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COCCINELLID-FAUNA OF THE RYUKYU ISLANDS, SOUTH OF THE AMAMI GROUP (Coleoptera)*

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Up to the present, several contributions concerning the Coccinellid fauna of the Ryukyu Islands have been published as listed in references. But much research about the Coccinellid fauna of that locality has been expected to carry out more carefully. Recently, I have a good opportunity to examine a long series of Coccinellid material which were collected by the members of the Ryukyus Survey in 1963 and 1964 as a project of the Japan-U. S. Co-operative Science Program, and a large number of the Coccinellid specimens which are preserved in the collection of the Kyushu University. Besides, on this occasion, I have examined many other specimens collected by Prof. T. Shirôzu, Mr. M. Takahashi, Mr. M. Umebayashi, Mr. T. Okumura, Mr. T. Iida and myself.

The material treated in this paper consists of more than three thousands examples which are collected from various localities of the Ryukyu Islands, south of Amami-Ôshima. And these belong to forty-seven species and two subspecies, of which ten species and one subspecies are newly described and one species is newly recorded from the Ryukyus in this paper. All the holotypes of the new form described in this paper are preserved in the collection of the Entomological Laboratory, Kyushu University. And, specimens collected by Dr. C. M. Yoshimoto and Mr. G. A. Samuelson are in possession of the Bishop Museum, Honolulu.

I would like to acknowledge my indebtness to Professor K. Yasumatsu and Dr. Y. Hirashima, of Kyushu University, Dr. S. Asahina, of National Institute of Health, and Dr. J. L. Gressitt, of Bishop Museum, for their kindness in giving me the chance to examine the collection of Kyushu University and or material made by Japan-U. S. Co-operative Science Program. My hearty thanks are due to Professor K. Tsuneki, of Fukui University, for his giving facilities for this work and his kindness in reading through the manuscript. Also I wish to express my thanks to the members of the Ryukyus Survey of the Japan-U. S. Co-operative Science Program, especially Prof. T. Shirôzu, Prof. S. Miyamoto, Dr. Y. Hirashima, Dr. K. Morimo-

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to, Dr. S. Kimoto and Mr. Y. Miyatake who kindly collected the Coccinellid material with good intention for my study, and to the above-mentioned gentlemen who kindly gave me their private collections of the Coccinellidae.

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Subfamily Epilachninae

1. Henosepilachna sparsa (Herbst, 1786) ニジュウヤホシテントウ

Specimens examined: 214 examples from the following localities: Amami-Ôshima (Ohgachi, Nishinakama, Yakkachi, Nase, Akagina), Tokuno-shima (Kametsu), Okino-erabu-jima, Okinawa (Nago, Naha, Izumi), Miyako-jima (Karimata), Ishigaki-jima (Hoshina, Mt. Banna, Omoto-san, Barubido, Yoshihara, Kannonzaki, Ôhama, Shinkawa, Kaara-yama, Yonehara, Tôrogawa), Iriomote-jima (Mt. Ushiku, Ushiku-mori, Shirahama, Sonai).

Distribution: Japan (Honshu, Shikoku, Kyushu, Yakushima), Ryukyus (Nakanoshima, Takara-jima, Amami-Ôshima, Tokuno-shima*, Okinoerabu-jima*, Okinawa, Miyako-jima*, Ishigaki-jima, Iriomote-jima, Yonakuni-jima), Formosa, China, India, Australia, New-Guinea, etc.

2. Henosepilachna boisduvali (Mulsant, 1850) ジュウニマダラテントウ

Specimens examined: 26 examples from the following localities: Amami-Ôshima (Mt. Yuwan, Nishinakama, Urakami), Tokuno-shima (Mikyô), Okinawa (Yona), Ishigaki-jima (Yonehara, Yoshino-Kabira), Iriomote-jima (Komi).

Distribution: Ryukyus (Nakano-shima, Amami-Ôshima, Tokuno-shima*, Okinawa, Miyako-jima, Ishigaki-jima*, Iriomote-jima*, Yonakuni-jima), Formosa, Philippines, Sumatra, Australia.

Subfamily Coccinellinae

Tribe Noviini

3. Rodolia cardinalis (Mulsant, 1850) ベダリアテントウ

Specimen examined: Okinawa (Kayauchi-banda, 1 ex., 20. x. 1963, Y. Hirashima leg.).

Distribution: Japan (Honshu, Shikoku, Kyushu), Ryukyus (Okinawa), Formosa, China, etc.

4. Rodolia concolor (Lewis, 1879) アカイロテントウ

Specimens examined: Ishigaki-jima (Kaara-yama, 1 ex., 14. iii. 1964, Y. Miyatake leg.; 2 exs., 18. iii. 1964, Y. Miyatake leg.), Iriomote-jima (Mt. Ushiku, 1 ex., 4. xi. 1963, G. A. Samuelson leg.).

Distribution: Japan (Honshu, Shikoku, Kyushu), Ryukyus (Ishigaki-jima*, Iriomote-jima*).

This is the first record from the Ryukyu Islands. In Japanese material, pronotum

Localies with asterisks (*) are new records.

usually reddish brown but very rarely blackish. On the other hand, all the above-mentioned specimens have the blackish pronotum.

5. Rodolia pumila Weise, 1892 ダイダイテントウ

Specimens examined: Okinawa (Gogayama, 1 ex., 15. vi. 1960, K. Yasumatsu leg.; Kudeken, 1 ex., 20. iii. 1964, Y. Miyatake leg.; Izumi, 2 exs., 21. x. 1963, S. Miyamoto leg.), Amami-Ôshima (Yuwan, 3 exs., 20. vii. 1954, Miyamoto & Hashimoto leg.; Shinmura, 1 ex., 19. vii. 1955, T. Shirôzu leg.), Miyako-jima (Hisamatsu, 2 exs., 24. viii. 1954, T. Hidaka leg.), Ishigaki-jima (Ôhama, 2 exs., 1. viii. 1963, Y. Miyatake leg.).

Distribution: Ryukyus (Amami-Ôshima, Okinawa, Iriomote-jima, Ishigaki-jima*, Miyako-jima*), China.

Rodolia okinawensis Miyatake, 1959 described from Okinawa is a synonym of the present species (H. Kamiya, 1964).

Tribe Stethorini

6. Stethorus aptus tsutsuii Nakane et Araki, 1959 ツツイクロヒメテントウ(新称) Specimens examined: 42 examples from the following localities: Amami-Ôshima (Nase), Okinawa (Chinen, Kudeken, Shuri, Izumi), Miyako-jima (Karimata), Ishigaki-jima (Yoshino-Kabira, Omoto-san, Banna-dake), Iriomote-jima (Sonai, Ushiku-mori, Ôhara-Komi, Shirahama, Ôtomi), Hatoma-jima.

Distribution: Ryukyus (Nakanoshima, Takara-jima, Amami-Ôshima, Okinawa, Miyako-jima*, Ishigaki-jima*, Iriomote-jima, Hatoma-jima).

Tribe Scymnini

- 7. Horniolus okinawensis Chûjô et Miyatake, 1963 オキナワフタスジヒメテントウ(新称) Specimen examined: Okinawa (Izumi, 1 ex., 22. iii. 1964, T. Shirôzu leg.). Distribution: Ryukyus (Okinawa).
- 8. Clitostethus nagasakiensis H. Kamiya, 1961 ナガサキヒメテントウ (新称) Specimens examined: Amami-Ôshima (Shinmura, 1 ex., 5. iv. 1956, S. Miyamoto leg.), Tokuno-shima (Omo, 1 ex., 25. vi. 1961, H. Kamiya leg.), Okinawa (Shuri, 1 ex., 4. iii. 1964, Y. Miyatake leg.; Izumi, 2 exs., 22. iii. 1964, T. Shirôzu leg.), Ishigaki-jima (Kaara-yama, 2 exs., 18. iii. 1964, Y. Miyatake leg.; Omoto-dake, 1 ex., 16. iii. 1964, Y. Miyatake leg.; Yonehara, 1 ex., 15. iii. 1964, T. Shirôzu leg.), Iriomote-jima (Shirahama, 1 ex., 8. iii. 1964, S. Kimoto leg.; Komi-Ôhara, 1 ex., 14. vii. 1963, Y. Miyatake leg.; Ushiku-mori, 4 exs., 9-11. iii. 1964, T. Shirôzu leg.).

Distribution: Japan (Honshu*, Shikoku, Kyushu), Ryukyus (Amami-Ôshima*, Tokuno-shima*, Okinawa*, Ishigaki-jima*, Iriomote-jima).

9. Axinoscymnus beneficus H. Kamiya, 1963 ネアカヒメテントウ(新称)

Specimens examined: Okinawa (Izumi, 1 ex., 23. iii. 1964, S. Kimoto leg.; 1 ex., 21. x. 1963, S. Miyamoto leg.; 4 exs., 21. x. 1963, Y. Hirashima leg.; Izumi-Gogayama, 6 exs., 22. iii. 1964, T. Shirôzu & Y. Miyatake leg.), Ishigaki-jima (Mt. Omoto-san, 1 ex., K. Morimoto leg.).

Distribution: Ryukyus (Amami-Oshima, Okinawa*, Ishigaki-jima*).

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Correction: Body size of the original description (Mushi 37: 129) needs to be corrected as "Body length: 1.6-1.8 mm., width: 1.0-1.3 mm."

