

**Studies on the *Trichochrysea*-species of Japan, Ryukyu
Archipelago, Taiwan and Korea
(Coleoptera, Chrysomelidae, Eumolpinae)**

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Abstract Four new species, two, *Trichochrysea chihtuana* and *T. formosana* from Taiwan, one, *T. sakishimana* from Yaeyama group of Ryukyus, Japan, and one, *T. chejudoana* from Chejudo Is., South Korea, are described. The populations hitherto referred to *T. japana japana* (MOTSCHULSKY) and to *T. japana okinawana* NAKANE are separated into two species. One, *T. japana* (MOTSCHULSKY) is now restricted to Japan (Honshu and Tsushima Is.) and Korea, the other, *T. okinawana* NAKANE is separable into three subspecies, namely, *T. okinawana meridiojaponica* subsp. nov. from Japan (Shikoku and Kyushu), *T. okinawana okinawana* NAKANE from Japan (Yakushima Is., Ryukyus: Amami-Oshima, Tokunoshima and Okinawa-Honto Isds.) and *T. okinawana taiwana* subsp. nov. from Taiwan. A key to the species and subspecies of the genus within the area concerned is provided.

Introduction

Trichochrysea japana (MOTSCHULSKY) has been a sole representative of the genus in Japan, Ryukyu Archipelago, Taiwan and Korea. Upon closer examination of the specimens collected within the area, however, four new species are recognized, two from Taiwan, one from Southern Ryukyus and another one from Chejudo Is., South Korea. The Taiwanese and Ryukyuan populations have been separated as a subspecies of *T. japana*, but these are distinct from the Japanese one, consisting of a different group. Further, the population from Kyushu and Shikoku, which has been referred to *T. japana japana*, is also distinct from the latter, rather belongs to *T. okinawana* group. Thus the distribution of *T. japana* is restricted to Japan (Honshu and Tsushima Is.) and Korea. *T. okinawana* is distributed in Southern part of Japan, Northern Ryukyus and Taiwan and separated into three subspecies.

Description

Trichochrysea chihtuana Y. KOMIYA sp. nov. (Figs. 1 & 9)

Male. Body oblong, parallel-sided. General color greenish bronzy; mouth parts reddish brown with the apex of mandibles and the middle part of labrum more or less pitchy; antennae dark brown to pitchy with the underside of segments 1, 2 and 3, distal portion of segments 4 to 11 reddish; legs pitchy black with femora greenish bronzy; claws reddish.

Head thickly covered with long erect and short semi-erect hairs, strongly rugose-

punctate throughout except supra-antennal elevations and an ill-defined raised area on the middle of clypeus, with interstices shining and finely granulated; clypeus hardly delimited from the behind, flat with the anterior margin semi-arcuately emarginated; frons almost flat with a shallow depression in the middle. Eyes prominent with short erect hairs on their posterior halves. Antennae slightly longer than half of the length of body, 1st segment strongly incrassate and curved, covered sparsely with long hairs on its dorsal side, 2nd subequal to 1st, slightly curved, 3rd almost equal to 2nd, 4th to 6th slender, 4th 1.5 times as long as 3rd, 5th distinctly shorter than the preceding segment, 6th subequal to 3rd, 7th to 11th somewhat thickened, each segment subequal to 4th except the terminal one, which is the longest, and the apex of which is bluntly pointed, from 2nd to 11th covered with short silvery hairs and with a few long hairs on their distal ends. Pronotum subquadrate, slightly wider than long; lateral margins completely ridged, widest at a little before the middle, slightly narrowed anteriorly and posteriorly; anterior and posterior corners angulated with a setigerous pore; basal margin narrowly but distinctly bordered, slightly sinuated near the middle; dorsum evenly convex, thickly covered with long dark and short silvery yellowish hairs, strongly rugose-punctate throughout with a small ill-defined tubercle on each side near the anterior corner, interstices distinctly shagreened except near extremely anterior margin. Scutellum pentagonal, rugosely granulated, covered thickly with short silvery hairs. Elytra elongate-quadrate, subparallel-sided, gently rounded near apex, much wider at base than prothorax; dorsum convex with a shallow depression behind scutellum and another one on each side behind humerus, thickly covered with long erect and short semi-erect hairs, strongly and thickly punctate, with interstices shining; humeral calli prominent. Elytral epipleurae gradually narrowed apically, finely reticulate-granulate, covered with long pale yellowish hairs. Underside finely punctate with prosternum, episterna, epimerons and lateral part of each abdominal sternite somewhat rugose. Legs stout, femora armed with a small denticle on their underside beyond the middle; mesotibiae emarginated on the outer side near the distal end. Claws bifid.

