsien] 1♀, Funchiifu, 5. VII. 1972, S. TAKEDA leg.

8. *Lycocerus chosokeiensis* (PIC, 1937)

(Fig. 10)

Specimen examined. [Taipei City] 1♂, Mt. Yangming, 3. III. 1970, T. KOBAYASHI leg. (Fig. 10).

9. *Lycocerus chujoi* (WITTMER, 1972)

(Fig. 11)

Specimens examined. [Nantou Hsien] 1♂, 1♀, Sungkang, 5. VIII. 1969, Y. MAEDA leg. (Fig. 11); 1♀, Sungkang, 6. VIII. 1969, Y. MAEDA leg.; 1♀, Sungkang, 20. VIII. 1969, T. KOBAYASHI leg.; 1♂, Sungkang, 1. VIII. 1970, T. KOBAYASHI leg. [Chiayi Hsien] 1♀, Funchiifo, 20. VII. 1970, T. KOBAYASHI leg.

10. *Lycocerus costulatus* WITTMER, 1972

(Fig. 12)

Specimen examined. [Chiayi Hsien] 1♂, Mt. Ali, 21. VII. 1970, T. KOBAYASHI leg. (Fig. 12).

11. *Lycocerus elongatipes* (WITTMER, 1972)

(Fig. 13)

Specimens examined. [Taoyuan Hsien] 2♂♂, Shihmen Reserver [sic], 7. IV. 1970, H. NOMURA leg. [Nantou Hsien] 1♂, 1♀, Lienhwachi, 17. IV. 1973, Y. KIYOYAMA leg. (Fig. 13); 1♀, Nanshanchi, 6. V. 1971, Y. HAYASHI leg.; 1♀, Nanshanchi, 14. V. 1971, S. TAKEDA leg. [No detailed data] 1♂.

12. *Lycocerus fainanus* (PIC, 1910)

(Figs. 14–15)

Specimens examined. [Taipei City] 2♀♀, Mt. Yang-Ming, 10. V. 1968, Y. HAYASHI leg.; 1♂, Mt. Yangming, 8. IV. 1970, H. NOMURA leg.; 3♂♂, Mt. Yangming, 17. IV. 1970, Y. KIYOYAMA leg. (Fig. 14); 1♀, Mt. Yangming, 9. V. 1970, Y. KIYOYAMA leg. [Nantou Hsien] 2♀♀, Musha, 7. III. 1970, T. KOBAYASHI leg.; 1♂, 1♀, Musha, 31. III. 1970, T. KOBAYASHI leg.; 8♂♂, 6♀♀, Musha, 13. IV. 1970, T. KOBAYASHI leg. (Fig. 15); 2♂♂, 6♀♀, Musha, 14. IV. 1970, T. KOBAYASHI leg.; 4♀♀, Musha, 14. IV. 1970, A. RIN leg.; 2♂♂, 3♀♀, Musha, 19. IV. 1970, Y. KIYOYAMA leg.; 1♂, 4♀♀, Musha, 30. IV. 1970, A. RIN leg.; 1♀, Musha, 30. III. 1981, F. KIMURA leg.; 1♀, Wushe, 21. IV. 1983, F. KIMURA leg.; 1♀, Wushe, 21. IV. 1983, H. MIYATA leg.; 1♂, Nanshanchi, 3. IV. 1970, H. NOMURA leg.; 1♂, 1♀, Nanshanchi, 14. V. 1970, Y. KIYOYAMA leg.; 1♀, Nanshanchi, 17. V. 1970, Y. KIYOYAMA leg.; 1♀, Nanshanchi, 2. IV. 1971, H. NOMURA leg.; 1♀, Nanshanchi, 5. IV. 1971, H. NOMURA leg.; 1♀, Nanshanchi, 9. IV. 1971, H. NOMURA leg.; 1♀, Nanshanchi, 20. IV. 1971, C. Tou leg.; 1♂, 2♀♀, Nanshanchi, 2. V. 1971, Y. HAYASHI leg.; 2♀♀, Nanshanchi, 14. V. 1971, S. TAKEDA leg.; 2♂♂, Nanshanchi, 10. IV. 1973, Y. KIYOYAMA leg.; 1♂, Nanshanchi, 28. IV. 1982, F. KIMURA leg.; 1♀, Sungkang, 17. VI. 1980, M. YAMAMOTO leg.; 1♀, Puli, 18. V. 1970, Y. KIYOYAMA leg.; 1♀, Tungpu Spa, 10. VI. 1980, N. ITO leg.; 2♂♂, Tungpu Spa, 10. VI. 1980, K. KUZUGAMI leg. [Chiayi Hsien] 1♀, Funchiuhu, 25. IV. 1973, Y. KIYOYAMA leg.; 1♀, Funchiuhu, 25. IV. 1973, Y. KIYOYAMA leg., at light. [Taitung Hsien] 2♀♀, Taitung, 28. III. 1973, Y. KIYOYAMA leg.; 1♀, Taitung, 29. III. 1974, S. TAKEDA leg.; 1♀, Chipon, 28. III. 1970, H. NOMURA leg.; 1♀, Chipon, 22. III. 1971, H. NOMURA leg.

Notes. Some variations are recognized in size of the blackish marking on pronotum which is often vanished, and in coloration of antennae and legs as shown in figs. 14–15.

13. *Lycocerus gracilitarsis* (PIC, 1921)

(Fig. 16)

Specimens examined. [Taichung Hsien] 1♂, Lishan, 3. VII. 1972, Y. MAEDA leg. (Fig. 16). [Nantou Hsien] 1♀, Chinshan, 22. V. 1972, Y. KIYOYAMA leg. [Chiayi Hsien] 1♀, Funchiifo, 21. VI. 1971, Y. MAEDA leg.

14. *Lycocerus gressitti* (WITTMER, 1954)

(Fig. 17)

Specimens examined. [Nantou Hsien] 1♀, Sungkang, 8. V. 1973, Y. KIYOYAMA leg.;

2♂♂, Tsuifeng, 3. V. 1982, F. KIMURA leg. (Fig. 17).

15. *Lycocerus maculiceps* (WITTMER, 1983)

(Figs. 18–19)

Specimens examined. [Nantou Hsien] 2♀♀, Tsuifeng, 23. IV. 1983, F. KIMURA leg.; 6♂♂, 1♀, Sungchuankang, 3. V. 1982, T. ITO leg. (Fig. 18). [Chiayi Hsien] 1♂, Mt. Ali, 14. V. 1968, Y. HAYASHI leg.; 1♂, Mt. Ali, 23. IV. 1973, Y. KIYOYAMA leg.; 1♂, 1♀, Mt. Ali, 18. V. 1981, T. ITO leg. (Fig. 19).

Notes. Though the typical form (Fig. 19) of this species is provided with a yellowish stripe on each black elytron, the stripe is often vanished in individuals from Sungchuan-kang (Fig. 18).

16. *Lycocerus maculithorax* (WITTMER, 1972)

(Fig. 20)

Specimens examined. [Nantou Hsien] 1♀, Mt. Yushan, 4. VIII. 1974, Y. KIYOYAMA leg.; [Chiayi Hsien] 2♂♂, Mt. Ali, 21. VII. 1970, T. KOBAYASHI leg.; 1♂, 2♀♀, Mt. Ali, 22. VII. 1970, T. KOBAYASHI leg. (Fig. 20); 3♂♂, 1♀, Mt. Ali, 23. VII. 1970, T. KOBAYASHI leg.

17. *Lycocerus masatakai* OKUSHIMA, 2007

(Fig. 21)

Specimens examined. [Taipei Hsien] 1♀, Loloshan, 9. V. 1983, H. MIYATA leg.; 2♀♀, Loloshan, 12. V. 1983, H. MIYATA leg. (Fig. 21).

18. *Lycocerus metallescens metallescens* (GORHAM, 1889)

(Fig. 22)

Specimen examined. [Taoyuan Hsien] 1♀, Ssuleng, 14. V. 1983, H. MIYATA leg. (Fig. 22).

19. *Lycocerus nanshanensis* (WITTMER, 1983)

(Fig. 23)

Specimen examined. [Nantou Hsien] 1♂, Nanshanchi, 7. IV. 1973, Y. KIYOYAMA leg. (Fig. 23)

20. *Lycocerus nigricollis* WITTMER, 1984

(Fig. 24)

Specimens examined. [Nantou Hsien] 1♀, Nanshanchi, 28. IV. 1982, F. KIMURA leg.; 2♀♀, Nanshanchi, 2. V. 1982, F. KIMURA leg.; 1♀, Sungkang, 7. V. 1973, Y. KIYOYAMA leg.; 1♀, Tungpu spa, 21. V. 1981, N. ITO leg.; 1♀, Tungpu spa, 22. V. 1981, N. ITO leg. [Chiayi Hsien] 1♀, Funchiifo, 5. V. 1970, Y. KIYOYAMA leg.; 1♀, Funchiihu, 25. IV. 1973, Y. KIYOYAMA leg.; 1♂, Funchifu, 5. V. 1982, F. KIMURA leg. (Fig. 24); 1♀, Mt. Ali, 17. V. 1981, K. KUZUGAMI leg.