10. **Axinoscymnus nigripennis** sp. nov. クロバネヒメテントウ(新称) (Pl. 6-A, Fig. 1-A)

Body oval, small in size; dorsum relatively weakly convex and pubescent. Head, antennae, mouth parts, prothorax and legs pale yellowish brown, except tip of mandible dark brown. Mesopleuron yellowish brown, mesosternum brown, underside of metathorax black or blackish brown; basal three segments of abdomen blackish brown or dark brown and apical part of abdomen pale yellowish brown, sometimes entirely dark brown. Dorsal surface of elytra entirely black or dark blackish brown without any pale marking, elytral epipleura yellowish brown or dark brown.

Head moderate in size, eye nearly as wide as interocular distance in frontal aspect, Inner-ocular margin rather weakly arcuate, frons slightly convex and very finely punctured. Clypeus relatively short, anterior margin of clypeus not incurvate but nearly straight. Pronotum subtrapezoid; anterior, lateral and posterior sides slightly arcuate in dorsal aspect. Anterior margin of pronotum gently arcuate, lateral margins almost straight and very narrowly marginated, each half of posterior margin weakly bisinuate and distinctly marginated, especially widely at middle portion. Anterior angles rectangular and rather sharply denticulate, posterior angles obtusely angulate. Surface of pronotum rather sparsely and very finely punctured. Scutellum triangular, nearly as wide as long, surface of scutellum nearly flat. Elytra relatively elongate, five-sixths times as long as body length. Elytral base much broader than pronotal base, humeri rather distinct. Lateral sides of elytra moderately arcuate and apex gently round. Elytral surface rather densely and strongly punctured. Arrangement of elytral hairs not S-formed but simple.

Prosternal process relatively narrow, distinctly broadening apically, lateral margins strongly carinate. Metasternum strongly convex, finely and densely punctured without a longitudinal smooth part in the median line. Femoral line of the first abdominal sternum complete, gently arcuate, reaching to the apical one-fourth of the sternum.

Male genitalia: Sipho short, comparatively slender, uniformly and weakly curved, basal end of sipho somewhat broadening but not forming distinct processes of siphonal capsule. Lateral lobe stout and clavate in lateral aspect; median piece of tegmen longer than a half of lateral lobe. Median strut entirely connected with the basal piece and dorso-ventrally flat.

Body length: 1.5-1.7 mm., width: 1.0-1.1 mm.

Distribution: Ryukyus (Okinawa, Iriomote-jima).

Holotype (3): Izumi, Okinawa, 22. iii. 1964, S. Kimoto leg.

Paratypes: 2 exs., Izumi, Okinawa, 22. iii. 1964, S. Kimoto & Y. Miyatake leg.; 3 exs., 21. x. 1963, S. Miyamoto & S. Uéno leg.; 1 ex., Nago, Okinawa, 23. iii. 1964, Y. Miyatake leg.; 2 exs., Shoshi, Okinawa, 23. iii. 1964, S. Kimoto leg.; 3 exs., Nakaragawa, Iriomote-jima, 12. iii. 1964, S. Kimoto leg.; 3 exs., Nakaragawa, Iriomote-jima, 12. iii. 1964, Y. Miyatake, leg.; 1 ex., Ushiku-mori, Iriomote-jima, 11. iii. 1964, Y. Miyatake leg.; 2 exs., Sonai, Iriomote-jima, 22. vii. 1963, Y. Miyatake leg.

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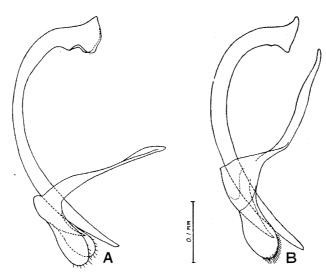


Fig. 1. Male genitalia, lateral aspect. A: Axinoscymnus nigripennis sp. nov. B: Axinoscymnus rai sp. nov.

This new species is easily separable from a unique known species of the genus, *Axinoscymnus beneficus* H. Kamiya, by the uniformly black elytra without the basal red marking and the rather long median piece of the male genitalia.

11. Axinoscymnus rai sp. nov. ライヒメテントウ(新称) (P1. 6-B, Fig. 1-B)

Body comparatively elongate oval, more than one and half times as long as wide, small in size; dorsum rather weakly convex and pubescent. Head, antennae, mouth parts, prothorax, mesothorax, scutellum and legs pale yellowish brown, tip of mandible brown. Elytra yellowish brown with dark brown markings at humeral and apical portion; the humeral marking large, scarcely reaching the basal margin of elytron and extending posteriorly along the lateral margin; the apical marking of the two elytra together crescent-shaped, about one-fourth of elytral length at sutural part, extending anteriorly along the lateral margin and connected with the posterior extension of the humeral marking. Border between dark and pale parts of elytra indistinct. Lateral margin of elytra very narrowly yellowish. Elytral epipleura and metepisternum yellowish brown. Metasternum dark brown with somewhat pale anterior and posterior parts. Abdomen yellowish brown with dark brownish part of the first abdominal segment at middle.

Head rather small, distinctly narrower than half of the body width. Eye slightly narrower than interocular distance in frontal aspect. Inner-ocular margin rather strongly arcuate, frons slightly convex, very finely punctured and hairy. Clypeus short, anterior margin of clypeus straight. Pronotum subtrapezoid, lateral margins rather strongly convergent anteriorly in dorsal aspect. Anterior margin of pronotum gently arcuate, lateral margins almost straight, and very narrowly marginated, each half of posterior margin very weakly bisinuate and indistinctly marginated. Anterior

angles nearly rectangular and sharply denticulate, and posterior angles also sharply denticulate and obtusely angulate. Surface of pronotum rather densely and very finely punctured. Scutellum small, triangular, wider than long, surface of scutellum distinctly convex with a few fine punctures. Elytra elongate, elytral base much broader than pronotal base, humeri rather strongly raised. Lateral sides rather weakly arcuate, widest at anterior one-third of elytral length, posterior half of lateral sides gently converging apically. Surface of elytra densely and coarsely punctured. Elytral hairs rather coarse, suberect and weakly curled; arrangement of the hairs not S-formed but simple.

Prosternal process rather narrow, broadening apically, lateral carinae indistinct. Metasternum strongly convex, with rather dense and fine punctures and dense hairs nearly uniformly. Femoral line of the first abdominal sternum complete, rather weakly and gently curved, reaching posterior one-fourth of the sternal length. Legs very slender.

Male genitalia: Sipho slender, not dorso-ventrally flat but cylindrical, weakly curved, base of sipho rather strongly broadening. Tegmen stout, lateral lobe of tegmen very thickly clavate with many hairs at the apex; median piece of tegmen two-thirds as long as lateral lobe, boat-shaped with pointed apex in ventral aspect; median strut dorso-ventrally flat, elongate triangle.

Body length: 1.6-1.7 mm.; width: 1.0-1.1 mm.

Distribution; Ryukyus (Okinawa).

Holotype (か): Kudeken, Okinawa, 20. iii. 1964, Y. Miyatake leg.

Allotype (\circ): same data as holotype.

This new species is easily separable from all the known species of the genus Axino-scymnus and small-sized Coccinellids from Japan and its adjacent regions by the remarkable elytral marking.

12. Pseudoscymnus kurohime (M. Miyatake, 1959) リュウキュウヒメテントウ (新称)

Specimens examined: 140 examples from the following localities: Amami-Ôshima (Koniya, Agina), Okinoerabu-jima (Oyama), Okinawa (Nago, Yona, Gogayama, Izumi, Minamineiji-Yama, Shoshi, Hiji, Izumi-Gogayama), Ishigaki-jima (Yonehara, Tôrogawa), Iriomote-jima (Ushiku-mori).

Distribution: Ryukyus (Amami-Ôshima*, Okinoerabu-jima*, Okinawa, Ishigaki-jima, Iriomote-jima), Formosa.

13a. Pseudoscymnus quinquepunctatus quinquepunctatus (Weise, 1923)

(Fig. 2-F) イツホシヒメテントウ

Coloration of dorsal surface: Pale yellowish brown, pronotum usually entirely pale, sometimes with dark marking at middle. Elytra with five black spots, two of which situated at humeral portions, one at center of elytra, two at latero-apical portions. Humeral spots usually round, sometimes transverse, never connected with the central spot and never reaching the lateral margin of elytra.

Specimens examined: Ishigaki-jima (Omoto-san, 5 exs., 14. x. 1963, S. Miyamoto, Y. Hirashima & K. Morimoto leg.; Yoshihara, 2 exs., 15. x. 1963, K. Morimoto leg.;

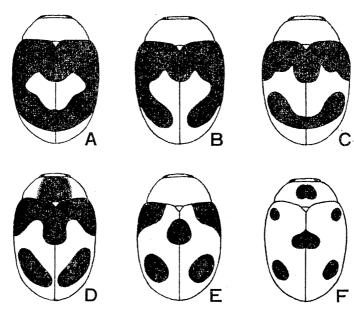


Fig. 2. Pseudoscymnus quinquepunctatus Weise, dorsal surfaces. A-E: subsp. okinawanus subsp. nov. (A, B: Amami-Ôshima, C, D: Tokuno-shima, E: Okinawa), F: nominate subspecies (Iriomote-jima).

Kaara-yama, 3 exs., 14. iii. 1964, Y. Miyatake leg.), Iriomote-jima (Nakaragawa, 1 ex., 12. iii. 1964, S. Kimoto leg.).

Distribution: Ryukyus (Ishigaki-jima*, Iriomote-jima*), Formosa.

13b. Pseudoscymnus quinquepunctatus okinawanus subsp. nov. (Fig. 2-A~E).

General structures agree with the nominate subspecies, but the colour pattern of dorsum different from the latter as below:

Ground colour of dorsum usually yellowish brown, darker than that of the nominate subspecies. Elytra with five black markings, each marking rather large. Humeral marking always reaching the lateral and the basal margin of elytra, usually extending posteriorly along the lateral margin of elytra. Humeral angle of elytra usually not remains yellowish part but entirely black.