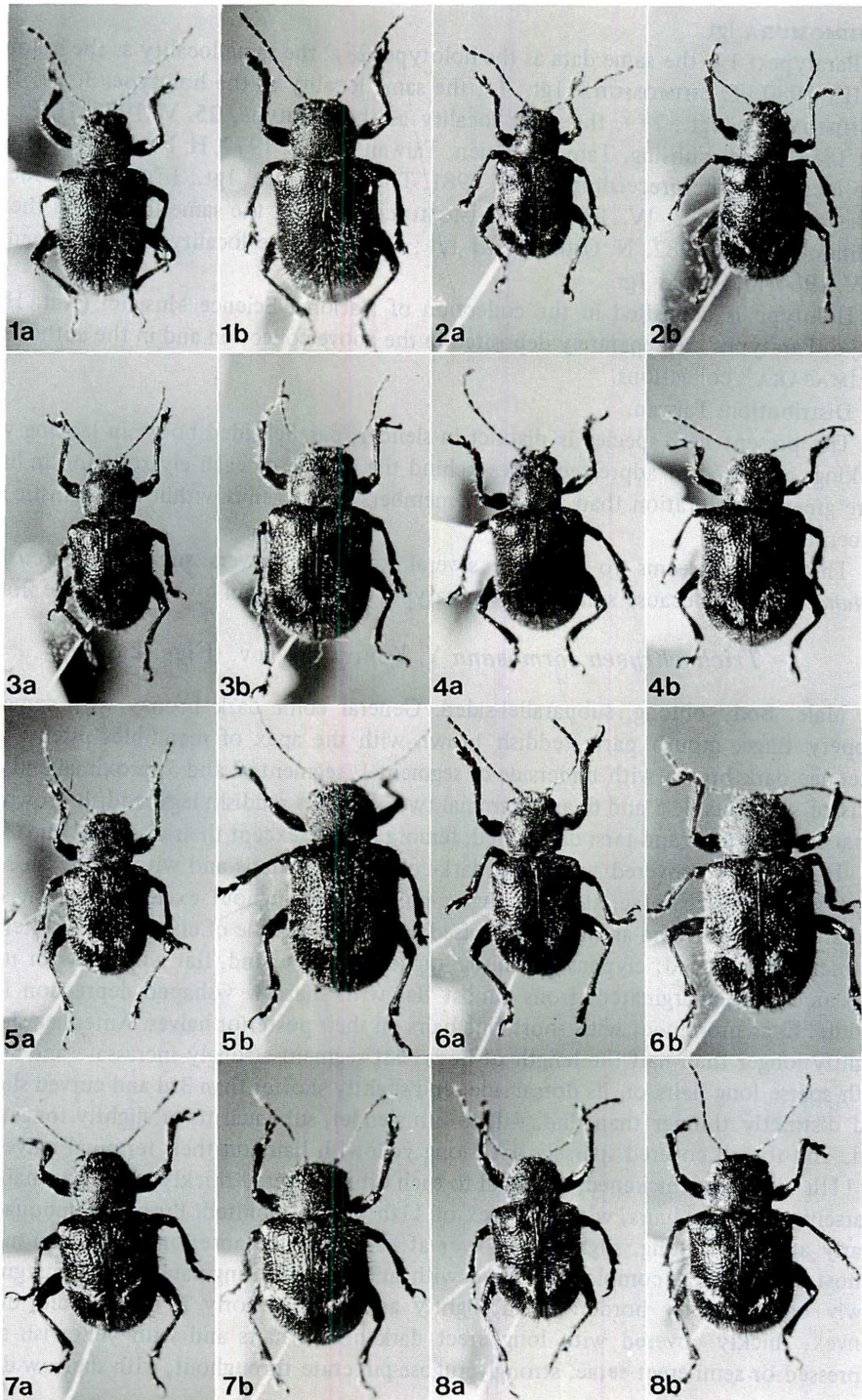
Female. Body is larger and wider, pro- and mesosterna are wider than male.