21. *Lycocerus nigripennis* (PIC, 1938)

(Fig. 25)

Specimens examined. [Taipei City] 1♂, Mt. Yangming, 3. III. 1970, T. KOBAYASHI leg. [Taichung Hsien] 18♂♂, Lishan, 31. III. 1970, H. NOMURA leg. (Fig. 25); 2♂♂, Mt. Lishan, 5. IV. 1973, Y. KIYOYAMA leg. [Nantou Hsien] 2♂♂, Mt. Hohuan, 4. V. 1982, T. ITO leg.; 1♀, Nanshanchi, 7. IV. 1973, S. TAKEDA leg.; 1♂, Nanshanchi, 3. IV. 1981, Y. YAMAMOTO leg.; 1♂, 1♀, Tsuifeng, 23. IV. 1983, F. KIMURA leg.; 1♂, 2♀♀, Sungkang, 4. IV. 1970, T. KOBAYASHI leg.; 1♀, Sungkang, 19. IV. 1970, Y. KIYOYAMA leg.; 3♀♀, Sungkang, 1. IV. 1971, H. NOMURA leg.; 1♂, 2♀♀, Sungkang, 4. IV. 1971, H. NOMURA leg.; 1♂, Sungkang, 29. VI. 1971, Y. MAEDA leg.; 1♀, Sungkang, 19. IV. 1973, Y. KIYOYAMA leg.; 1♂, Sungkang, 22. IV. 1973, Y. KIYOYAMA leg.; 1♀, Sungkang, 21. VII. 1973, Y. KIYOYAMA leg.; 1♀, Roshan, 13. IV. 1974, S. TAKEDA leg.; 1♂, 1♀, Musha, 23. III. 1970, H. NOMURA leg.; 1♀, Musha, 31. III. 1970, T. KOBAYASHI leg.; 3♂♂, 6♀♀, Mt. Yushan, 3. VIII. 1974, Y. KIYOYAMA leg.; 1♂, 3♀♀, Mt. Yushan, 4. VIII. 1974, Y. KIYOYAMA leg.; 1♂, Mt. Yushan, 8. VI. 1980, N. ITO leg.; 1♂, Mt. Yushan, 19. V. 1981, N. ITO leg. [Chiayi Hsien] 2♂♂, 1♀, Mt. Ali, 23. VII. 1970, T. KOBAYASHI leg.; 2♂♂, 2♀♀, Mt. Ali, 23. IV. 1973, Y. KIYOYAMA leg.

22. *Lycocerus pictus* (WITTMER, 1983)

(Fig. 26)

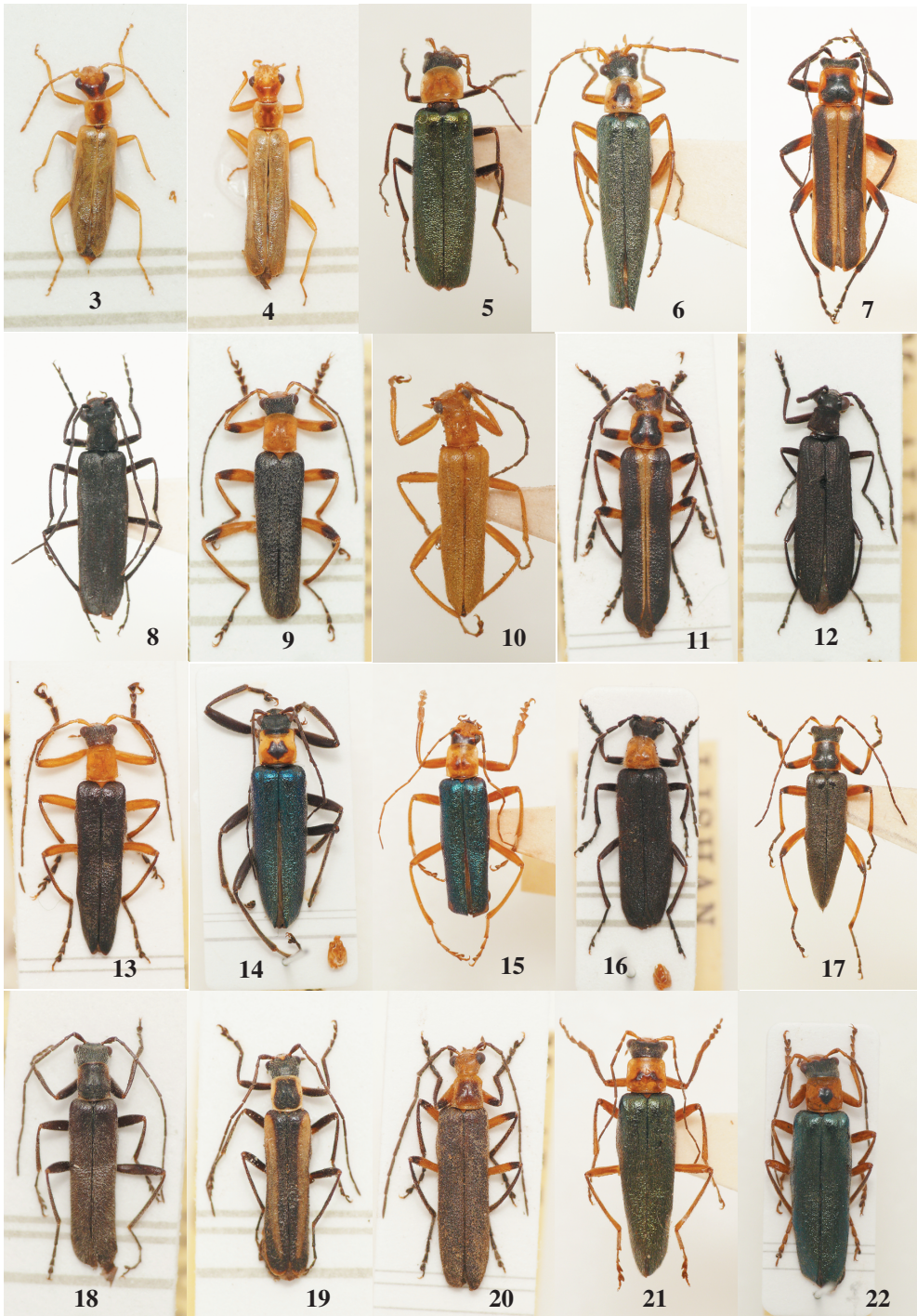
Specimens examined. [Nantou Hsien] 5♂♂, 6♀♀, Roshan, 21. IV. 1970, Y. KIYOYAMA leg. (Fig. 26); 1♀, Nanshanchi, 10. IV. 1973, Y. KIYOYAMA leg.; 1♀, Nanshanchi, 23. IV. 1983, H. MIYATA leg. [Chiayi Hsien] 1♀, Funchiifo, 30. V. 1970, Y. KIYOYAMA leg. [Taitung Hsien] 1♂, Taitung, 3. IV. 1974, S. TAKEDA leg.

23. *Lycocerus pilipes* (PIC, 1910)

(Figs. 27–28)

Specimens examined. [Taipei City] 1♂, Mt. Yangming, 9. V. 1968, Y. HAYASHI leg. (Fig. 27); 1♀, Mt. Yang-Ming, 30. V. 1968, Y. HAYASHI leg. [Nantou Hsien] 1♂, 1♀,

Figs. 3–22. Habitus of cantharid beetles from Taiwan. — 3, *Asiopodabrus taiwanus* (WITTMER), ? , from Mt. Lishan; 4, *A. sakaii* (WITTMER), ? , from Mt. Yangming; 5, *Cantharis (Taiwanocantharis) pallidithorax* WITTMER, ? , from Mt. Yushan; 6, *C. (T.) tripunctata* WITTMER, ? , from Mt. Lishan; 7, *Lycocerus arisanensis* (WITTMER), ? , from Meifo; 8, *L. atroopacus* (PIC), ? , from Meifeng; 9, *L. bipartitus* (WITTMER), ? , from Chitou; 10, *L. chosokeiensis* (PIC), ? , from Mt. Yangming; 11, *L. chujoi* (WITTMER), ? , from Sungkang; 12, *L. costulatus* WITTMER, ? , from Mt. Ali; 13, *L. elongatipes* (WITTMER), ? , from Lienhwachi; 14, *L. fainanus* (PIC), ? , from Mt. Yangming; 15, *L. fainanus* (PIC), ? , from Musha; 16, *L. gracilitarsis* (PIC), ? , from Lishan; 17, *L. gressitti* (WITTMER), ? , from Tsuifeng; 18, *L. maculiceps* (WITTMER), ? , from Sungchuankang; 19, *L. maculiceps* (WITTMER), ? , from Mt. Ali; 20, *L. maculithorax* (WITTMER), ? , from Mt. Ali; 21, *L. masatakai* OKUSHIMA, ? , from Loloshan; 22, *L. metallescens metallescens* (GORHAM), ? , from Ssuleng.



Wushe, 1. V. 1982, F. KIMURA leg. (Fig. 28); 2 ♀ ♀, Lienhwachi, 16. IV. 1973, Y. KIYOYAMA leg. [Chiayi Hsien] 3 ♂ ♂, Funchiifo, 20. VII. 1970, T. KOBAYASHI leg.; 1 ♀, Funchiifu, 28. VII. 1973, Y. KIYOYAMA leg.

Notes. Though the vertex and legs are dark brown to black in the typical form (Fig. 28), they turn into yellowish orange in the individuals from Mt. Yangming (Fig. 27).

24. *Lycocerus rhagonychiformis* (WITTMER, 1983)

(Fig. 29)

Specimen examined. [Nantou Hsien] 1 ♂, Sungchuankang, 3. V. 1983, T. ITO leg (Fig. 29).