Distribution: Ryukyus (Amami-Ôshima, Tokuno-shima, Okinawa).

Holotype: Izumi, Okinawa, 22. iii. 1964, T. Shirôzu leg.

Paratypes: 11 exs., same data as holotype; 6 exs., Izumi, 21. x. 1963, S. Miyamoto leg.; 6 exs., 21. x. 1963, S. Uéno leg.; 8 exs., 22. iii. 1964, S. Kimoto leg.; Shoshi, Okinawa, 3 exs., 23. iii. 1964, T. Shirôzu & S. Kimoto leg.; Nago, Okinawa, 1 ex., 28. xi. 1963, G. A. Samuelson leg.; 2 exs., T. Shirôzu leg.; 2 ex., 23. iii. 1964, Y. Miyatake leg.; 1 ex., Yona, Okinawa, 26. xi. 1963, G. A. Samuelson leg.; 2 exs., 19. x. 1963, S. Miyamoto leg.; 2 exs., 24. iii. 1964, Y. Miyatake leg.

Other specimens examined: 1 ex., Nase, Amami-Ôshima, 6. iv. 1964, T. Shirôzu

leg.; 1 ex., Agina, Amami-Ôshima, 7. iv. 1964, T. Shirôzu leg.; 5 exs., Omo, Tokunoshima, 25. vi. 1961, H. Kamiya leg.

Geographical variations of the elytral markings are seen among the materials from three different islands as showing below:

(Okinawa) Humeral markings usually not connect with central marking (E), but in two specimens (62 specimens are examined), they connect with each other as like as the Tokuno-shima-form.

(Tokuno-shima) Humeral markings connect with the central marking in all the specimens examined (D). In two specimens, both of the latero-apical markings connect with each other at suture (C).

(Amami-Ôshima) Humeral markings entirely connect with central marking in all the examined specimens (2 exs.). In one of them, the latero-apical markings connected with the humeral ones near lateral sides of elytra (B). Further, in another one, all the black markings fused and rather widely expanded, remaining a sutural yellowish markings at a little behind the middle and a narrow apical yellowish margin (A).

14. Scymnus (Nephus) patagiatus Lewis, 1896 セスジヒメテントウ (P1. 6-H)

Specimens examined: 55 examples from the following localities: Amami-Ôshima (Nase, Yuwan-dake, Shinmura, Nishinakama, Ôgachi), Tokuno-shima (Omo, Nishiagina), Okinoerabu-jima (Wadomari-Shinjo-China), Okinawa (Yona, Minami-meijiyama, Kudeken, Izumi, Shinen, Yona-Hedo), Ishigaki-jima (Banna-dake, Ishigaki-Nagura, Yoshino-Kabira), Iriomote-jima (Sonai, Ushiku-mori, Urauchi).

Distribution: Japan (Honshu, Shikoku, Kyushu), Ryukyus (Amami-Ôshima, Okinoerabu-jima*, Tokuno-shima*, Okinawa, Ishigaki-jima, Iriomote-jima).

The specimens from the Yaeyama Group which were carelessly treated as the pale form of *patagiatus* in my revision of Japanese Scymnini (1961) should be identified as the next new species.

Body oblong oval, about 1.6 times as long as wide, relatively elongate, dorsum weakly convex and pubescent.

Head including mouth parts and antennae, prothorax and legs brownish orange. Scutellum black. Elytra pale yellowish brown with black marking at base; the black marking of elytral base extending apically along the suture, convergent and ending near the apex. Usually basal angles of elytra reddish and outer sides narrowly darken. Elytral epipleura brownish orange. Underside of meso- and metathorax and median part of basal three segments of abdomen blackish brown, lateral and apical parts of abdomen reddish; often underside entirely yellowish brown.

Head rather large, about half as wide as body width, obliquely faced. Frons wider than long, inner-ocular margin scarcely converging apically except basal part, surface of frons slightly convex and finely punctured. Clypeus short and as wide as interocular distance; anterior margin of clypeus distinctly excavate gently. Pronotum transverse subquadrate and lateral margins nearly parallel in basal one-third in dorsal aspect; anterior margin of pronotum weakly bisinuate and very narrowly margi-

Prosternum without carina, sparsely punctured; prosternal process relatively narrow, distinctly longer than wide, parallel-sided. Metepisternum densely and somewhat strongly punctured. Metasternum sparsely and strongly punctured at lateral parts, very sparsely and finely at median part. Femoral line of the first abdominal sternum incomplete, reaching apical one-fifth length of the sternum, lateral end of the femoral line distinctly bending basally.

Male genitalia: Sipho slender, basal half of sipho relatively strongly curved, nearly semicircular; apical half of sipho scarcely bent dorsally; inner process of siphonal capsule much longer than the outer process. Tegmen slender, median piece of tegmen elongate boat-shaped with pointed apex in ventral aspect. Lateral lobe of tegmen slightly shorter than median piece.

Body length: 1.35-1.75 mm., width: 0.80-1.05 mm.

Distribution: Ryukyus (Miyako-jima, Ishigaki-jima, Iriomote-jima).

Holotype (3): Arakawa, Ishigaki-jima, 5. iii. 1964, S. Kimoto leg.

Allotype (φ): same data as holotype.

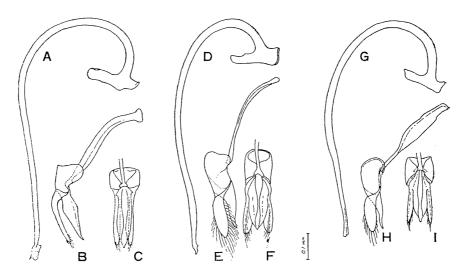


Fig 3. Male genitalia, A, D, G: sipho, lateral aspect, B, E, H: tegmen, lateral aspect, C, F, I: tegmen, ventral aspect.

A-C: Scymnus (Nephus) tagiapatus sp. nov. D-F: Scymnus (Pullus) kimotoi sp. nov. G-I: Scymnus (Pullus) hatomensis sp. nov.

Paratypes: 3 exs., same data as holotype; 1 ex., Kaara-yama, Ishigaki-jima, 14. iii. 1964, Y. Miyatake leg.; 1 ex., 18. iii. 1964, S. Kimoto leg.; Mt. Banna, Ishigaki-jima, 6 exs., 1. x. 1963, S. Miyamoto leg.; 13 exs., 1. x. 1963, K. Morimoto leg.; 3 exs., 18. xi. 1963, G. A. Samuelson leg.; 2 exs., Yoshino-Kabira, Ishigaki-jima, 23. xi. 1960, K. Yasumatsu leg.; 1 ex., Shirahama, 3. x. 1963, S. Miyamoto leg.; 2 exs., 8. iii. 1964, S. Kimoto leg.; 1 ex., Sonai, Iriomote-jima, 12. x. 1963, K. Morimoto leg.; 1 ex., Ushiku-mori, Iriomote-jima, 4. x. 1963, S. Miyamoto leg.; 1 ex., Ôhara, Iriomote-jima, 15. vii. 1963, Y. Miyatake leg.; 2 exs., 2. x. 1963, K. Morimoto leg.; 4 exs., 24-25. viii. 1958, T. Hidaka leg.; 1 ex., Shimoji, Miyako-jima, 5. ix. 1958, T. Hidaka leg.

This new species is closely allied to Sc. (N.) patagiatus Lewis but easily separable from the later in the body shape, the form of the lateral sides of pronotum and the form of the femoral line. The pale coloration of the present species is a good differential character from patagiatus as far as the Ryukyus' material is concerned.

16. Scymnus (Nephus) ryuguus H. Kamiya, 1961 リュウグウヒメテントウ (新称) Specimens examined: 25 examples from the following localities: Amami-Ôshima (Nishinakama, Man'ya-Suno), Tokuno-shima (Omo), Okinoerabu-jima (Wadomari), Okinawa (Shuri, Izumi, Shoshi, Kudeken, Gogayama, Nago).

Distribution: Ryukyus (Amami-Oshima*, Tokuno-shima*, Okinoerabu-jima, Okinawa).

- 17. Scymnus (Scymnus) nigrosuturalis H. Kamiya, 1961 クロスジヒメテントウ Specimens examined: 28 examples from the following localities: Okinoerabu-jima (Amata-Furusato, Wadomari), Ishigaki-jima (Yoshihara, Ôhama, Kaara-yama, Arakawa), Iriomote-jima (Ôhara, Shirahama, Komi, Inaba, Sonai, Shirahama-Sonai). Distribution: Ryukyus (Okinoerabu-jima, Miyako-jima, Ishigaki-jima, Iriomote-jima).
- 18. Scymnus (Pullus) hoffmanni Weise, 1879 クロヘリヒメテントウ
 Specimens examined: Amami-Ôshima (Nase, 1 ex., 10. viii. 1963, K. Yasumatsu & K. Yano leg.; Urakami, 1 ex., 30. iii. 1964, T. Iida leg.); Tokuno-shima (Nishiagina, 1 ex., 26. iii. 1964, T. Iida leg.), Okinoerabu-jima (China-Wadomari-Goran, 2 exs., 5. viii. 1963, K. Yasumatsu & K. Yano leg.).

Distribution: Japan (Honshu, Shikoku, Kyushu), Rhykyus (Amami-Ôshima, Tokunoshima*, Okinoerabu-jima*), Korea, China.

19. Scymnus (Pullus) fuscatus Boheman, 1858 カバイロヒメテントウ
Specimens examined: 41 examples from the following localities: Amami-Ôshima (Nase), Tokuno-shima (Mikyô, Omo); Okinoerabu-jima (China-Wadomari-Goran), Okinawa (Hiji-gawa), Iriomote-jima (Shirahama, Sonai, Upper Nakara River, Kampira-daki, Komi, Ushiku-mori, Ôhara).