Color variation: general color is greenish bronzy, but varies from strongly greenish to somewhat violaceous bronzy, sometimes pronotum and elytra are different in color. A distal few segments of antennae are almost totally reddish in some specimens.

Length: ♂, 6.3 – 6.7 mm; ♀, 7.2 – 7.8 mm

Holotype: ♂, near Chihtuan (ca. 1,000 m alt.), Ilan Hsien, Taiwan, 15. IV. 1980,

Figs. 1–8. *Trichochrysea* spp. — 1a, *T. chihtuana* sp. nov., male (holotype); 1b, ditto, female (paratype); 2a, *T. formosana* sp. nov., male (holotype); 2b, ditto, female (paratype); 3a, *T. sakishimana* sp. nov., male (holotype); 3b, ditto, female (paratype); 4a, *T. chejudoana* sp. nov., male (holotype); 4b, ditto, female (paratype); 5a, *T. okinawana taiwana* subsp. nov., male (holotype); 5b, ditto, female (paratype); 6a, *T. okinawana okinawana* NAKANE, male (specimen from Okinawa-Honto Is.); 6b, female (specimen from Amami-Oshima Is.); 7a, *T. okinawana meridiojaponica* subsp. nov., male (holotype); 7b, ditto, female (paratype); 8a, *T. japana* (MOTSCHULSKY), male (specimen from Saitama-Ken, Honshu); 8b, ditto, female (specimen from Tsushima Is.).



T. SHIMOMURA lgt.

Paratypes: 1♂, the same data as the holotype; 2♂♂, the same locality as the holotype, 29. III. 1980, T. SHIMOMURA lgt.; 1♂, the same locality as the holotype, 3. IV. 1982, T. SHIMOMURA lgt.; 2♀♀, the same locality as the holotype, 25. V. 1977, H. FUJITA lgt.; 1♀, Hsileng, Fuhsing, Taoyuan Hsien, Taiwan, 25. V. 1977, H. FUJITA lgt.; 1♂, the same locality as the preceding, 2. IV. 1981, T. SHIMOMURA lgt.; 1♂, the same locality as the precedings, 2. IV. 1982, T. SHIMOMURA lgt.; 1♀, the same locality as the precedings, 26. IV. 1982, N. OHBAYASHI lgt.; 2♀♀, the same locality as the precedings, 15. V. 1984. M. SAWAI lgt.

Holotype is deposited in the collection of National Science Museum (Nat. Hist.), Tokyo. Paratypes are separately deposited in the above collection and in the author's and Mr. IMASAKA's collections.

Distribution. Taiwan.