25. *Lycocerus semicyaneus* (WITTMER, 1983)

(Fig. 30)

Specimen examined. [Chiayi Hsien] 1 ♀, Funchiihu, 26. IV. 1973, Y. KIYOYAMA leg. (Fig. 30).

26. *Lycocerus shimomurai* (WITTMER, 1983)

(Fig. 31)

Specimens examined. [Taipei Hsien] 2 ♂ ♂, Loloshan, 9. V. 1983, H. MIYATA leg. (Fig. 31). [Ilan Hsien] 3 ♀ ♀, Suou, 22. III. 1974, S. TAKEDA leg. [Taoyuan Hsien] 3 ♂ ♂, Ssuleng, 10. V. 1983, H. MIYATA leg.; 3 ♀ ♀, Ssuleng, 11. V. 1983, H. MIYATA leg.; 1 ♀, Ssuleng, 14. V. 1983, H. MIYATA leg.

27. *Lycocerus taoyuanus* (WITTMER, 1983)

(Fig. 32)

Specimens examined. [Nantou Hsien] 1 ♂, 1 ♀, Sungkang, 19. IV. 1973, Y. KIYOYAMA leg. (Fig. 32).

28. *Lycocerus wulaianus* (WITTMER, 1983)

(Fig. 33)

Specimens examined. [Taoyuan Hsien] 1 ♀, Ssuleng, 12. V. 1982, F. KIMURA leg.; 1 ♂, Ssuleng, 10. V. 1983, H. MIYATA leg.; 1 ♂, 1 ♀, Ssuleng, 11. V. 1983, H. MIYATA leg. (Fig. 33).

29. *Macrohabronychus* (*Habronychus*) *kurosawai* (WITTMER, 1982)

(Fig. 34)

Specimens examined. [Nantou Hsien] 1 ♂, Sungkang, 1. V. 1973, S. TAKEDA leg.; 1 ♂, Lienhwachi, 25. III. 1975, N. ITO leg. [Chiayi Hsien] 1 ♂, 1 ♀, Funchiifo, 29. IV. 1971, Y. HAYASHI leg. (Fig. 34); 1 ♀, Funchiihu, 27. IV. 1973, Y. KIYOYAMA leg.

Notes. Though the *Habronychus* WITTMER, 1982, was used as the nominotypical subgenus, BRANCUCCI (2007) mentioned the problem of the year of publication, and adopted *Macrohabronychus* WITTMER, 1981, as the generic name, which was originally established

as a subgenus of the genus *Habronychus*. For the time being, *Habronychus* and another subgenus, *Monohabronychus* OKUSHIMA et M. SATÔ, 1999, will be regarded as subgenera of the genus *Macrohabronychus*.

30. *Macrohabronychus* (*Habronychus*) *sauteri* (PIC, 1934)

(Fig. 35)

Specimens examined. [Nantou Hsien] 2♀, Sungkang, 19. IV. 1973, Y. KIYOYAMA leg. (Fig. 35); 1♀, Sungkang, 8. V. 1973, Y. KIYOYAMA leg.

31. *Macrohabronychus* (*Monohabronychus*) *intermixtus* (WITTMER, 1954)

(Figs. 36–37)

Specimens examined. [Nantou Hsien] 1♂, Nanshanchi, 7. IV. 1973, Y. KIYOYAMA leg. (Fig. 36); 1♀, Nanshanchi, 10. IV. 1973, Y. KIYOYAMA leg.; 1♀, Sungkang, 8. V. 1973, Y. KIYOYAMA leg. (Fig. 37) [Chiayi Hsien] 2♀, Funchiifo, 4. V. 1970, Y. KIYOYAMA leg.; 1♂, Funchiifo, 29. IV. 1971, Y. HAYASHI leg.; 1♂, Funchiihu, 26. IV. 1973, Y. KIYOYAMA leg.

Notes. Some colour variations are recognized as pointed out by OKUSHIMA and SATÔ (1999).

32. *Macrohabronychus* (*Monohabronychus*) *multilimbatus* (PIC, 1910)

(Fig. 38)

Podabrus multilimbatus PIC, 1910, Le Naturaliste, Paris, **32**: 271.

Podabrinus multilimbatus: WITTMER, 1954, Revue suisse Zool., **61**: 275.

Pseudoabsidia multilimbata: WITTMER, 1969, Mitt. schweiz. ent. Ges., **42**: 128.

Athemellus multilimbatus: WITTMER, 1972, Ent. Arb. Mus. Frey, Tutzing, **23**: 126; 1983, Ent. Rev. Japan, Osaka, **38**: 171.

Habronychus (*Monohabronychus*) *multilimbatus*: OKUSHIMA, 2003, Elytra, Tokyo, **31**: 351.

Stenothemus multilimbatus: ŠVIHLA, 2004, Ent. basil., **26**: 203.

Macrohabronychus (*Monohabronychus*) *multilimbatus*: BRANCUCCI, 2007, Cat. Palaearct. Coleopt., Stenstrup, **4**: 55. — KAZANTSEV & BRANCUCCI, 2007, Cat. Palaearct. Coleopt., Stenstrup, **4**: 255.

Podabrinus ? *humeralis* WITTMER, 1952, Ent. Bl., Krefeld, **47** [1951]: 100.

Podabrinus humeralis: WITTMER, 1955, Mushi, Fukuoka, **29**: 40.

Pseudoabsidia humeralis: WITTMER, 1969, Mitt. schweiz. ent. Ges., **42**: 128.

Athemellus humeralis: WITTMER, 1972, Ent. Arb. Mus. Frey, Tutzing, **23**: 124.

Specimens examined. [Nantou Hsien] 4♂♂, 10♀♀, Sungkang, 19. IV. 1973, Y. KIYOYAMA leg. (Fig. 38); 1♀, Sungkang, 7. V. 1973, Y. KIYOYAMA leg.; 1♂, 2♀♀, Tsuifeng, 3. V. 1982, F. KIMURA leg.; 1♂, Roshan, 31. III. 1971, H. NOMURA leg. [Chiayi Hsien] 1♀, Funchiifo, 3. V. 1970, Y. KIYOYAMA leg.; 1♀, Funchiifo, 28. IV. 1971, Y. HAYASHI leg.; 1♀, Funchifu, 5. V. 1982, F. KIMURA leg.; 1♂, Fenchifu, 27. IV. 1983, F. KIMURA leg.; 1♀, Fenchifu, 27. IV. 1983, H. MIYATA leg.; 1♀, Fenchifu, 28. IV. 1983, H. MIYATA leg.

Notes. The taxon *multilimbatus* has been combined with various genera in a period of

nearly one century. It is regarded herewith as a *Macrohabronychus* species following the recent publication by KAZANTSEV and BRANCUCCI (2007).

Though WITTMER (1952) described "*Podabrinus? humeralis*" from "Kuatun" in "China-Fukien", he (1983) regarded it as a junior synonym of this species.

33. *Micropodabrus bicoloriceps* WITTMER, 1995

(Fig. 39)

Specimen examined. [Nantou Hsien] 1♂, Tsuifeng, 23. IV. 1983, F. KIMURA leg. (Fig. 39).

34. *Micropodabrus chujoi* (WITTMER, 1972)

(Fig. 40)

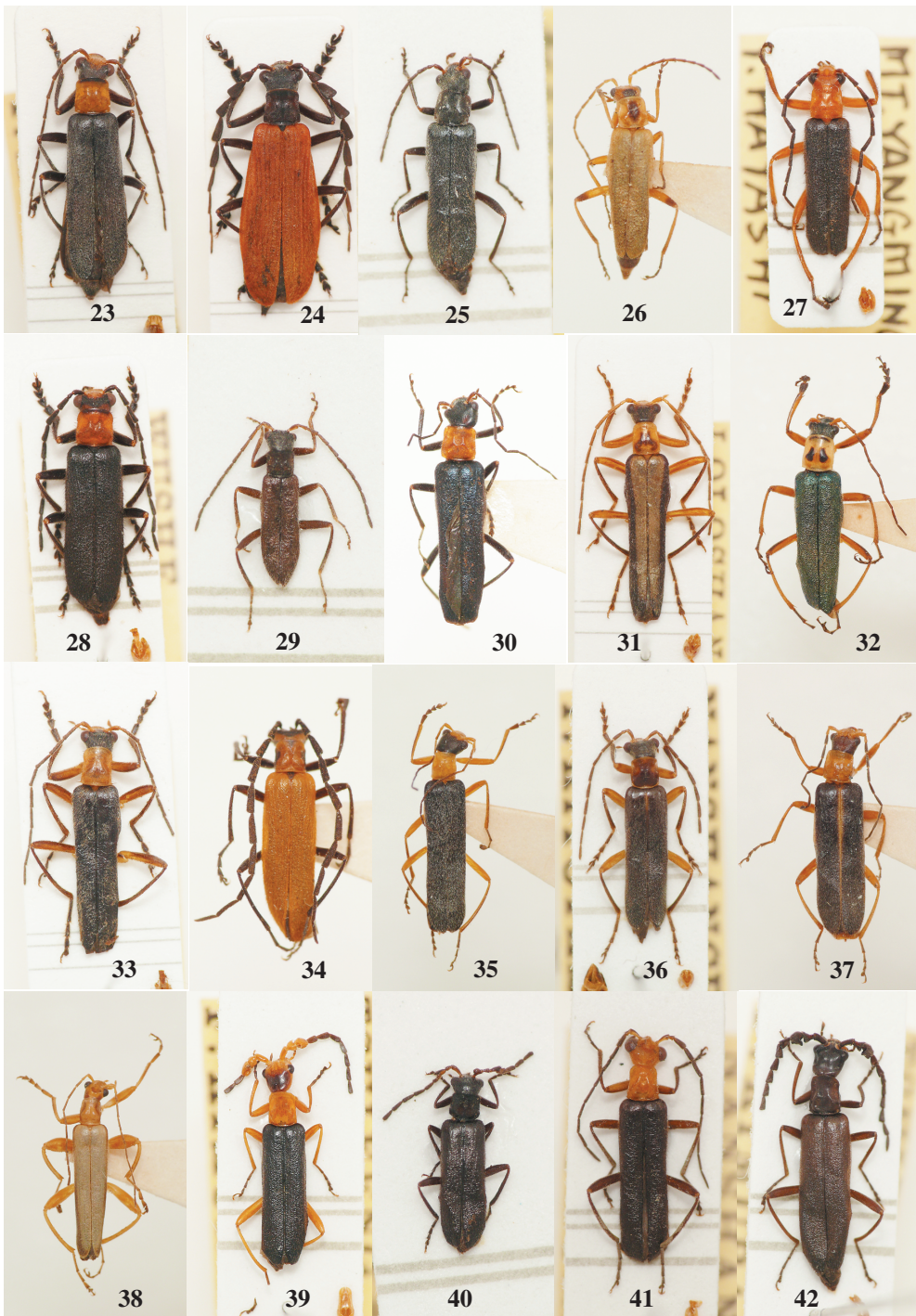
Specimens examined. [Nantou Hsien] 1♂, Mt. Yushan, 3. VIII. 1974, Y. KIYOYAMA leg.; 1♂, Mt. Yushan, 4. VIII. 1974, Y. KIYOYAMA leg. [Chiayi Hsien] 1♂, Mt. Ali, 23. VII. 1970, T. KOBAYASHI leg. (Fig. 40).