Distribution: Japan (Honshu, Shikoku, Kyushu), Ryukyus (Amami-Ôshima, To-kuno-shima*, Okinoerabu-jima*, Okinawa, Miyako-jima, Ishigaki-jima, Iriomote-jima), Formosa, China, Philippines, Sunda Islands, India, Ceylon.

20. **Scymnus** (**Pullus**) **kimotoi** sp. nov. キモトヒメテントウ (新称) (P1. 6-C, Fig. 2-D~F)

Body oval, small in size, dorsum moderately convex and pubescent. Head including antennae and mouth parts, prothorax and legs pale yellowish brown. Scutellum brown. Elytra yellowish brown with black marking basally, suturally and laterally

as shown in the figure; lateral and sutural black markings never reaching the apex, usually ending at about one-seventh of the length from the elytral apex; often elytral marking dark brown or brown, sometimes more indistinct especially at lateral part. Elytral epipleura yellowish brown. Mesosternum usually dark brown; mesepimeron yellowish brown, metasternum black or dark brown, metepisternum dark brown or reddish brown. Abdomen reddish brown or yellowish brown with the first segment blackish. The above-mentioned dark part of underside often very much pale-coloured and nearly yellowish brown.

Head including eyes half as wide as body, interocular distance four-ninths as wide as head width including eyes, innerocular margins weakly arcuate, frons slightly convex with fine punctures rather sparsely, punctuation of lateral parts of frons denser than the median part. Clypeus very short, anterior margin of clypeus nearly straight. Pronotum subtrapezoid, anterior margin nearly straight and lateral margins slightly arcuate and rather strongly convergent apically in dorsal aspect. Anterior angle rectangular, lateral margin nearly straight with anterior short part weakly arcuate and very narrowly marginated, posterior angle obtuse; each half of posterior margin of pronotum very weakly sinuate and distinctly marginated. Surface of pronotum finely and densely punctured, with lateral parts very densely punctured. Scutellum small, triangle and broader than long; surface of scutellum minutely punctured. Elytral base slightly broader than pronotal base; lateral sides of elytra gently rounded, widest at about one-third of elytral length from the base. Punctuation of the elytral hairs as shown in the figure.

Prosternal carinae straight, rather broadly separated at posterior end and strongly convergent anteriorly, anterior ends of carinae nearly touching each other. Metasternum finely and rather densely punctured without a smooth part at middle. Femoral line of the first abdominal sternum complete, rather weakly arcuate, reaching about posterior one-fourth of length. Area surrounded by the femoral line with hairy punctures at basal portion and rather widely smooth near the line.

Male genitalia: Sipho rather weakly curved, apical two-thirds of sipho very weakly sinuate, the remaining part of sipho moderately curved. Inner process of siphonal capsule longer than outer process. Tegmen rather stout, median piece of tegmen roundly convergent apically with strongly pointed apex in ventral aspect. Lateral lobes distinctly longer than median piece, elongate oval in lateral aspect. Basal strut very slender.

Body length: 1.45-1.70 mm., width: 0.95-1.15 mm.

Distribution: Ryukyus (Ishigaki-jima, Iriomote-jima).

Holotype (み): Ushiku-mori, Iriomote-jima, 11. iii. 1964, S. Kimoto leg.

Paratypes: 7 exs., Ushiku-mori, Iriomote-jima, 11. iii. 1964, T. Shirôzu, S. Kimoto & Y. Miyatake leg.; 3 exs., Shirahama, Iriomote-jima, 4. x. 1963, S. Miyamoto leg.; 1 ex., Ôhara, Iriomote-jima, 2. x. 1963, K. Morimoto leg.; 1 ex., Omoto-san, Iahigaki-jima, 16. iii. 1964, Y. Miyatake leg.; 16 exs., 15. x. 1963, K. Morimoto leg.; 3 exs., 14. x. 1963, Y. Hirashima leg.; 3 exs., 14. x. 1963, S. Miyamoto leg.

21. Scymnus (Pullus) sodalis (Weise, 1923) タイワンヒメテントウ

Specimens examined: 234 examples from the following localities: Amami-Ôshima (Mt. Yuwan, Nishinakama, Shinmura, Urakami, Nase), Tokuno-shima (Omo), Okinawa (Yona, Gogayama, Izumi, Naha, Minami-meiji-yama, Nago, Shuri, Shoshi, Hijigawa, Kudeken), Ishigaki-jima (Yoshihara, Yonehara, Tôrogawa, Kaara-yama), Iriomote-jima (Shirahama, Sonai, Ushikumori, Inaba), Hatoma-jima.

Distribution: Ryukyus (Nakanoshima, Takara-jima, Amami-Ôshima, Tokuno-shima*, Okinawa, Ishigaki-jima*, Iriomote-jima*, Hatoma-jima), Formosa.

22. Scymnus (Pullus) miyatakei H. Kamiya, 1961 ミヤタケヒメテントウ (新称) Specimens examined: Amami-Ôshima (Nase, 1 ex., 6. iv. 1964, T. Shirôzu leg.), Okinawa (Minami-meiji-yama, 2 exs., 20. x. 1963, K. Morimoto leg.; Nago, 1 ex., 21. iii. 1964, T. Shirôzu leg.; Kudeken, 2 exs., 20. iii. 1964, Y. Miyatake leg.), Ishigaki-jima (Yonehara, 1 ex., 15. iii. 1964, Y. Miyatake leg.; Tôrogawa, 1 ex., 17. iii. 1964, Y. Miyatake leg.; Kaara-yama, 1 ex., 18. iii. 1964, Y. Miyatake leg.), Iriomote-jima (Inaba, 1 ex., 10. iii. 1964, S. Kimoto leg.; Urauchi, 2 exs., 8. xi. 1963, G. A. Samuelson leg.).

Distribution: Ryukyus (Nakanoshima, Amami-Ôshima, Okinawa, Ishigaki-jima*, Iriomote-jima*).

23. Scymnus (Pullus) hatomensis sp. nov. ハトマヒメテントウ (新称) (P1. 6-F, Fig. 3-G~I).

Body oval, rather small in size, dorsum moderately convex and pubescent. Head and prothorax pale orange brown. Antennae, mouth parts and legs pale yellowish brown. Scutellum dark brown. Elytra black with rather long reddish apex; the apical red marking of each elytron roundly and strongly convex anteriorly reaching apical half or two-fifths of elytral length; basal black part of elytron extremely extending posteriorly along the suture and the lateral margin. Underside of mesothorax dark reddish brown. Underside of metathorax black. The first segment of abdomen black, with somewhat paler narrow lateral parts; the second segment black or pitchy brown with yellowish lateral parts; the remaining segment pale orange brown.

Frons rather broad, innerocular margin moderately arcuate, surface of frons nearly flat, finely and rather densely punctured, densely pubescent. Clypeus short with scarcely concave anterior margin. Pronotum subtrapezoid, lateral sides rather strongly convergent anteriorly in dorsal aspect. Anterior angle of pronotum rectangular, lateral margin slightly arcuate, posterior angle obtuse; posterior margin very weakly sinuate and narrowly marginated. Surface of pronotum finely and densely punctured. Scutellum triangular, slightly longer than wide, finely punctured. Elytral base slightly broader than pronotal base. Lateral sides of elytra rather weakly arcuate and widest at a little before the middle. Elytral apex gently rounded. Punctuation of elytra distinctly coarser and sparser than that of pronotum, each elytron with an indistinct stria of strong punctures along the suture behind the scutellum.

Prosternal carinae straight and nearly parallel. Metasternum very strongly and closely punctured, somewhat sparser at middle portion. Femoral line of the first abdominal sternum complete and gently curved, reaching posterior one-fourth of length; lateral part of the line not strongly bent anteriorly but more obliquely ending than that of *S. miyatakei*. Area surrounded by the femoral line with dense punctures at basal part; posterior one-third of the area along the carina entirely smooth and

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Male genitalia: Sipho slender, apical one-third of sipho very slightly waving and slightly narrowing apically; the remaining basal part of sipho nearly semicircular. Siphonal capsule with distinct inner and outer processes, the inner one much longer than the outer one. Median piece of tegmen parallel-sided in basal half, with a strongly pointed apex in ventral aspect. Lateral lobe rather flat laterally and nearly as long as the median piece, elongate oval in lateral aspect.

Body length: 1.3-1.7 mm., width: 0.9-1.2 mm.

Distribution: Ryukyus (Ishigaki-jima, Iriomote-jima, Hatoma-jima).

Holotype (3): Hatoma-jima, 25. vii. 1963, Y. Miyatake leg.

Paratypes: 13, same data as holotype; 1 ex., Nakara-gawa, Iriomote-jima, 12. iii. 1964, Y. Miyatake leg.; 1 ex., Omotosan, Ishigaki-jima, 16. iii. 1964, Y. Miyatake leg.

The present new species is closely allied to Sc. (P.) miyatakei H. Kamiya but differs from the latter in the shape of the apical red marking of elytra, the parallel prosternal carinae, the strong punctures of metasternum and the lateral lobe of the male genitalia which is as long as the median piece.

24. Scymnus (Pullus) contemtus (Weise, 1923) バイゼヒメテントウ

Specimens examined: Amami-Ôshima (Yuwan-dake, 1 ex., 29-31, vii. 1963, Y. Hirashima leg.), Okinawa (Izumi, 2 exs., 21. x. 1963, Y. Hirashima leg.; Minami-meijiyama, 2 exs., 20. x. 1963, K. Morimoto leg.; Nago, 1 ex., 21. iii. 1964, S. Kimoto leg.; Izumi-Gogayama, 1 ex., 22. iii. 1964, Y. Miyatake leg.; Yona, 1 ex., 24. iii. 1964, Y. Miyatake leg.)