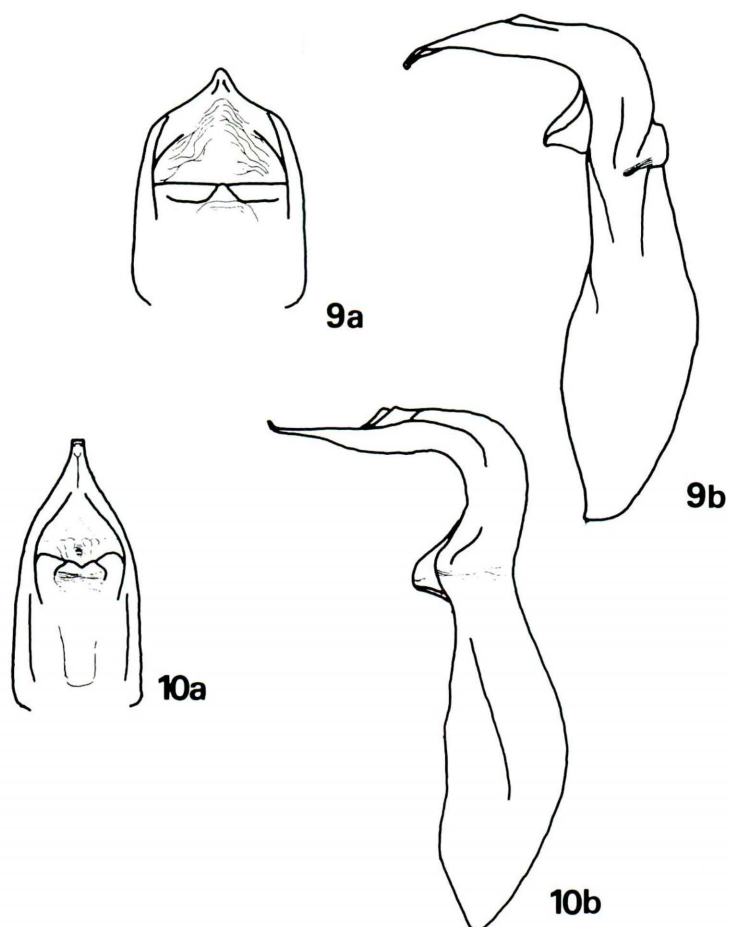
The present new species is distinct in slender, parallel-sided body, in lacking white markings consisted of adpressed scales behind the middle of each elytron, and in having more greenish coloration than any other members of the genus within the faunistic areas concerned.

This species seems to frequent several kinds of flowers such as *Quercus* and *Castanopsis spp.*, because some of the paratypes were obtained by beating those flowers.

Trichochrysea formosana Y. KOMIYA sp. nov. (Figs. 2 & 10)

Male. Body oblong, subparallel-sided. General color dark bronzy with somewhat coppery tinge; mouth parts reddish brown with the apex of mandibles pitchy black; antennae dark brown with underside of segment 1, segments 2 and 3, proximal and distal parts of segments 4, 5 and 6, and terminal two segments reddish; legs reddish brown with distal ends of tibiae and tarsi darkened, femora bronzy except their proximal ends.

Head thickly covered with long dark-colored erect hairs and with yellowish silvery adpressed scale-like setae, strongly rugose-punctate throughout except triangular supra-antennal elevations and an ill-defined raised area in the middle of clypeus, with interstices distinctly shagreened; clypeus delimited vaguely from behind, flat with anterior margin semi-arcuately emarginated; frons almost flat with shallow v-shaped depression in the middle. Eyes prominent with short fine hairs on their posterior halves. Antennae slender, slightly longer than half the length of body, 1st segment strongly incrassate and curved, with sparse long hairs on its dorsal side, 2nd slightly shorter than 3rd and curved slightly, 3rd distinctly thinner than 2nd, 4th to 6th slender, subequal to or slightly longer than 3rd, 2nd to 6th covered sparsely with long yellowish hairs on their terminal halves, 7th to 11th distinctly thickened, subequal to each other, covered thickly with short hairs and sparsely with long hairs, with the apex of 11th bluntly pointed. Pronotum subquadrate, nearly as wide as long, slightly narrower at base than the anterior end; lateral margins almost straight and completely ridged with anterior ends angulated; basal margin narrowly but distinctly bordered and slightly arched posteriorly in the middle; dorsum convex, thickly covered with long erect dark brown hairs and with yellowish silvery adpressed or semi-erect setae, strongly rugose-punctate throughout, with shallow depres-



Figs. 9–10. Male genitalia of *Trichochrysea* spp. — 9, *T. chihtuana* sp. nov.; 10, *T. formosana* sp. nov. a, dorsal view of apical part; b, lateral view.