35. *Micropodabrus formosanus* (PIC, 1910)

(Fig. 41)

Specimens examined. [Taipei City] 1♂, Mt. Yang-Ming, 9. V. 1968, Y. HAYASHI leg.; 2♂♂, Mt. Yangming, 10. V. 1968, Y. HAYASHI leg.; 3♂♂, Mt. Yangming, 17. IV. 1970, T. KOBAYASHI leg.; 1♂, Mt. Yangming, 17. IV. 1970, Y. KIYOYAMA leg.; 1♀, Mt. Yangming, 30. IV. 1982, T. ITO leg. [Ilan Hsien] 1♂, Suou, 22. III. 1974, S. TAKEDA leg. [Taoyuan Hsien] 1♂, Ssuleng, 10. V. 1983, H. MIYATA leg.; 3♂♂, 2♀♀, Shihmen Reserver [sic], 7. IV. 1970, H. NOMURA leg. [Nantou Hsien] 1♂, Nanshanchi, 6. IV. 1970, H. NOMURA leg.; 1♂, Nanshanchi, 6. IV. 1970, H. NOMURA leg.; 1♂, Nanshanchi, 12. IV. 1970, T. KOBAYASHI leg.; 1♂, 1♀, Nanshanchi, 22. IV. 1970, Y. KIYOYAMA leg.; 1♂, 1♀, Nanshanchi, 25. IV. 1970, Y. KIYOYAMA leg.; 1♂, Nanshanchi, 30. III. 1971, H. NOMURA leg.; 3♂♂, 2♀♀, Nanshanchi, 2. IV. 1971, H. NOMURA leg.; 1♂, Nanshanchi, 5. IV. 1971, H. NOMURA leg. (Fig. 41); 2♀♀, Nanshanchi, 6. IV. 1971, H. NOMURA leg.; 1♀, Nanshanchi, 17. IV. 1971, K. TOU leg.; 1♀, Nanshanchi, 2. V. 1971, Y. HAYASHI leg.; 1♂, 2♀♀, Nanshanchi, 7. IV.

Figs. 23–42. Habitus of cantharid beetles from Taiwan. — 23, *Lycocerus nanshanensis* (WITTMER), ? , from Nanshanchi; 24, *L. nigricollis* WITTMER, ? , from Funchifu; 25, *L. nigripennis* (PIC), ? , from Lishan; 26, *L. pictus* (WITTMER), ? , from Roshan; 27, *L. pilipes* (PIC), ? , from Mt. Yangming; 28, *L. pilipes* (PIC), ? , from Wushe; 29, *L. rhagonychiformis* (WITTMER), ? , from Sungchuankang; 30, *L. semicyaneus* (WITTMER), ? , from Funchihu; 31, *L. shimomurai* (WITTMER), ? , from Loloshan; 32, *L. taoyuanus* (WITTMER), ? , from Sungkang; 33, *L. wulaianus* (WITTMER), ? , from Ssuleng; 34, *Macrohabronychus (Habronychus) kurosawai* (WITTMER), ? , from Funchiifo; 35, *M. (H.) sauteri* (PIC), ? , from Sungkang; 36, *M. (Monohabronychus) intermixtus* (WITTMER), ? , from Nanshanchi; 37, *M. (M.) intermixtus* (WITTMER), ? , from Sungkang; 38, *M. (M.) multilimbatus* (PIC), ? , from Sungkang; 39, *Micropodabrus bicoloriceps* WITTMER, ? , from Tsuifeng; 40, *M. chujoi* (WITTMER), 1? , from Mt. Ali; 41, *M. formosanus* (PIC), ? , from Nanshanchi; 42, *M. gressitti* (WITTMER), ? , from Tsuifeng.



1973, Y. KIYOYAMA leg.; 1♂, Nanshanchi, 2. V. 1982, F. KIMURA leg.; 1♂, 1♀, Musha, 13. IV. 1970, T. KOBAYASHI leg.; 2♂♂, 2♀♀, Musha, 19. IV. 1970, Y. KIYOYAMA leg.; 1♀, Musha, 21. IV. 1970, Y. KIYOYAMA leg.; 1♀, Musha, 25. IV. 1970, Y. KIYOYAMA leg.; 1♂, 3♀♀, Musha, 1. V. 1970, A. RIN leg.; 1♂, 3♀♀, Musha, 2. V. 1970, A. RIN leg.; 1♀, Wushe, 21. IV. 1983, F. KIMURA leg.; 1♀, Lienhwachi, 15. IV. 1973, Y. KIYOYAMA leg.; 1♂, Lienhwachi, 17. IV. 1973, Y. KIYOYAMA leg.; 1♀, Lienhwachi, 18. IV. 1973, Y. KIYOYAMA leg.; 1♂, 1♀, Tungpu Spa, 10. VI. 1980, M. YAMAMOTO leg.; 1♀, Tungpu Spa, 10. VI. 1980, N. ITO leg.; 1♀, Tungpu Spa, 10. VI. 1980, K. KUZUGAMI leg.; 1♀, Tungpu Spa, 13. VI. 1980, N. ITO leg.; 1♀, Tungpu spa, 21. V. 1981, N. ITO leg.; 1♂, Tungpu spa, 22. V. 1981, T. ITO leg.; 1♀, Tungpu spa, 22. V. 1981, K. KUZUGAMI leg. [Taitung Hsien] 2♂♂, 1♀, Taitung, 28. III. 1973, Y. KIYOYAMA leg.; 1♂, 4♀♀, Chipon, 28. III. 1970, H. NOMURA leg.; 3♂♂, 7♀♀, Chipon, 22. III. 1971, H. NOMURA leg.

36. *Micropodabrus gressitti* (WITTMER, 1954)

(Fig. 42)

Specimens examined. [Taipei City] 1♂, Mt. Yang-Ming, 10. V. 1968, Y. HAYASHI leg.; 1♂, Mt. Yang-Ming, 29. V. 1968, Y. HAYASHI leg. [Nantou Hsien] 1♂, Tsuifeng, 3. V. 1982, F. KIMURA leg. (Fig. 42).

37. *Micropodabrus nantouensis* WITTMER, 1995

(Figs. 43–44)

Specimens examined. [Nantou Hsien] 5♂♂, Sungkang, 1. IV. 1971, H. NOMURA leg. (Fig. 43); 6♂♂, Sungkang, 4. IV. 1971, H. NOMURA leg. (Fig. 44).

Notes. Two types of colour variations are recognized in the legs as shown in figs. 43–44.

38. *Micropodabrus pingtungensis* WITTMER, 1982

(Fig. 45)

Specimens examined. [Pingtung Hsien] 1♀, Kenting Park, 15. III. 1970, T. KOBAYASHI leg.; 1♂, Kenting Park, 16. III. 1970, T. KOBAYASHI leg.; 1♂, 1♀, Kenting Park, 13. IV. 1971, S. TAKEDA leg.; 1♂, Kenting Park, 25. III. 1974, S. TAKEDA leg. (Fig. 45).

39. *Mimopodabrus obscurior* (WITTMER, 1954)

(Fig. 46)

Specimens examined. [Nantou Hsien] 1♂, Sungkang, 8. V. 1973, Y. KIYOYAMA leg. (Fig. 46); 1♀, Meifo, 4. V. 1971, Y. HAYASHI leg. [Chiayi Hsien] 1♂, Mt. Ali, 18. V. 1981, F. KIMURA leg.; 1♀, Mt. Ali, 18. V. 1981, N. ITO leg.; 1♂, Funchiifo, 29. IV. 1971, Y. HAYASHI leg.