Distribution: Japan (Honshu, Shikoku, Kyushu), Ryukyus (Amami-Ôshima, Okinawa), Formosa.

Tribe Aspidimerini

25. Cryptogonus orbiculus (Gyllenhal, 1808) フタモンクロテントウ

Specimens examined: 535 examples from the following localities: Amami-Ôshima (Nase, Agina, Nishinakama, Koniya, Shinmura, Urakami, Kasari), Tokuno-shima (Mikyô, Omo, Nishiagina), Okinoerabu-jima (Oyama), Okinawa (Kudeken, Yona, Goga-yama, Izumi, Minami-meiji-yama, Shuri, Shoshi, Nago, Hiji-gawa), Ishigaki-jima (Mt. Banna, Barubido, Omoto-san, Yoshihara, Ôhama, Kaara-yama, Yonehara, Tôrogawa), Iriomote-jima (Ôhara, Utaka Bridge, Shirahama, Ushiku-mori, Sonai, Komi, Inaba), Hatoma-jima.

Distribution: Japan (Honshu, Shikoku, Kyushu, Yakushima), Ryukyus (Nakanoshima, Amami-Ôshima, Okinoerabu-jima*, Tokuno-shima*, Okinawa, Ishigaki-jima, Iriomote-jima, Hatoma-jima, Yonakuni-jima), Formosa, China, India, etc.

26. Pseudaspidimerus japonicus Nakane et Araki, 1958 ヒメフタモンクロテントウ Specimens examined: 196 examples from the following localities: Amami-Ôshima (Kominato, Agina, Nase, Shinmura), Tokunoshima (Mikyô), Okinoerabu-jima (Oyama); Okinawa (Yona, Kudeken, Gogayama, Shuri, Izumi, Minami-meiji-yama, Shoshi); Ishigaki-jima (Barubidô, Omoto-san, Yoshihara, Ôhama, Kaara-yama, Yonehara, Arakawa, Tôro-gawa), Iriomote-jima (Sonai, Shirahama, Kompreadai, Hateruma-

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mori, Ôhara-Komi, Ushiku-mori, Inaba).

Distribution: Japan (Yakushima), Ryukyus (Nakanoshima, Takara-jima, Amami-Ôshima, Tokuno-shima*, Okinoerabu-jima*, Okinawa, Ishigaki-jima, Iriomote-jima).

Tribe Pharini

27. Sticholotis morimotoi sp. nov. モリモトメツブテントウ (新称) (P1. 6-D, Fig. 4)

Body hemispherical, dorsum strongly convex and glabrous. Head black with antennae, mouth parts and underside of head capsule dark red. Pronotum black with very narrow red anterior margin. Elytra black with two pairs of red markings situated before and behind; each marking round and median size. Apical margin of elytron very narrowly somewhat reddish. Inner portion of elytral epipleurae reddish. Underside of body black and partly reddish. Legs dark red, femur darkened behind.

Frons rather wide, innerocular margins arcuate and narrowest at apical one-third of frontal length, surface of frons slightly convex, strongly punctured, each puncture with a short white hair. Clypeus very short, distinctly expanded laterally, anterior margin of clypeus scarcely arcuate. Antenna slightly shorter than interocular distance, eleven-segmented, the two basal segments very thick, the second segment nearly as long as the first, the third distinctly shorter than the second, from the third to the eighth segments thin, the terminal three segments thick, forming rather distinct club together, the terminal segment distinctly narrower than the tenth. Terminal segment of maxillary palpus nearly parallel at short basal part and strongly narrowing apically with a pointed tip.

Pronotum strongly transverse, anterior margin rather gently arcuate, median part of anterior margin slightly convex and not marginated, lateral short part of anterior margin distinctly but very narrowly marginated; anterior angle round; lateral margin weakly arcuate and distinctly marginated; posterior angle obtuse; posterior margin of pronotum gently arcuate with strong margination. Surface of pronotum strongly and densely punctured but less than frons in density. Scutellum minute, triangle. Elytra strongly convex, elytral base much broader than pronotal base. Outer margin of elytra nearly uniformly rounded, strongly marginated and narrowly expanded. Punctuation of elytra slightly finer and sparser than that of pronotum. Elytra without a distinct stria of strong punctures along the suture and behind the scutellum.

Prosternal process transverse, about one and half times as broad as long, distinctly narrowing posteriorly; anterior and lateral margin of prosternal process carinate, surface of the process depressed and very rough. Meso- and metasternum shining with strong punctures very sparsely; lateral part of metasternum obliquely rugose; lateral part of metasternum very narrowly and metepisternum shagreened. Lateral part of abdomen strongly shagreened and middle part weakly shagreened with strong punctures sparsely. Femoral line of the first abdominal sternum incomplete, obliquely arcuate, reaching posterior end of the lateral margin. Femora of all legs shagreened.

Male genitalia: Nearly symmetrical, very slender in general shape. Sipho nearly straight except basal short part obtusely bent and apex rather complicate. Siphonal capsule with short inner process and without distinct outer process. Tegmen very

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slender, about two-thirds as long as sipho. Median piece of tegmen elongate ship-shaped, parallel in basal two-thirds and narrowing apically with loosely pointed apex in ventral aspect. Lateral lobe of tegmen very much thin, slightly longer than median piece; apex of lateral lobe clavate with less than ten short hairs. Basal piece rather short, with a long process at left side only. Median strut short, about half as long as lateral lobe.

Body length: 1.9 mm., width: 1.6 mm. Distribution: Ryukyus (Ishigaki-jima).

Holotype (♂): Omoto-san, Ishigaki-jima, 16. iii. 1964, Y. Miyatake leg.

Allotype (φ): same data as holotype, S. Kimoto leg.

Paratype: 19, Yoshihara, Ishigaki-jima, 15. x. 1963, K. Morimoto leg.

This new species is closely related to *S. formo-sana* Weise from Formosa in the general character, but easily distinguishable from the latter in lacking striae of strong punctures along the elytral suture.

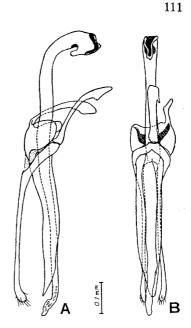


Fig. 4. Male genitalia of Sticholotis morimotoi sp. nov. A: lateral aspect, B: ventral aspect.

28. Stictobura amabilis sp. nov.

ナナホシメツブテントウ(新称)

(P1. 6-I, Fig. 5-A, B)

Body hemispherical, slightly longer than wide, very strongly convex, shining and glabrous. Dorsum yellowish orange, each elytron with four small black spots: basal, sutural, middle and preapical ones. The basal spot transverse oval, anterior border of the spot touching basal margin of elytron; the sutural spot elongate oval, situated at basal one-third in elytral length and both spots connected with each other at the suture; the middle spot nearly round in form and situated at middle of elytron; the preapical spot also round and situated near the apex.

Head faced below, invisible in dorsal aspect, rather wide, half as wide as bodywidth. Eye small, inner-ocular margins weakly arcuate, strongly converging apically; frons very broad, nearly twice as wide as long, surface of frons slightly convex, finely and very sparsely punctured. lateral margin of frons with thin process projected upon eye. Distance between both antennal sockets slightly broader than inner-ocular distance. Clypeus scarcely broadening apically with nearly parallel lateral margins and round apical angles. Apical margin of clypeus slightly incurvate and marginate.

Pronotum with nearly straight basal margins and arcuate anterior margin in dorsal aspect. Pronotum strongly inclined below anteriorly and laterally. Anterior angle acute with rounded tip; under margin slightly arcuate, narrowly marginated; basal margin of pronotum uniformly rounded and distinctly marginated. Surface of pronotum very finely and very sparsely punctured. Scutellum minute, visible in high magnificance, triangle. Elytra strongly convex with uniformly rounded outer margin, apex of elytra roundly ending; each apex of elytron rectangular. Elytral margin

very narrowly expanded externally. Elytra without distinct humeral calli. Surface of elytra shining, punctures of elytra very much fine and sparse, visible only under the high magnificance and in strong lighting.

Prosternal process pentagonal, wider than long; anterior margin slightly convex anteriorly and carinate; anterior angle of the process rounded; lateral margins strongly narrowing posteriorly. Metasternum minutely punctured. Femoral line of the first abdominal sternum incomplete, reaching posterior margin and lateral margin of the segment.

Male genitalia: Sipho rather short, weakly curved in general; basal part of sipho bent rectangularly; siphonal capsule with a short inner process and an indistinct outer process. Tegmen slender; median piece of tegmen very elongate, parallel-sided, slightly constricted near the apex, apex of median piece rounded, in ventral aspect. Lateral lobe slightly longer than median piece, very thin and parallel-sided, not clavate; in lateral aspect, lateral lobe weakly curved near the base. Median strut connected with the dorsal side of basal piece.

Body length: 1.2 mm., width: 1.0 mm., altitude: 0.8 mm.

Distribution: Ryukyus (Iriomote-jima).

Holotype (3): Shirahama, Iriomote-jima, 3. x. 1963, K. Morimoto leg.

This pretty new species is easily distinguishable from all the known species of the

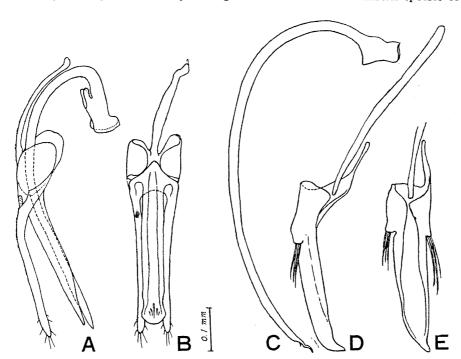


Fig. 5. Male genitalia. A: tegmen and sipho, lateral aspect, B, E: tegmen, ventral aspect, C: sipho, lateral aspect, D: tegmen, lateral aspect.