sions on the middle of each side near the lateral margin, and with a small tubercle on each side near the anterior angle; interstices distinctly shagreened throughout. Scutellum subquadrate, narrowed posteriorly, rugosely granulate, covered with short yellowish setae without long erect hairs. Elytra elongate-quadrate, subparallel-sided, gently rounded near apex, much wider at base than pronotum; dorsum convex, with a shallow depression behind scutellum, and with another one more laterally behind humerus, covered with long erect dark brown hairs and with yellowish white adpressed setae, the latter forming a well-defined semi-circular band behind the middle, strongly and thickly punctate, with interstices shining but finely punctulate; humeral calli prominent, nearly smooth and shining but sparsely punctulate. Elytral epipleurae gradually narrowed toward the apex, finely reticulate-granulate, with long erect yellowish white hairs. Underside densely

punctate, pro- and mesosterna and the last abdominal sternite rugose. Legs stout, femora armed with a denticle on their underside slightly beyond the middle, mesotibiae emarginated on their outer side near the distal end. Claws bifid.

Female. Body is larger, general color is more reddish, pro- and mesosterna are wider than male.

Color variation: dorsum is generally dark bronzy in male and more or less reddish coppery in female, but one male specimen from Mt. Fengkangshan is reddish coppery.

Length: ♂, 5.0 - 5.4 mm; ♀, 5.6 - 6.2 mm

Holotype: ♂, Meifeng-Sungkang, Jenai, Nantou Hsien, Taiwan, 19. IV. 1977, W. SUZUKI 1gt.

Paratypes: 2♂♂2♀♀, the same data as the holotype; 2♂♂, the same locality as the holotype, 27. IV. 1977, Y. KOMIYA 1gt.; 1♂, the same locality as the holotype, 4. V. 1978, Y. KOMIYA 1gt.; 1♀, Tseifeng, Jenai, Nantou Hsien, Taiwan, 1. V. 1977, Y. KOMIYA 1gt.; 2♂♂, Mt. Fengkangshan, Liukuei, Kaohsiung Hsien, Taiwan, 19. III. 1980, T. NIISATO 1gt.; 1♀, Shenmu, Pulu, Hwalien Hsien, Taiwan, 7. V. 1977, S. SAITO 1gt.; 1♀, the same locality as the preceding, 13. V. 1978, M. ITO 1gt.; 3♂♂1♀, the same locality as the precedings, 28-29. V. 1980, M. ITO 1gt.; 2♂♂2♀♀, the same locality as the precedings, 9-11, VI. 1980, M ITO 1gt.; 2♂♂, Mt. Alishan, Chiayi Hsien, Taiwan, 22. IV. 1975, S. IMASAKA 1gt.; 1♂, the same locality as the precedings, 24. III. 1982. T. SHIMOMURA 1gt.

Holotype is deposited in the collection of National Science Museum (Nat. Hist.), Tokyo. Paratypes are separately deposited in the above collection and in the author's and Mr. Imasaka's collections.

Distribution. Taiwan.

The present new species is closely allied to *T. sakishimana* sp. nov., *T. okinawana taiwana* subsp. nov. and *T. okinawana okinawana* NAKANE, but may be separable from them by smaller body length, entirely shagreened pronotal structure and more elongated pronotal shape.

Trichochrysea sakishimana Y. KOMIYA sp. nov. (Figs. 11, 18b & 20a)

Trichochrysea japana okinawana: KIMOTO & GRESSITT, 1966, Pac. Ins., 8(2), 509-510. (Ryukyu: Amami-Oshima, Okinawa, Ishigaki; Taiwan.) (in parts).

Male. Body oblong, subparallel-sided. General dark bronzy with somewhat greenish tinge; mouth parts reddish or yellowish brown with the apex of mandibles pitchy black; antennae dark brown with basal 3 segments, distal portion of each segment beyond 3rd reddish; legs reddish brown with distal end of tibiae and tarsi darkened, and with distal two thirds of femora coppery. Claws reddish.