40. *Prothemus chinensis* WITTMER, 1987

(Fig. 47)

Specimens examined. [Taipei Hsien] 1♂, 1♀, Loloshan, 9. V. 1983, H. MIYATA leg. (Fig. 47); 1♂, Loloshan, 12. V. 1983, H. MIYATA leg. [Chiayi Hsien] 1♀, Fenchifu, 26. IV. 1983, H. MIYATA leg.

41. *Prothemus hisamatsui* WITTMER, 1984

(Figs. 48–49)

Specimens examined. [Taipei Hsien] 1♂, Loloshan, 8. V. 1983, F. KIMURA leg. (Fig. 48). [Nantou Hsien] 1♀, Meifo, 4. V. 1971, Y. HAYASHI leg.; 1♂, Sungkang, 13. V. 1973, Y. KIYOYAMA leg. (Fig. 49); 1♀, Tsuifeng, 3. V. 1982, F. KIMURA leg. [Chiayi Hsien] 1♂, Mt. Ali, 17. V. 1981, K. KUZUGAMI leg.; 1♂, 2♀, Mt. Ali, 18. V. 1981, N. ITO leg.

Notes. Though the typical form of this species has yellowish brown elytra (Fig. 49), the one male from Loloshan has blackish elytra (Fig. 48).

42. *Prothemus kanoi* WITTMER, 1984

(Fig. 50)

Specimens examined. [Nantou Hsien] 2♂♂, Sungkang, 29. VI. 1971, Y. MAEDA leg.; 1♂, Sungkang, 30. VI. 1971, Y. MAEDA leg.; 1♂, Meifeng, 18. VI. 1980, M. YAMAMOTO leg. (Fig. 50).

43. *Prothemus limbolarius* (FAIRMAIRE, 1900)

(Fig. 51)

Specimens examined. [Taipei City] 1♂, 1♀, Mt. Yangming, 17. IV. 1970, Y. KIYOYAMA leg.; 4♀, Mt. Yangming, 17. IV. 1970, Y. KIYOYAMA leg.; 1♀, Mt. Yangming, 8. V. 1970, Y. KIYOYAMA leg.; 1♀, Mt. Yangming, 30. IV. 1982, T. ITO leg. [Taipei Hsien] 1♂, Loloshan, 8. V. 1983, F. KIMURA leg. [Taoyuan Hsien] 1♀, Ssuleng, 13. V. 1982, F. KIMURA leg. [Nantou Hsien] 1♀, Musha, 19. IV. 1970, Y. KIYOYAMA leg.; 1♂, Musha, 30. IV. 1970, A. RIN leg.; 1♀, Musha, 1. V. 1970, A. RIN leg.; 1♀, Musha, 2. V. 1970, A. RIN leg.; 2♂♂, Musha, 3. V. 1970, A. RIN leg.; 1♂, Nanshanchi, 22. IV. 1970, Y. KIYOYAMA leg.; 1♂, Nanshanchi, 25. IV. 1970, Y. KIYOYAMA leg.; 2♂♂, Nanshanchi, 2. IV. 1971, H. NOMURA leg. (Fig. 51); 1♂, Roshan, 5. V. 1971, Y. HAYASHI leg.

44. *Prothemus notsui* WITTMER, 1984

(Fig. 52)

Specimen examined. [Taitung Hsien] 1♂, Chipon, 22. III. 1971, H. NOMURA leg. (Fig. 52).

45. *Prothemus shibatai* OKUSHIMA, sp. nov.

(Fig. 53)

Specimens examined. Two specimens are designated to paratypes in the description of this paper.

46. *Prothemus varicolor* WITTMER, 1954

(Fig. 54)

Specimens examined. [Taipei Hsien] 1♂, 1♀, Loloshan, 8. V. 1983, F. KIMURA leg. (Fig. 54); 3♂♂, 1♀, Loloshan, 12. V. 1983, H. MIYATA leg. [Nantou Hsien] 1♀, Sungkang, 13. V. 1973, Y. KIYOYAMA leg.

47. *Prothemus watanabei* OKUSHIMA et M. SATÔ, 2002

(Fig. 55)

Specimen examined. [Nantou Hsien] 1♂, Sungkang, 29. V. 1972, S. TAKEDA leg. (Fig. 55).

48. *Stenothemus wittmeri* OKUSHIMA et M. SATÔ, 1999

(Fig. 56)

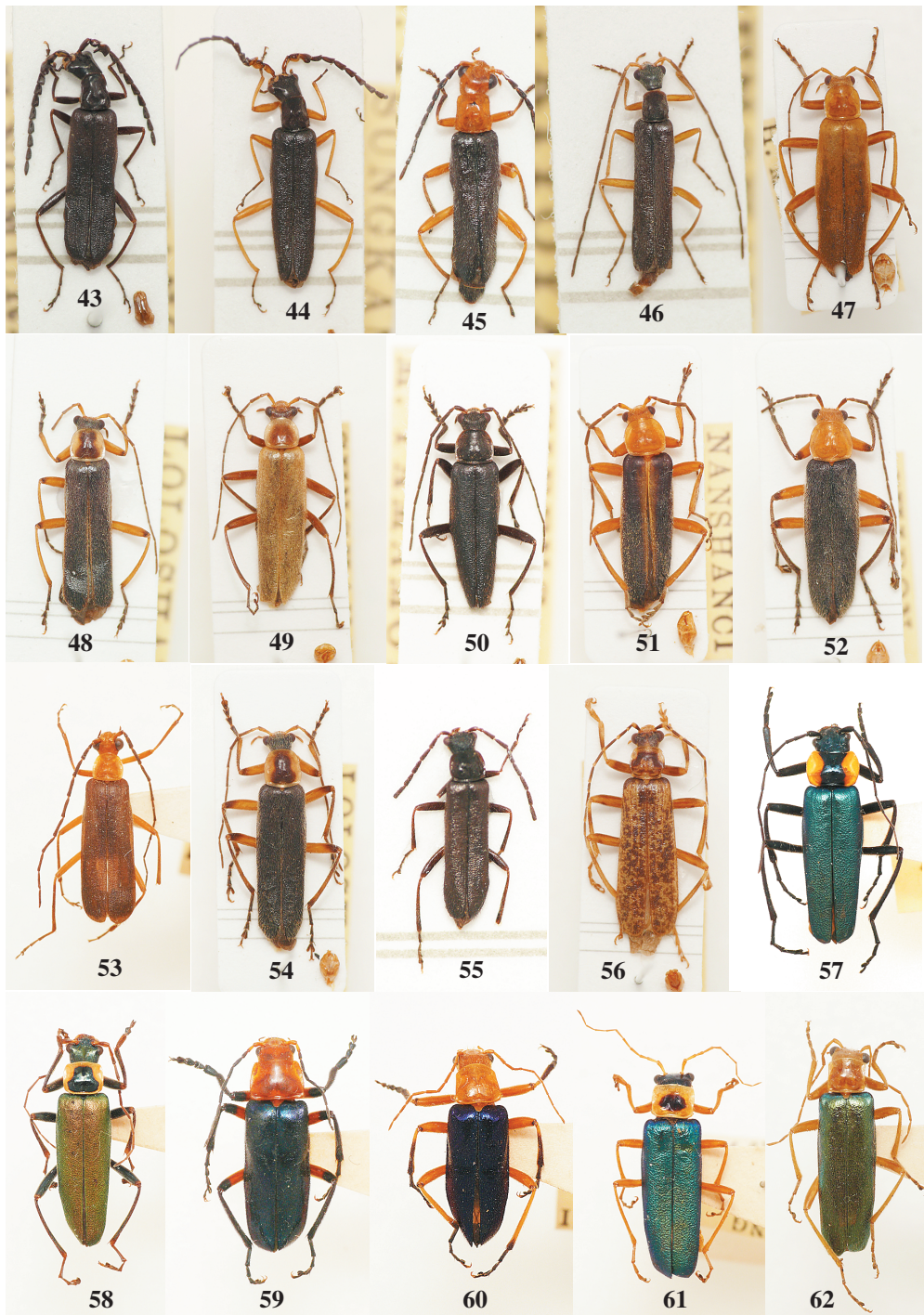
Specimens examined. [Nantou Hsien] 1♂, Sungkang, 31. VII. 1970, T. KOBAYASHI leg.; 1♂, Sungkang, 31. VII. 1970, T. KOBAYASHI leg., at light; 1♂, Sungkang, 19. VIII. 1973, Y. KIYOYAMA leg. (Fig. 56).

49. *Themus (Haplothemus) explanaticollis* (PIC, 1917)

(Fig. 57)

Specimens examined. [Taipei City] 1♀, Mt. Yangming, 8. IV. 1970, H. NOMURA leg. [Taoyuan Hsien] 1♂, Ssuleng, 16. V. 1982, F. KIMURA leg.; 1♀, Ssuleng, 10. V. 1983, H. MIYATA leg.; 1♂, 1♀, Ssuleng, 11. V. 1983, H. MIYATA leg.; 1♀, Ssuleng, 13. V. 1983, H. MIYATA leg. [Taichung Hsien] 1♀, Lishan, 4. VII. 1972, Y. MAEDA leg. [Nantou Hsien] 1♂, Musha, 7. III. 1970, T. KOBAYASHI leg.; 1♂, 2♀♀, Musha, 31. III. 1970, T. KOBAYASHI leg.; 1♂, 2♀♀, Musha, 13. IV. 1970, T. KOBAYASHI leg.; 1♂, 2♀♀, Musha, 14. IV. 1970, T. KOBAYASHI leg. (Fig. 57); 1♀, Musha, 14. IV. 1970, A. RIN leg.; 1♀, Musha, 21. IV. 1970, Y. KIYOYAMA leg.; 1♀, Musha, 30. IV. 1970, A. RIN leg.; 2♂♂, Nanshanchi, 6. IV. 1970, H. NOMURA leg.; 1♀, Nanshanchi, 6. IV. 1971, H. NOMURA leg.; 1♀, Nanshanchi, 31.