A-B: Stictobura amabilis sp. nov. C-E: Sukunahikona bicolor sp. nov.

genus Stictobura by the elytral colour pattern with seven black spots.

Tribe Sukunahikonini

29. Sukunahikona bicolor sp. nov.

フタイロチビテントウ(新称)

(P1. 6-E, Fig. 5-C~E)

Body oval, strongly convex and pubescent. Head and prothorax dark red or reddish brown, elytra black with apical part somewhat indistinctly reddish. Sometimes elytra pale-coloured, in the palest example elytra dark brown with blackish basal and sutural parts. Underside of meso- and metathorax black or dark reddish brown. Abdomen reddish brown with darkened basal part. Antennae, mouth parts and legs yellowish brown.

Head relatively large, distinctly wider than a half of pronotal width, compound eye oval in lateral aspect and rather large. Inner-ocular margin strongly converging apically and very strongly diverging at apical short part. Distance between antennal sockets two-thirds times as wide as inner-ocular distance. Frons slightly convex and sparsely punctured. Clypeus rather short, lateral margin of clypeus arcuately expanded laterally, anterior margin of clypeus weakly but distinctly incurvate. Antenna ten-segmented, about three-fourths as long as head width, the third segment nearly as long as the second, the ninth nearly as long as wide, the tenth longer than wide. Apical segment of maxillary palpus semifusiform, pointed, three times as long as wide.

Pronotum strongly convex, subpentagonal with lateral extending part. Anterior margin of pronotum arcuate except lateral part strongly bent anteriorly; lateral margin scarcely arcuate and very narrowly marginated; posterior margin uniformly arcuate. Anterior and posterior angles rather distinctly angulate. Longitudinal length of the lateral extending part distinctly shorter than half of middle part. Surface of pronotum sparsely and relatively strongly punctured, each puncture on pronotum with a long erect hair. Scutellum triangular, broader than long, with a few fine punctures. Elytra moderately convex, lateral sides gently rounded, apex of elytra somewhat pointed. Lateral carina parallel to lateral margin reaching the elytral base and touching the lateral margin at apical one-seventh of elytral length. Surface of elytra strongly punctured, with very long erect hairs and long suberect hairs.

Prosternal process narrow with flat surface. Metasternum very strongly and sparsely punctured. Femoral line of the first abdominal sternum incomplete, reaching the posterior margin and lateral margin of the segment.

Male genitalia: Sipho slender and weakly curved, siphonal capsule very short; apex of sipho bisinuate, thin and pointed in lateral aspect. Tegmen slender, median piece of tegmen elongate, narrowing apically with pointed apex in ventral aspect; apex of median piece strongly bent ventrally. Lateral lobe of tegmen very short and indistinct, with rather long setae.

Body length: 0.95-1.10 mm., width: 0.75-0.85 mm.

Distribution: Ryukyus (Tokuno-shima, Okinawa, Miyako-jima, Ishigaki-jima, Irio-mote-jima).

Holotype(3): Omoto-dake, Ishigaki-jima, 16. iii. 1964, Y. Miyatake leg.

Allotype (9): Hateruma-mori, Iriomote-jima, 5. x. 1963, S. Miyamoto leg.

Paratypes: 11 exs., Omo, Tokuno-shima, 25. vi. 1961, H. Kamiya leg.; 2 99, Izumi, Okinawa, 21. x. 1963, Y. Hirashima leg.; 1 ex., Karimata, Miyako-jima, 2. ix. 1958, T. Hidaka leg.; 1 9, Shirahama, Iriomote-jima, 7. iii. 1964, Y. Miyatake leg.; 1 ex., 8. vii. 1963, Y. Miyatake leg.

Other specimens examined: 1 ex., Nakaragawa, Iriomote-jima, 12. iii. 1964, Y. Miyatake leg.; 1 ex., Shirahama, Iriomote-jima, 27. vii. 1963, Y. Miyatake leg. Both specimens lack their heads and prothoraxes.

This new species is resemble to *S. japonica* H. Kamiya from Japan proper, but differ from the latter in the size of eyes, the colour pattern of body, the form of the femoral line and the structure of the male genitalia.

Tribe Serangiini

30. Serangium japonicum Chapin, 1930 クロツヤテントウ

Specimen examined: Amami-Ôshima (Mt. Yuwan, 1 ex., 16-18. vii. 1963, C. M. Yoshimoto leg.).

Distribution: Japan (Honshu, Shikoku, Kyushu), Ryukyus (Amami-Ôshima*), China.

31 **Serangium ruficolle** sp. nov. ムネアカツヤテントウ (新称) (Fig. 6A~C)

Body round oval, dorsum strongly convex and shining. Head including antennae

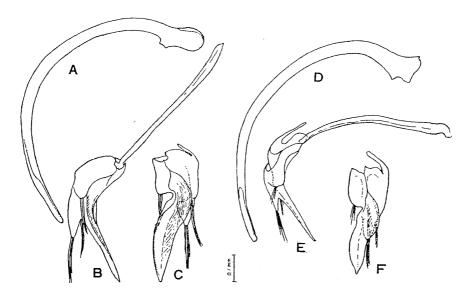


Fig. 6. Male genitalia. A, D: sipho, lateral aspect, B, E: tegmen, lateral aspect, C, F: tegmen, ventral aspect.

A-C: Serangium ruficolle sp. nov.

D-F: Serangium ryukyuense sp. nov.

and mouth parts, prothorax, legs including coxae entirely reddish brown. Scutellum very dark red. Elytra, metasternum and metepisternum black. Mesopleuron reddish brown. Mesosternum black, somewhat reddish at each side. Metepimeron dark red. Basal segment of abdomen black, the remaining segments reddish black or black with reddish margins.

Frons weakly convex, and shining with thin hairs sparsely. Punctuation of frons fine and very sparse. Antenna nine-segmented; the third segment nearly as long as the following five segments together; the apical segment nearly as long as the preceding six segments together. Pronotum strongly transverse, general form of pronotum as equal as that of *S. japonicum*. Surface of pronotum rather irregularly and sparsely punctured, but coarsely and strongly on both sides of a median longitudinal impunctate line, bearing thin and rather long hairs sparsely. Scutellum small, elongate triangle, without puncture. Elytra strongly shining with very much fine indistinct punctures sparsely, somewhat distinctly punctured at lateral portion. Disc of elytra with a few hairs, hairs present in a row parallel to the lateral margin near the base. Epipleura without distinct punctures and setae.

Prosternum moderately densely punctured and pubescent. Metepisternum distinctly shagreened; metasternum shining, very finely and very sparsely punctured and very narrow lateral side shagreened. Abdominal sternum sparsely punctured except the last segment; the last segment densely punctured and closely pubescent. Front femora distinctly shagreened, middle and hind femora finely punctured and pubescent.

Male genitalia: Closely allied to that of *S. japonicum* in general appearance; but sipho rather weakly curved; tegmen slenderer, the right lateral lobe indistinct and nearly rectangular; median piece of tegmen not swollen at middle but convergent apically in whole length in ventral aspect.

Female gnitalia: Scarcely differs from that of S. japonicum, though the genital plate slightly slenderer than the latter.

Body length: 1.70-1.85 mm., width: 1.45-150 mm., altitude: 0.90-1.00 mm.

Distribution: Ryukyus (Okinoerabu-jima).

Holotype (): Wadomari, Okinoerabu-jima, 19. iii. 1964, T. Iida leg.

Allotype (♀): same data as holotype, T. Okumura leg.

Paratypes: 1 ex., 19. iii. 1964, T. Iida leg.; 1 ex., 19. iii. 1964, 1 ex., 23. iii. 1964, T. Iida leg. from the same locality as holotype.

This new species is closely allied to *S. japonicum* Chapin but easily separable from the latter in having the entirely reddish prothorax, the indistinct punctures of elytra and the rather slender median piece of the male genitalia.

32. **Serangium ryukyuense** sp. nov. リュウキュウツヤテントウ(新称) (Fig. 6-D~F)

Body round oval, dorsum strongly convex and shining. Head reddish brown, vertex sometimes dark brown. Antennae and mouth parts yellowish brown. Pronotum black with lateral narrow portion reddish. Scutellum and elytra black. Underside of body black in general, prosternum dark reddish brown and sometimes apical part of abdomen pitchy brown. Legs yellowish brown.

Frons rather narrow, sligtly broader than eye, surface of frons weakly convex, sparsely and very finely punctured and hairy. Pronotum nearly as that of S. japonicum in general form. Punctuation of pronotum distinctly sparser and finer than that of japonicum. Lateral margins of pronotum nearly straight, basal angle rectangular and anterior angle rather distinct and slightly obtuser than rectangle. Scutellum triangular and distinctly longer than wide, with a few very fine punctures. Elytra strongly shining and impunctate, punctures of dorsal portion scarcely visible under the high magnificans and in very strong lighting. At marginal portion very fine punctures visible sparsely. A row of fine hairs sparsely set on parallel to the lateral margin. Epipleura of elytra finely and very sparsely punctured and hairly.

Prosternum finely punctured and hairy. Metepisternum shagreened. Metasternum smooth with very fine hairs moderate in density; very narrow lateral portion shagreened as metepisternum. Apical three segments and median basal portion of the second segment of abdomen distinctly shagreened. Apical four-fifths of the apical segment of abdomen with setosepunctures densely. Front femora shagreened, middle and hind femora finely punctured.