Head thickly covered with long erect yellowish silvery and short semi-erect yellowish silvery hairs, the latter being prominent in frons and vertex; clypeus vaguely delimited from behind, well limited laterally with triangular supra-antennal elevations and ridges from them to gena, with anterior margin semi-arcuately emarginated, strongly rugose-punctate except supra-antennal elevations and anterior marginal area, the surfaces of

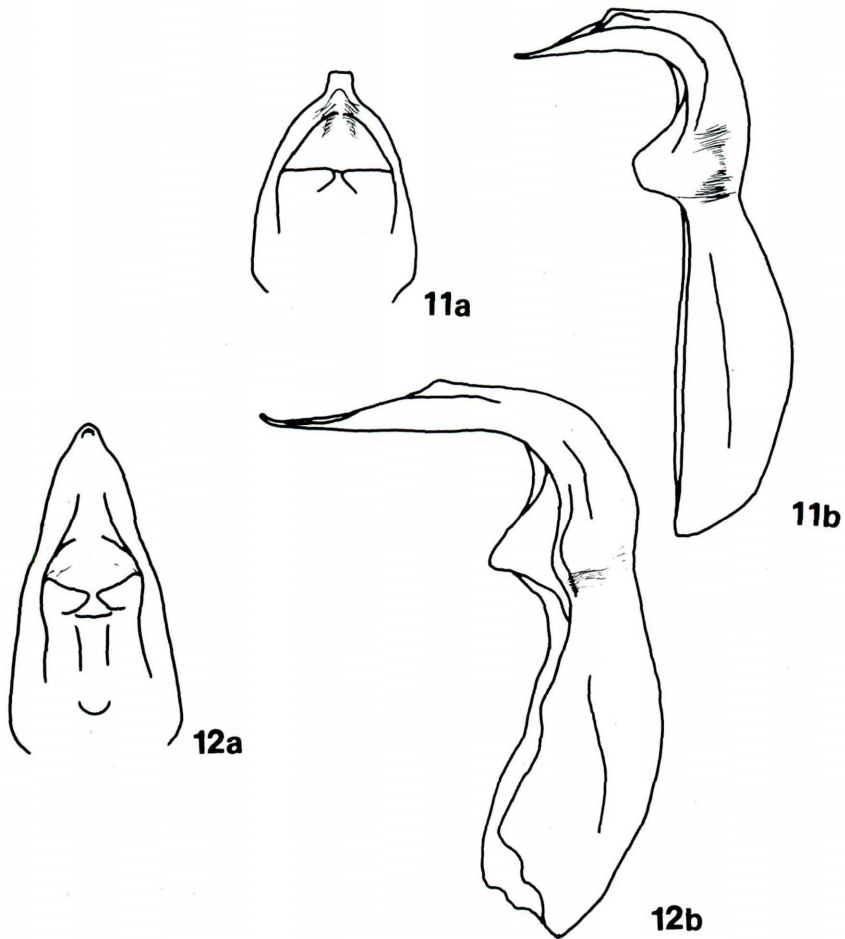
which are smooth and shining, interstices of punctures finely reticulate and shining. Frons strongly rugose-punctate except ill-defined longitudinal raised area in the middle, which is interrupted in two parts by a small depression, interstices distinctly shagreened. Eyes prominent with short silvery hairs in their posterior halves. Antennae slender, slightly longer than half the length of body, 1st segment strongly incrassate and curved with sparse long yellowish silvery hairs on the dorsal side, 2nd distinctly shorter than 1st and 3rd, curved slightly, 3rd to 6th thinner than 2nd, subequal to each other, covered with long and thickly with short yellowish hairs, 7th to 10th distinctly thickened, slightly longer than the precedings, almost subequal to each other, covered thickly with short yellowish hairs and with a few long erect hairs, 11th longer than 10th, distinctly thickened with bluntly pointed apex. Pronotum subquadrate, distinctly wider than long; lateral margins completely ridged, slightly widened anteriorly from the base to the middle, then almost parallel-sided until the widest point near the front corners, which are obliquely truncated, with a large setigerous pore on each medial corner; posterior corners distinctly angulated with a setigerous pore; posterior margin narrowly but distinctly bordered and slightly arched posteriorly in the middle; dorsum convex, thickly covered with long erect dark-colored hairs and with shorter semi-erect yellowish silvery setae, strongly rugose-punctate, with a shallow depression on the middle of each side, and with a small tubercle on each side near anterior margin. Scutellum quadrate, almost parallel-sided, slightly convex posteriorly, rugosely punctate-granulated, thickly covered with short yellowish silvery setae without long erect hairs. Elytra elongate-quadrate, subparallel-sided, gently rounded near apex, much wider at base than pronotum, with apical angle of each elytron less than 90° ; dorsum convex with a shallow depression behind scutellum, and another ones more laterally behind humeral calli, covered with long erect dark brown hairs and with short adpressed or semi-erect yellowish silvery hairs, the latter forming a well-defined transverse band near the middle, and ill-defined subtriangular patches near the apex; humeral calli prominent, nearly smooth and shining. Elytral epipleurae gradually narrowed toward apex, finely granulated, covered with erect yellowish silvery hairs. Underside densely punctate, and covered with fine yellowish hairs, with anterior part of mesosternum and posterior portion of each abdominal sternite nearly smooth and shining. Legs stout, femora armed with a denticle on their underside slightly beyond the middle; mesotibiae emarginated on their outer side near the distal end. Claws bifid.