Figs. 43–62. Habitus of cantharid beetles from Taiwan. — 43, *Micropodabrus nantouensis* WITTMER, ? , from Sungkang; 44, *M. nantouensis* WITTMER, ? , from Sungkang; 45, *M. pingtungensis* WITTMER, ? , from Kenting Park; 46, *Mimopodabrus obscurior* (WITTMER), ? , from Sungkang; 47, *Prothemus chinensis* WITTMER, ? , from Loloshan; 48, *P. hisamatsui* WITTMER, ? , from Loloshan; 49, *P. hisamatsui* WITTMER, ? , from Sungkang; 50, *P. kanoi* WITTMER, ? , from Meifeng; 51, *P. limbolarius* (FAIRMAIRE), ? , from Nanshanchi; 52, *P. notsui* WITTMER, ? , Chipon; 53, *P. shibatai* OKUSHIMA, sp. nov., ? (paratype), from Mt. Yangming; 54, *P. varicolor* WITTMER, ? , from Loloshan; 55, *P. watanabei* OKUSHIMA et M. SATÔ, ? , from Sungkang; 56, *Stenothemus wittmeri* OKUSHIMA et M. SATÔ, ? , from Sungkang; 57, *Themus (Haplothemus) explanaticollis* (PIC), ? , from Musha; 58, *T. (H.) satoi* WITTMER, ? , from Nanshanchi; 59, *T. (Telephorops) impressipennis* (FAIRMAIRE), ? , from Wushe; 60, *T. (T.) sauteri* (PIC), ? , from Nanshanchi; 61, *T. (Themus) formosanus* WITTMER, ? , from Sungkang; 62, *T. (T.) pallidipes* WITTMER, ? , from Mt. Ali.



IV. 1971, C. TOU leg.; 1 ♀, Nanshanchi, 2. V. 1971, Y. HAYASHI leg.; 1 ♂, 1 ♀, Nanshanchi, 3. IV. 1981, Y. YAMAMOTO leg.; 1 ♀, Roshan, 20. IV. 1970, Y. KIYOYAMA leg.; 1 ♀, Roshan, 21. IV. 1970, Y. KIYOYAMA leg.; 1 ♂, 2 ♀ ♀, Roshan, 5. V. 1971, Y. HAYASHI leg. [Chiayi Hsien] 1 ♀, Funchiifo, 30. V. 1970, Y. KIYOYAMA leg.; 1 ♀, Funchiifo, 27. IV. 1971, Y. HAYASHI leg.; 1 ♂, 3 ♀ ♀, Funchiihu, 25. IV. 1973, Y. KIYOYAMA leg., at light.

50. *Themus (Haplothemus) satoi* WITTMER, 1983

(Fig. 58)

Specimens examined. [Taipei Hsien] 1 ♂, Loloshan, 8. V. 1983, F. KIMURA leg.; 1 ♂, 1 ♀, Loloshan, 12. V. 1983, H. MIYATA leg. [Taichung Hsien] 1 ♂, 1 ♀, Mt. Lishan, 5. IV. 1973, Y. KIYOYAMA leg. [Nantou Hsien] 1 ♂, Nanshanchi, 10. IV. 1973, Y. KIYOYAMA leg. (Fig. 58); 1 ♂, Sungkang, 19. IV. 1973, Y. KIYOYAMA leg.

51. *Themus (Telephorops) impressipennis* (FAIRMAIRE, 1886)

(Fig. 59)

Specimens examined. [Nantou Hsien] 1 ♂, Nanshanchi, 6. V. 1971, Y. HAYASHI leg.; 1 ♂, Wushe, 1. V. 1982, F. KIMURA leg. (Fig. 59).

52. *Themus (Telephorops) sauteri* (PIC, 1912)

(Fig. 60)

Specimens examined. [Nantou Hsien] 1 ♀, Sungkang, 8. VIII. 1970, T. KOBAYASHI leg.; 1 ♂, Nanshanchi, 28. VI. 1971, Y. MAEDA leg. (Fig. 60).

53. *Themus (Themus) formosanus* WITTMER, 1954

(Fig. 61)

Specimen examined. [Nantou Hsien] 1 ♀, Sungkang, 13. V. 1973, Y. KIYOYAMA leg. (Fig. 61).

54. *Themus (Themus) pallidipes* WITTMER, 1954

(Fig. 62)

Themus pallidipes WITTMER, 1954, *Revue suisse Zool.*, **61**: 277.

Themus (Haplothemus) pallidipes: WITTMER, 1983, *Ent. Rev. Japan, Osaka*, **38**: 151. — KAZANTSEV & BRANCUCCI, 2007, *Cat. Palaearct. Coleopt.*, **4**: 270.

Specimens examined. [Taichung Hsien] 2 ♂ ♂, 1 ♀, Lishan, 10. VIII. 1970, T. KOBAYASHI leg.; 1 ♂, Lishan, 3. VII. 1972, Y. MAEDA leg., at light; 1 ♂, 1 ♀, Mt. Lishan, 17. VIII. 1973, Y. KIYOYAMA leg., at light; 1 ♀, Mt. Lishan, 17. VII. 1984, F. KIMURA leg. [Chiayi Hsien] 1 ♀, Mt. Ali, 23. VII. 1970, T. KOBAYASHI leg.; 2 ♂ ♂, 3 ♀ ♀, Mt. Ali, 23. VI. 1971, Y. MAEDA leg., at light (Fig. 62).

Notes. WITTMER (1983) placed *Themus pallidipes* in the subgenus *Haplothemus* WITTMER, 1973, which is characterised by lacking grooves on segments of the male antennae. However, this species obviously has a longitudinal groove on each of the 6th to 10th

segments in the male antennae. Therefore, it should be placed in the nominotypical sub-genus.

55. *Themus (Themus) purpuratus* WITTMER, 1983

(Fig. 63)

Specimens examined. [Taipei City] 1♂, Mt. Yang-Ming, 10. V. 1968, Y. HAYASHI leg.; 1♀, Mt. Yang-Ming, 29. V. 1968, Y. HAYASHI leg.; 2♂♂, Mt. Yangming, 9. V. 1970, Y. KIYOYAMA leg. [Nantou Hsien] 1♂, Lienhwachi, 14. IV. 1973, Y. KIYOYAMA leg. (Fig. 63); 1♂, 1♀, Lienhwachi, 15. IV. 1973, Y. KIYOYAMA leg.

Notes. Though the typical form of this species has purple elytra (Fig. 63), one female from Mt. Yang-Ming has blackish elytra.

56. *Themus (Themus) subopacipennis* (PIC, 1910)

(Fig. 64)

Specimens examined. [Nantou Hsien] 1♂, Lienhwachi, 15. IV. 1973, Y. KIYOYAMA leg.; 3♂♂, 2♀♀, Lienhwachi, 18. IV. 1973, Y. KIYOYAMA leg. (Fig. 64).

57. *Themus (Themus) taiwanus* WITTMER, 1983

(Fig. 65)

Specimens examined. [Taipei Hsien] 5♂♂, Loloshan, 8. V. 1983, F. KIMURA leg. (Fig. 65); 1♀, Loloshan, 9. V. 1983, H. MIYATA leg. [Taichung Hsien] 1♂, Lishan, 4. VII. 1972, Y. MAEDA leg. [Nantou Hsien] 1♂, Sungkang, 6. VIII. 1970, T. KOBAYASHI leg.; 2♂♂, 1♀, Sungkang, 29. VI. 1971, Y. MAEDA leg.; 1♂, Sungkang, 30. VI. 1971, Y. MAEDA leg.; 1♂, 2♀♀, Sungkang, 7. V. 1973, Y. KIYOYAMA leg.; 1♀, Tuifeng, 3. V. 1982, F. KIMURA leg.; 1♀, Tungpu, 7. VI. 1980, K. KUZUGAMI leg. [Chiayi Hsien] 1♂, 2♀♀, Funchiifo, 20. VII. 1970, T. KOBAYASHI leg.

58. *Walteriella sanguinea brevemarginata* (WITTMER, 1983), comb. nov.

(Fig. 66)

Athemellus sanguineus brevemarginatus WITTMER, 1983, Ent. Rev. Japan, Osaka, **38**: 169.

Lycocerus sanguineus brevemarginatus: KAZANTSEV & BRANCUCCI, 2007, Cat. Palaearct. Coleopt., Stenstrup, **4**: 253.

Specimens examined. [Nantou Hsien] 1♂, Tsuifeng, 3. V. 1982, F. KIMURA leg.; 1♂, 1♀, Nanshanchi, 3. IV. 1981, Y. YAMAMOTO leg. (Fig. 66); 1♀, Roshan, 1. V. 1973, S. TAKEDA leg. [Chiayi Hsien] 1♀, Funchifu, 7. V. 1982, F. KIMURA leg. [Taitung Hsien] 1♀, Mailiru, 6. V. 1983, N. ITO leg.