Male genitalia: Very closely allied to that of *japonicum* but slightly differs from the latter as stated below: sipho more weakly curved. Tip of median piece of tegmen rather strongly pointed. Right lateral lobe indistinct.

Body length: 1.5-1.9 mm., width: 1.2-1.5 mm., altitude: 0.8-1.1 mm.

Distribution: Ryukyus (Okinawa, Miyako-jima, Ishigaki-jima, Iriomote-jima).

Holotype (3): Ushiku-mori, Iriomote-jima, 2. vii. 1963, Y. Miyatake leg.

Paratypes: 3 exs., Inaba, Iriomote-jima, 10. iii. 1964, Y. Miyatake leg.; 1 ex., Shirahama, Iriomote-jima, 27. vii. 1963, Y. Miyatake leg.; Ushiku-mori, Iriomote-jima, 1 ex., 11. iii. 1964, Y. Miyatake leg.; Nakaragawa, Iriomote-jima, 1 ex., 12. iii. 1964, Y. Miyatake leg.

Other specimens examined: The following specimens are slightly different from the type series in the punctuation of elytra. 1 ex., Kaara-yama, Ishigaki-jima, 14. iii. 1964, Y. Miyatake leg.; 1 ex., 18. iii. 1964, S. Kimoto leg.; 3 ex., Omotodake, Ishigaki-jima, 14-6. iii. 1964, Y. Miyatake leg.; 1 ex., Karimata, Miyako-jima, 2. ix. 1958, T. Hidaka leg.; 3 exs., Izumi, Okinawa, 21. x. 1963, Y. Hirashima leg.; 1 ex., 22. iii. 1964, T. Shirôzu leg.; 1 ex., Shuri, Okinawa, 19-21. viii. 1958, T. Hidaka leg.; 2 exs., Kudeken, 20. iii. 1964, Y. Miyatake leg.

The present new species is very much closely related to S. japonicum Chapin or S. tokaranum Nakane et Araki, but separable from those by the impunctate dorsal portion of elytra and the punctuation of underside.

33. Microserangium okinawense M. Miyatake, 1961 ヒメツヤテントウ (新称) Specimens examined: Okinawa (Yona, 2 exs., 24. iii. 1964, Y. Miyatake leg.; 1 ex., 19. x. 1963, S. Miyamoto leg.; Izumi, 1 ex., 22. iii. 1964, Y. Miyatake leg.; 1 ex., 21. x. 1963, Y. Hirashima leg.; 1 ex., 15. viii. 1958, T. Hidaka leg.; Chinen, 3 exs., 6. xi. 1960, K. Yasumatsu leg.), Ishigaki-jima (Omoto-dake, 2 exs., 16. iii. 1963, Y. Miyatake leg.; Kaara-yama, 1 ex., 14. iii. 1964, Y. Miyatake), Iriomote-jima (Shirahama, 1 ex., 8. iii. 1964, Y. Miyatake leg.).

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Distribution: Ryukyus (Okinawa, Ishigaki-jima*, Iriomote-jima*).

Tribe Telsimiini

34. Telsimia chujoi M. Miyatake, 1959 チュウジョウクロテントウ(新称)

Specimens examined: 78 examples from the following localities: Amami-Ôshima (Urakami, Yuwan, Nase); Tokuno-shima (Omo, Mikyô), Okinawa (Izumi, Hijigawa, Shuri, Chinen, Gogayama), Ishigaki-jima (Kaara-yama, Omoto-san, Yoshihara), Iriomote-jima (Ushiku-mori, Shirahama, Sonai).

Distribution: Ryukyus (Nakanoshima, Amami-Ôshima*, Tokuno-shima*, Okinawa, Iriomote-jima*; Ishigaki-jima).

Tribe Chilocorini

35. Chilocorus amamensis H. Kamiya, 1959 アマミアカホシテントウ(新称)

Specimens examined: Amami-Ôshima (Nase, 3 exs., 22. vi. 1961, H. Kamiya leg.; Kasari, 11 exs., 10. iii. 1964, T. Iida & T. Okumura leg.; Man'ya-Suno, 5 exs., 11. iii. 1964, T. Okumura leg.); Tokuno-shima (Omo, 3 exs., 25. vi. 1961, H. Kamiya leg.), Okinawa (Izumi, 2 exs., 21. x. 1963, Y. Hirashima leg.; 6 exs., 22. iii. 1964, T. Shirôzu, S. Kimoto & Y. Miyatake leg.; Yona, 1 ex., 19. x. 1963, S. Miyamoto leg.). Distribution: Ryukyus (Amami-Ôshima, Tokuno-shima*, Okinoerabu-jima, Okinawa*).

Although I recorded the species, Ch. ishigakensis, from Okinawa with the question mark based upon a female specimen (1959), I have known that all the Chilocorus-material from Okinawa should be identified with the present species, Ch. amamensis, as the result of my careful observation, especially on male genitalia.

36. Chilocorus ishigakensis H. Kamiya, 1959 イシガキアカホシテントウ(新称)

Specimens examined: 54 examples from the following localities: Ishigaki-jima (Ôhama, Kaara-yama), Iriomote-jima (Shirahama, Inaba, Ôtomi, Ôhara, Sonai).

Distribution: Ryukyus (Ishigaki-jima, Iriomote-jima).

Tribe Coccinellini

37. Synonycha grandis (Thunberg, 1781) オオテントウ

Specimens examined: 15 examples from the following localities: Amami-Ôshima (Gusuku, Akagina-Uno, Koshuku), Okinoerabu-jima, Okinawa (Shuri, Osato-Yonehara), Ishigaki-jima.

Distribution: Japan (Honshu, Shikoku, Kyushu, Yakushima*), Ryukyus (Amami-Ôshima, Okinoerabu-jima*, Okinawa, Ishigaki-jima, Miyako-jima, Iriomote-jima), Formosa, China, Philippines, Southeast Asia, Australia, etc.

38. Verania discolor (Fabricius, 1798) チャイロテントウ

Specimens examined: 496 examples from the following localities: Amami-Ôshima (Nishinakama, Koshuku, Ôgachi, Shinmura, Yuwan, Akagina, Nase), Ukejima, Kakeroma-jima, Tokuno-shima (Mikyô, Kametsu, Kametoku), Okinoerabu-jima (China,

Cnina-Wadomari-Goran); Yoron-jima (Chahana, Furusato-Asato), Okinawa (Shoshi, Izumi, Shuri), Miyako-jima (Shimoji, Hisamatsu), Ishigaki-jima (Arakawa, Yonehara, Kaara-yama, Mt. Banna, Barubidô, Yoshihara, Kawahira, Omoto-san, Ôhama, Shinkawa, Tôrogawa, Ishigaki, Nagura, Yoshino-Kabira), Iriomote-jima (Shirahama, Inaba, Sonai, Ôhara, Hateruma-mori, Nakara-gawa, Komi, Ushiku-mori, Ôtomi).

Distribution: Japan (Kyushu, Koshiki-jima, Yakushima), Ryukyus (Nakano-shima, Takara-jima, Amami-Ôshima, Tokuno-shima*, Okinoerabu-jima, Yoron-jima*, Uke-shima*, Kakeroma-jima*, Okinawa, Miyako-jima*, Iriomote-jima, Ishigaki-jima), Formosa, China, India, Ceylon, etc.

39. Lemnia biplagiata (Swarts, 1808) オオフタホシテントウ

Specimens examined: 55 examples from the following localities: Tokuno-shima (Kametoku), Okinoerabu-jima, Ishigaki-jima (Tôrogawa), Iriomote-jima (Ôhara, Utaka Bridge, Shirahama, Inaba, Sonai, Komi).

Distribution: Japan (Kyushu, Koshiki-jima), Ryukyus (Nakano-shima, Takara-jima, Amami-Ôshima, Tokuno-shima*, Okinoerabu-jima, Ishigaki-jima*, Iriomote-jima), Formosa, China, India, Java, etc.

40. Phrynocaria congener (Billberg, 1808) マエフタホシテントウ (新称)

Specimens examined: Ishigaki-jima (Ôhama, 2 exs., 1. viii. 1963, Y. Miyatake leg.; Yonehara, 4 exs., 15. iii. 1964, T. Shirôzu & Y. Miyatake leg.), Iriomote-jima (Sonai, 1 ex., 22. vii. 1963, Y. Miyatake leg.).

Distribution: Ryukyus (Okinawa, Ishigaki-jima, Iriomote-jima), China, India. Lemnia consimilis Araki, 1962 which was described from Okinawa and Ishigaki-jima is a synonym of the present species (H. Kamiya, 1964).

41. Menochilus sexmaculatus (Fabricius, 1781) ダンダラテントウ

Specimens examined: 201 examples from the following localities: Amami-Ôshima (Yuwan-dake, Agina, Nase, Urakami), Yoron-jima, Kakeroma-jima (Nishimuro), To-kuno-shima (Kametoku), Okinoerabu-jima, Okinawa (Nago, Oka, Izumi, Shuri, Miwa-chinen), Miyako-jima (Karimata, Hisamatsu, Shimoji, Shimozato, Hirara), Ishigaki-jima (Mt. Banna, Barubidô, Kabira, Shinkawa, Kaara-yama, Yonehara, Tôrogawa, Omoto-san, Arakawa, Ishigaki, Ôhama, Yoshino-kabira, Nagura), Iriomote-jima (Ô-hara, Shirahama, Sonai, Komi, Ushiku-mori, Ôtomi).