Female. Body is larger, general color is more reddish and pro- and mesosterna are much wider than male.

Length: ♂, 5.3 – 5.9 mm; ♀, 6.4 – 7.1 mm.

Holotype: ♂, Omoto, Ishigakijima Is., Ryukyu, Japan, 26. IV. 1980, S. KASAHARA 1gt.

Paratypes: 1♀, the same data as the holotype; 1♀, Arakawa, Ishigakijima Is., Ryukyu, Japan, 11. VI. 1975, S. IMASAKA 1gt.; 1♀, Mt. Omotodake, Ishigakijima Is., Ryukyu, Japan, 5. V. 1963, Y. ARITA 1gt.; 1♂, the same locality as the preceding, 18. VI. 1965, K. HATTA 1gt.; 1♂, the same locality as the precedings, 5. IV. 1973, A. SAKAI 1gt.; 1♂2♀, the same locality as the precedings, 10. IV. 1974, O. YAMAJI 1gt.; 1♂2♀, the



Figs. 11-12. Male genitalia of *Trichochoysea* spp. - 11, *T. sakishimana* sp. nov.; 12, *T. chejudoana* sp. nov. a, dorsal view of apical part; b, lateral view.

same locality as the precedings, 3. VII. 1974, H. TAKIZAWA 1gt.; 2♂♂, the same locality as the precedings, 13-15. V. 1975, Y. NOTSU 1gt.; 2♂♂, Mt. Bannadake, Ishigakijima Is. Ryukyu, Japan, 21. V. 1974. T. NAKANE 1gt.; 2♂♂3♀♀, the same locality as the precedings, 11-12. V. 1975, Y. NOTSU 1gt.; 1♀, Ohtomi, Iriomotejima Is., Ryukyu, Japan, 24. V. 1977, J. OKUMA 1gt.; 1♀, Kampira-daki, Iriomotejima Is., Ryukyu, Japan. 5. IV. 1974, T. MIKAGE 1gt.

Holo- and paratypes are separately deposited in the collection of National Science Museum (Nat. Hist.), Tokyo, in that of Ehime University, in the author's, Dr. Takizawa's and Mr. Imasaka's collections.

Distribution. Japan (Ishigakijima and Iriomotejima Isds.).

The present new species is closely allied to *T. okinawana okinawana* NAKANE from

northern Ryukyu Archipelago, but easily distinguished from it by the apical angle of elytron being less than 90° , the shape of anterior corner of pronotum and the different shape of male genitalia.

Trichochrysea chejudoana Y. KOMIYA sp. nov. (Figs. 4, 12, 18a & 19a)

Male. Body oblong, subparallel-sided. General color dark bronzy with violaceous tinge; mouth parts dark reddish brown; antennae reddish brown with the middle segments darkened; legs reddish brown with distal end of tibiae and tarsi pitchy; femora somewhat bronzy with proximal portion reddish brown.