Notes. Judging from the morphological feature including that of male genitalia, this species cannot be a member of the genus *Lycocerus*. It is closely related to the members of the genus *Walteriella* KAZANTSEV, 2001 (= new name for *Walteria* KASANTSEV, 1999), though it does not accord to the genus in the following points: costae are not so conspicuously recognized; each outer claw is lacking a small tooth at the base. For the time being,

therefore, I prefer to place this species in the genus *Walteriella*.

I confirmed the above peculiarities also in the nominotypical subspecies, *Walteriella s. sanguinea* (WITTMER, 1952), comb. nov., originally described as a member of *Podabrinus* FAIRMAIRE, 1896, from China (Fukien), based on a paratype female deposited in the Muséum national d'Histoire naturelle, Paris.

59. *Walteriella taiwana* (KASANTSEV, 1999)

(Fig. 67)

Lycocerus subquadraticollis: WITTMER, 1984, Ent. Rev. Japan, Osaka, **39**: 141 [misidentification].

Walteria taiwana KASANTSEV, 1999, Ent. basil., **21**: 120.

Walteriella taiwana: KASANTSEV & BRANCUCCI, 2007, Cat. Palaearct. Coleopt., Stenstrup, **4**: 273.

Specimens examined. [Nantou Hsien] 1♂, Sungkang, 19. IV. 1970, Y. KIYOYAMA leg.; 1♂, 1♀, Sungkang, 19. IV. 1973, Y. KIYOYAMA leg. (Fig. 67); 1♀, Sungkang, 8. V. 1973, Y. KIYOYAMA leg.; 1♀, Nanshanchi, 17. IV. 1971, K. TOU leg.

Notes. WITTMER (1984) recorded "*Lycocerus subquadraticollis*" from Taiwan, which was originally described by PIC (1914) from "Cambodge: Phnomh-Penh" (= Cambodia: Phnom Penh). Later, KASANTSEV (1999) described *Walteria taiwana* based on Taiwanese materials at the same time of establishment as the new genus *Walteria* (= *Walteriella* KASANTSEV, 2001).

Subfamily **Silinae**

Tribe **Silini**

60. *Laemoglyptus chujoi* WITTMER, 1972

(Fig. 68)

Specimens examined. [Chiayi Hsien] 1♂, Mt. Ali, 21. VII. 1970, T. KOBAYASHI leg. (Fig. 68); 2♂♂, Mt. Ali, 23. VII. 1970, T. KOBAYASHI leg.

61. *Laemoglyptus grandis* PIC, 1921

(Fig. 69)

Specimens examined. [Miaoli Hsien] 1♀, Liyutan, 22. VIII. 1970, T. KOBAYASHI leg.; 2♂♂, Liyutan, 23. VIII. 1970, T. KOBAYASHI leg., at light. [Nantou Hsien] 1♂, Mt. Yushan, 3. VIII. 1974, Y. KIYOYAMA leg.; 1♂, Mt. Yushan, 4. VIII. 1974, Y. KIYOYAMA leg. [Chiayi Hsien] 1♂, 1♀, Fungchiifo, 17. VIII. 1969, Y. MAEDA & T. KOBAYASHI leg., at light; 2♂♂, Fungchiifo, 18. VIII. 1969, Y. MAEDA & T. KOBAYASHI leg., at light; 2♀♀, Fungchiifo, 18. VII. 1970, T. KOBAYASHI leg.; 1♀, Fungchiifo, 20. VII. 1970, T. KOBAYASHI leg.; 1♀, Fungchiifo, 20. VI. 1971, Y. MAEDA leg., at light; 2♂♂, 4♀♀, Fungchiifu, 15. VIII. 1972, Y. MAEDA leg., at light; 1♂, Fungchiifu, 19. VIII. 1972, Y. MAEDA leg. (Fig. 69); 1♀, Fenchifu, 27. VI. 1980, M. YAMAMOTO leg.; 1♂, Fenchifu, 30. VI. 1980, M. YAMAMOTO leg.

62. *Laemoglyptus pingtungensis* WITTMER, 1984

(Fig. 70)

Specimen examined. [Pingtung Hsien] 1♂, Kenting Park, 16. III. 1970, T. KOBAYASHI leg. (Fig. 70).

63. *Laemoglyptus rubrithorax* (PIC, 1912)

(Fig. 71)

Specimens examined. [Taichung Hsien] 1♀, Lishan, 4. VII. 1972, Y. MAEDA leg. [Nantou Hsien] 1♂, Nanshanchi, 4. IV. 1970, H. NOMURA leg. (Fig. 71); 1♀, Nanshanchi, 5. IV. 1970, H. NOMURA leg.; 1♂, Nanshanchi, 6. IV. 1971, H. NOMURA leg.; 2♀♀, Musha, 26. IV. 1970, Y. KIYOYAMA leg.

64. *Laemoglyptus subspinosus* PIC, 1910

(Fig. 72)

Specimen examined. [Nantou Hsien] 1♂, Wushe, 21. IV. 1983, F. KIMURA leg. (Fig. 72).

65. *Macrosilis brevior* PIC, 1917

(Fig. 73)

Specimens examined. [Taitung Hsien] 3♂♂, Tanansha, 9. VI. 1972, Y. KIYOYAMA leg. (Fig. 73); 1♀, Taitung, 19. VI. 1972, Y. KIYOYAMA leg.

Subfamily *Malthininae***Tribe *Malthinini*****66. *Malthinus (Malthinus) ohbai* WITTMER, 1984**

(Fig. 74)

Specimens examined. [Nantou Hsien] 2♂♂, Nanshanchi, 10. IV. 1973, Y. KIYOYAMA leg. (Fig. 74).

67. *Malthinus (Malthinus) reductelineatus* PIC, 1922

(Fig. 75)

Specimens examined. [Nantou Hsien] 1♀, Nanshanchi, 30. III. 1971, H. NOMURA leg.; 1♂, Nanshanchi, 7. IV. 1973, S. TAKEDA leg. (Fig. 75); 1♀, Nanshanchi, 3. IV. 1981, Y. YAMAMOTO leg.; 1♀, Musha, 30. III. 1981, Y. YAMAMOTO leg.

Tribe *Malthodini***68. *Malthodes (Malthodes) taipehanus taipehanus* WITTMER, 1956**

(Fig. 76)

Specimens examined. [Taoyuan Hsien] 2♂♂, Shihmen Reserver [sic], 7. IV. 1970, H.

NOMURA leg. (Fig. 76).

Subfamily **Chauliognathinae**
Tribe **Ichthyurini**

69. *Ichthyurus bilineatus* PIC, 1915

(Fig. 77)

Specimens examined. [Taitung Hsien] 1♂, Taitung, 29. III. 1974, S. TAKEDA leg. (Fig. 77); 1♂, 1♀, Chipon, 22. III. 1971, H. NOMURA leg. [Kaohsiung Hsien] 9♂♂, 6♀♀, Liukuei, 19. III. 1970, T. KOBAYASHI leg.

70. *Ichthyurus heidiaie* BRANCUCCI, 1983

(Fig. 78)

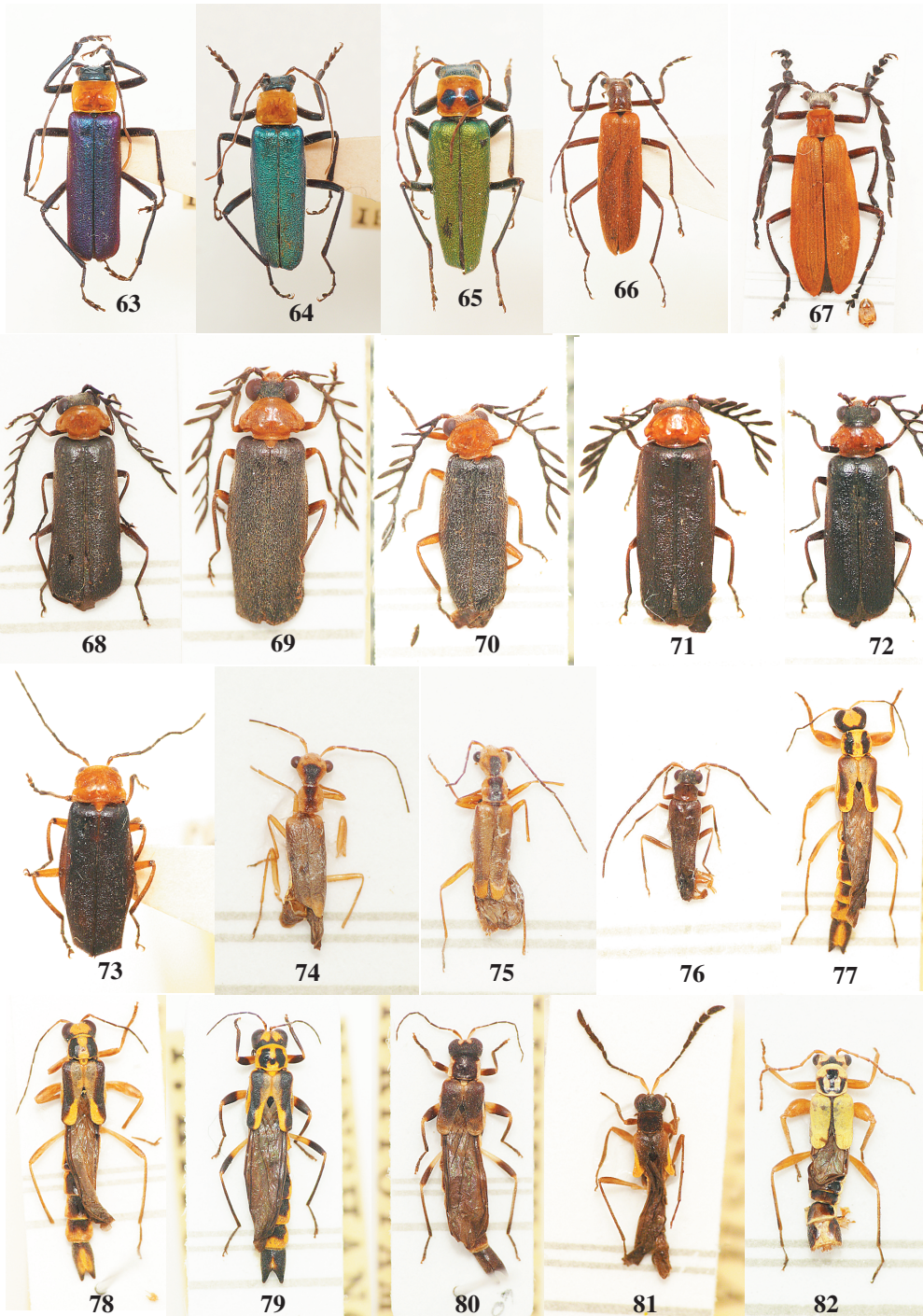
Specimens examined. [Nantou Hsien] 1♂, Sungkang, 29. V. 1972, S. TAKEDA leg. (Fig. 78); 1♀, Sungkang, 8. V. 1973, Y. KIYOYAMA leg.