Distribution: Japan (Honshu, Kyushu, Shikoku, Yakushima), Ryukyus (Takara-jima, Nakanoshima, Amami-Ôshima, Tokuno-shima*, Okinoerabu-jima, Yoron-jima*, Kakeroma-jima*, Okinawa, Miyako-jima*, Iriomote-jima, Ishigaki-jima), Formosa, China, India, etc.

42. Coccinella septempunctata Linnaeus, 1758 ナナホシテントウ

Specimens examined: 75 examples from the following localities: Amami-Ôshima (Kominato, Kasari), Yoron-jima (Yoro), Tokuno-shima (Inokawa-dake), Okinoerabu-jima (Wadomari), Okinawa (Shoshi, Shuri, Yona), Miyako-jima (Shimoji), Ishigaki-jima (Mt. Banna, Barubidô, Ishigaki, Kannonzaki, Yoshihara, Shinkawa, Kaara-yama, Tôrogawa, Arakawa, Ôhama), Iriomote-jima (Shirahama, Komi, Ôhara, Sonai), Hatoma-jima.

Distribution: Japan (all the islands-subsp. bruckii), Ryukyus (Nakano-shima, Takara-jima, Amami-Ôshima, Yoron-jima*, Tokuno-shina*, Okinoerabu-jima, Okinawa,

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Miyako-jima*, Ishigaki-jima*, Iriomote-jima, Hatoma-jima), Formosa, widely distributed in the Palaearctic and the Oriental regions.

43. Harmonia octomaculata (Fabricius, 1781) ヤホシテントウ

Specimens examined: 24 examples from the following localities: Amami-Ôshima (Nishinakama, Nase, Yuwan, Akagina, Shinmura), Okinawa (Shoshi, Izumi-Gogayama), Ishigaki-jima (Yoshihara, Tôro-gawa).

Distribution: Japan (Kyushu?, Koshiki-jima, Yakushima, Tsushima), Ryukyus (Takara-jima, Amami-Ôshima, Okinawa, Ishigaki-jima), Formosa, China, Philippines, India.

44. Harmonia axyridis (Pallas, 1773) テントウムシ

Specimens examined: 50 examples from the following localities: Amami-Ôshima (Urakami, Nase, Yuwan, Man'ya-suno), Tokuno-shima (Kametsu), Okinoerabu-jima, Okinawa (Izumi, Shuri, Gogayama, Kudeken, Nago, Naha), Miyako-jima (Ônogoshi), Ishigaki-jima (Mt. Banna, Yoshihara, Ishigaki, Nagura, Yoshino-kabira), Iriomote-jima (Ôhara).

Distribution: Japan (all the islands), Ryukyus (Nakano-shima, Takara-jima, Amami-Ôshima, Tokuno-shima*, Okinoerabu-jima, Okinawa, Ishigaki-jima*, Iriomote-jima, Miyako-jima*), Formosa, China, Siberia.

45. Eocaria parvinotata M. Miyatake, 1959 アマミシロホシテントウ(新称) Specimen examined: Amami-Ôshima (Sumiyô, 25. v. 1957, M. Umebayashi leg.). Distribution: Ryukyus (Amami-Ôshima).

46. Propylaea japonica (Thunberg, 1781) ヒメカメノコテントウ

Specimens examined: 128 examples from the following localities: Amami-Ôshima (Nishinakama, Koshuku, Nase, Urakami), Tokuno-shima (Omo), Okinoerabu-jima (Ôyama, Wadomari), Okinawa (Shoshi, Shuri, Naha, Chinen, Izumi, Nago), Miyako-jima (Shimosato, Hisamatsu, Shimoji), Ishigaki-jima (Mt. Banna, Omoto-san, Ôhama, Shinkawa, Kaara-yama, Yonehara, Tôrogawa, Ishigaki, Yoshino-kabira), Iriomote-jima (Urauchi-gawa, Shirahama, Komi, Ôhara).

Distribution: Japan (all the Islands), Ryukyus (Nakanoshima, Amami-Öshima, Tokuno-shima*, Okinoerabu-jima, Okinawa, Miyako-jima*, Ishigaki-jima, Iriomote-jima), Formosa, China, Siberia.

Tribe Psylloborini

47a. Illeis koebelei koebelei Timberlake 1943 キイロテントウ

Specimens examined: 14 examples from the following localities: Iriomote-jima (Ô-hara-Komi, Shirahama), Ishigaki-jima (Tôro-gawa, Kaara-yama, Ishigaki-Nagura).

Distribution: Japan (Honshu, Shikoku, Kyushu, Yakushima), Ryukyus (Nakanoshima, Ishigaki-jima, Iriomote-jima), Formosa, China.

47b. Illeis koebelei amamiana M. Miyatake, 1959

Specimens examined: 61 examples from the following localities: Amami-Ôshima (Kominato, Yamma.), Okinawa (Yona, Izumi, Nago, Shoshi, Hijigawa, Gagayama). Distribution: Ryukyus (Amami-Ôshima, Okinawa).

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Appendix

Following three species have been recorded from the Ryukyu Islands, south of Amami-Oshima, in addition to the above forty-seven species.

48. Horniolus amamensis M. Miyatake, 1963

Distribution: Ryukyus (Amami-Ôshima...type locality).

49. Epilachna sauteri (Weise, 1923)

Distribution: Ryukyus (Okinawa...Li & Cook, 1961), Formosa.

50. Callicaria superba (Mulsant, 1850)

Distribution: Japan (Honshu, Shikoku, Kyushu), Ryukyus (Mader, 1934, etc.), Formosa, India. "Ryukyus" was cited as a locality of the distribution of this species by various authors without any detailed data.

In their list, Yashiro et al. (1959) recorded eighteen Coccinellid species including Adonia maculata Matsumura (nomen nudum!), Coelophora inaequalis Fabricius, Chilomenes maculata Fabricius (nomen nudum!) and Coelophora saucia Mulsant. But their identification may be very doubtful.

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要

本報は、日米科学協力研究の一部として行なわれた1963、64年の琉球列島昆虫相調査に よつて得られた標本及び九州大学農学部昆虫学教室所蔵標本を主体とし, これに, 多くの 方々の御好意によつて見ることの出来たものを加えて、 琉球列島(奄美群島以南) のテン トウムシ類 47 種を取扱つたものである. その中には次の 10 新種, 1 新亜種, 2 琉球列島新 記録種を含む.

Rodolia concolor (Lewis) アカイロテントウ (新記録), Axinoscymnus nigripennis H. Kamiya クロバネヒメテントウ (新種新称), Axinoscymnus rai H. Kamiya ライヒメテ ントウ (新種新称), Pseudoscymnus quinquepunctatus okinawanus H. Kamiya (新亜種), Scymnus (Nephus) tagiapatus H. Kamiya ニセセスジヒメテントウ (新種新称), Scymnus (Pullus) kimotoi H. Karniya キモトヒメテントウ (新種新称), Scymnus (Pullus) hatomensis H. Kamiya ハトマヒメテントウ (新種新称), Sticholotis morimotoi H. Kamiya モリ モトメツブテントウ (新種新称), Stictobura amabilis H. Kamiya ナナホシメツブテン トウ (新種新称), Sukunahikona bicolor H. Kamiya フタイロチビテントウ (新種新称), Serangium japonicum Chapin クロツヤテントウ (新記録), Serangium ruficolle H. Kamiya ムネアカツヤテントウ (新種新称), Serangium ryukyuense H. Kamiya リュウキュウツヤ テントウ (新種新称).

さらに、各種の産地として新らしく追加された島嶼は少なくないが、それはら星印(*) をもつて示した. これで、 琉球列島の奄美群島以南から記録されたテントウムシ類は、標 本を実見できなかつた3種を加えて、合計50種となつた。

Explanation of Plate 6

Outlines of the bodies. A-I: dorsal aspect, I': lateral aspect, left sides of A-C and E-H showing the direction of hairs. Each figure is drawn by the same magnifying scale.

A: Axinoscymnus nigripennis sp. nov.

B: Axinoscymnus rai sp. nov.

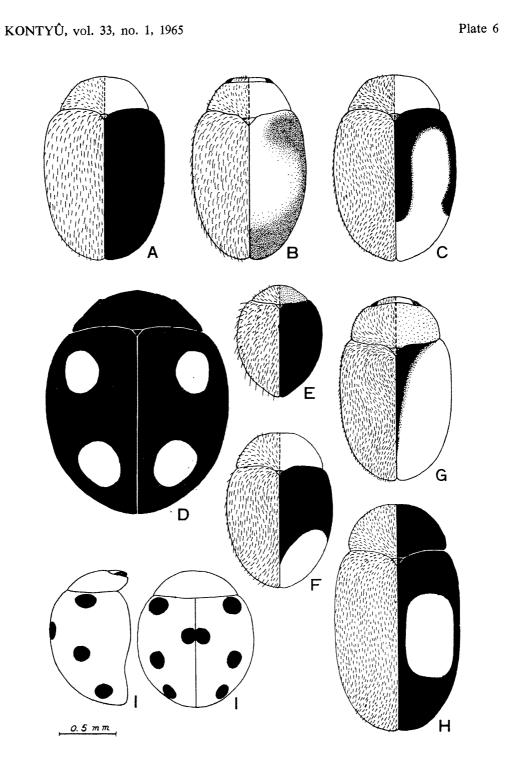
C: Scymnus (Pullus) kimotoi sp. nov.

D: Sticholotis morimotoi sp. nov.

E: Sukunahikona bicolor sp. nov.

F: Scymnus (Pullus) hatomensis sp. nov.
G: Scymnus (Nephus) tagiapatus sp. nov.
H: Scymnus (Nephus) patagiatus Weise
I: Stictobura amabilis sp. nov.

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Kamiya-Coccinellids of the Ryukyus.