71. *Ichthyurus klapperichi* BRANCUCCI, 1983

(Fig. 79)

Specimens examined. [Nantou Hsien] 1♀, Nanshanchi, 6. IV. 1970, H. NOMURA leg.; 2♂♂, 6♀♀, Nanshanchi, 14. V. 1971, S. TAKEDA leg.; 1♂, 3♀♀, Nanshanchi, 7. IV. 1973, Y. KIYOYAMA leg. (Fig. 79); 3♂♂, 3♀♀, Nanshanchi, 10. IV. 1973, Y. KIYOYAMA leg.; 1♀, Nanshanchi, 31. III. 1981, F. KIMURA leg.; 1♂, Nanshanchi, 3. IV. 1981, Y. YAMAMOTO leg.; 1♂, Wushe, 3. III. 1970, Y. MIYAKE leg.; 5♂♂, Musha, 23. III. 1970, H. NOMURA leg.; 2♀♀, Musha, 31. III. 1970, T. KOBAYASHI leg.; 1♀, Wushe, 1. V. 1982, F. KIMURA leg. [Chiayi Hsien] 1♂, Funchiifo, 24. III. 1970, T. KOBAYASHI leg.; 1♂, Funchiifo, 25. III. 1970, T. KOBAYASHI leg.; 1♀, Funchiifo, 27. IV. 1971, Y. HAYASHI leg.; 1♀, Funchiifo, 28. IV. 1971, Y. HAYASHI leg.; 1♀, Funchiifo, 29. IV. 1971, Y. HAYASHI leg.; 1♂, Funchiihu, 25. IV. 1973, Y. KIYOYAMA leg.; 2♀♀, Fenchifu, 30. IV. 1983, T. ITO leg.; 1♂, Alishan, 3. V. 1983, T. ITO leg. [Taitung Hsien] 1♀, Taitung, 28. III. 1973, Y. KIYOYAMA leg.; 1♂, 1♀,

Figs. 63–82. Habitus of cantharid beetles from Taiwan. — 63, *Themus (Themus) purpuratus* WITTMER, ? , from Lienhwachi; 64, *T. (T.) subopacipennis* (PIC), ? , from Lienhwachi; 65, *T. (T.) taiwanus* WITTMER, ? , from Loloshan; 66, *Walteriella sanguinea brevemarginata* (WITTMER), ? , from Nanshanchi; 67, *W. taiwana* (KASANTSEV), ? , from Sungkang; 68, *Laemoglyptus chujoi* WITTMER, ? , from Mt. Ali; 69, *L. grandis* PIC, ? , from Funchiihu; 70, *L. pingtungensis* WITTMER, ? , from Kenting Park; 71, *L. rubrithorax* (PIC), ? , from Nanshanchi; 72, *L. subspinosus* PIC, ? , from Wushe; 73, *Macrosilis brevior* PIC, ? , from Tanansha; 74, *Malthinus (Malthinus) ohbai* WITTMER, ? , from Nanshanchi; 75, *M. (M.) reductelineatus* PIC, ? , from Nanshanchi; 76, *Malthodes (Malthodes) taipehanus taipehanus* WITTMER, ? , from Shihmen Reserver [sic]; 77, *Ichthyurus bilineatus* PIC, ? , from Taitung; 78, *I. heidiaie* BRANCUCCI, ? , from Sungkang; 79, *I. klapperichi* BRANCUCCI, ? , from Nanshanchi; 80, *I. nigripennis* PIC, ? , from Lienhwachi; 81, *Microichthyurus satoi* BRANCUCCI, ? , from Nanshanchi; 82, *Trypherus taiwanensis* BRANCUCCI, ? , from Musha.



Chipon, 22. III. 1971, H. NOMURA leg.; 1 ♀, Chipon, 19. IV. 1971, Y. HAYASHI leg. [Kaohsiung Hsien] 1 ♂, Liukuei, 26. IV. 1974, S. TAKEDA leg.

72. *Ichthyurus nigripennis* PIC, 1913

(Fig. 80)

Specimens examined. [Nantou Hsien] 1 ♀, Nanshanchi, 14. V. 1971, S. TAKEDA leg.; 1 ♂, Nanshanchi, 2. V. 1982, F. KIMURA leg.; 1 ♀, Wushe, 3. III. 1970, Y. MIYAKE leg.; 1 ♀, Musha, 19. IV. 1970, Y. KIYOYAMA leg.; 1 ♂, 1 ♀, Lienhwachi, 15. IV. 1973, Y. KIYOYAMA leg.; 1 ♂, 3 ♀ ♀, Lienhwachi, 16. IV. 1973, Y. KIYOYAMA leg.; 2 ♀ ♀, Lienhwachi, 17. IV. 1973, Y. KIYOYAMA leg.; 1 ♂, 5 ♀ ♀, Lienhwachi, 18. IV. 1973, Y. KIYOYAMA leg. (Fig. 80). [Taitung Hsien] 1 ♂, Taitung, 29. III. 1974, S. TAKEDA leg.; 1 ♀, Chipon, 19. IV. 1971, Y. HAYASHI leg.; 1 ♀, Chipon, 1. IV. 1974, S. TAKEDA leg.

73. *Microichthyurus satoi* BRANCUCCI, 1983

(Fig. 81)

Specimen examined. [Nantou Hsien] 1 ♂, Nanshanchi, 30. III. 1971, H. NOMURA leg. (Fig. 81).

74. *Trypherus taiwanensis* BRANCUCCI, 1983

(Fig. 82)

Specimens examined. [Taichung Hsien] 1 ♀, Lishan, 5. IV. 1973, Y. KIYOYAMA leg. [Nantou Hsien] 1 ♀, Nanshanchi, 16. IV. 1971, S. TAKEDA leg.; 1 ♀, Nanshanchi, 10. IV. 1973, Y. KIYOYAMA leg.; 1 ♀, Lienhwachi, 16. IV. 1973, Y. KIYOYAMA leg.; 1 ♀, Lienhwachi, 17. IV. 1973, Y. KIYOYAMA leg.; 1 ♀, Wushe, 3. III. 1970, Y. MIYAKE leg.; 2 ♀ ♀, Musha, 23. III. 1970, H. NOMURA leg.; 1 ♂, Musha, 31. III. 1970, T. KOBAYASHI leg.; 1 ♂, Musha, 14. IV. 1970, T. KOBAYASHI leg. (Fig. 82); 1 ♀, Musha, 19. IV. 1970, Y. KIYOYAMA leg.

要 約

奥島 雄一：台湾産マルムネジョウカイ属の1新種と芝田コレクション中の台湾産ジョウカイボン科。—— 故芝田太一氏が中心となって活動していた大阪甲虫同好会のメンバーが収集した「芝田コレクション」のうち、台湾産ジョウカイボン科標本を調査する機会を与えられた。

その結果、マルムネジョウカイ属の1新種を認め、ほかの施設の標本と併せて、台湾産の本属10番目の種となる *Prothemus shibatai* OKUSHIMA, sp. nov. を記載した。本種は、体のサイズや体色は台湾から知られる *P. hisamatsui* WITTMER, 1984 によく似ているが、雄交尾器の形態によって簡単に区別できる。一方、雄交尾器の形態から推測すると、同じく台湾から記載された *P. kanoi* WITTMER, 1984 にきわめて近いと考えられるが、体のサイズや体色が異なり、雄交尾器側片の背板の内縁中ほどに顕著な突起をもつことにより区別できる。

また、同コレクション中に台湾産ジョウカイボン科甲虫74種を認め、各種の採集記録と全形写真を添えて公表した。なお、以下の種については分類学的な変更が必要だと認められたのでそれぞれ必要な処置を行った。*Themus* (*Themus*) *pallidipes* WITTMER, 1954 は *Haplothemus* 亜属から、*Walteriella sanguinea brevemarginata* (WITTMER, 1952) と中国本土から知られるその基準亜種 *W. s. sanguinea* (WITTMER, 1952) とは *Lycocerus* 属から、それぞれ所属を変更した。

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