Head thickly covered with long erect hairs, strongly rugose-punctate throughout except supra-antennal elevations, interstices finely reticulate and shining; terminal segment of maxillary and labial palpi distinctly thickened and widely truncated apically; clypeus vaguely delimited from behind, but well limited laterally by supra-antennal elevations and curved ridges from them to gena, with anterior margin arcuately emarginated; frons flat with an ill-defined fovea in the middle. Eyes prominent with short erect hairs on their posterior halves. Antennae slender, a little longer than half the length of body, 1st segment strongly thickened and curved with sparse long hairs on its dorsal side, 2nd almost equal to 1st and slightly curved with sparse long hairs, 3rd slightly longer and more slender than 2nd, 4th 1.5 times as long as 3rd, 5th a little shorter than 4th, 6th distinctly shorter than the preceding, 7th to 11th clearly thickened, 7th and 11th being the longest, other segments subequal to each other, covered with short hairs with a few long erect hairs on their distal end, the apex of 11th segment bluntly pointed. Pronotum quadrate, almost as wide as long, widest at the anterior corner which is obliquely truncated with a setigerous pore on the medial corner; side gradually narrowed posteriorly, forming an angulated posterior corner with a setigerous pore, lateral margin completely ridged; basal margin distinctly bordered, and clearly sinuated at the both sides near the middle; dorsum convex with a triangular flat area on the center before the middle, covered with dark erect and short yellowish semi-erect hairs, strongly rugose-punctate, interstices shining and finely reticulate in part, with a small tubercle on each side near the anterior corner. Scutellum escutcheon-shaped, gradually narrowed posteriorly, distinctly granulated, thickly covered with short silvery yellowish hairs. Elytra elongate-quadrate, subparallel-sided, gently rounded toward the apex, much wider at base than the prothorax; dorsum convex with a shallow depression behind scutellum which continues to another shallow depression on each side behind humerus leaving an elevated area between scutellum and humeral callus, covered thickly with long erect and short semi-erect silvery yellowish setae, the latter partly adpressed forming a well defined band a little behind the middle and an apical triangular patch; lateral margin feebly emarginated near the apex. Elytral epipleurae gradually narrowed posteriorly, punctate with erect hairs. Underside rugose-punctate, covered with pale yellowish hairs. Legs stout; femora armed with a small denticle on their underside beyond the middle; mesotibiae emarginated on their outer side near the distal end. Claws bifid.

Female. Body is larger and wider than male. Terminal segment of maxillary and labial palpi are not thickened, but slender and very narrowly truncated apically. Pro- and meso-

sterna are wider than male.

Color variation: general color is dark bronzy but pronotum has frequently greenish tinge and elytra more violaceous shimmer especially in female.

Holotype: ♂, West slope of Mt. Hal-la San (ca. 1,000 m alt.), Chejudo Is. South Korea.

Paratypes: 11♂♂4♀♀, the same data as the holotype.

Holotype is deposited in the collection of National Science Museum (Nat. Hist.), Tokyo. Paratypes are deposited in the above and in the author's collections.

Distribution. Korea (Chejudo Is.).

This new species is closely allied to *T. japana* MOTSCHULSKY from Japan, but may be separated by a truncated anterior corner of pronotum, feebly but distinctly emerginated apical margin of elytron and different shape of male genitalia.

Trichochrysea okinawana taiwana Y. KOMIYA subsp. nov.

(Figs. 5, 13 & 19b)

Heteraspis japana, MIWA: 1931, Syst. Cat. Formosan Col., 186 (Formosa).

Trichochrysea japana: YUASA, 1932, in Icon. Ins. Japonicorum, 602, fig.

1177 (N. China, Korea, Japan and Formosa). — CHUJO, 1956, Philip. J. Sci., 85(1), 85-87 (Japan, Formosa, Korea and China). (in parts).

Trichochrysea japana okinawana NAKANE, 1956, Sci. Rep. Saikyo Univ.

(Nat. Sci. & Liv. Sci.), 2(3), A171, pl.2, fig. 35 (Okinawa, Amami-Oshima, Formosa). — KIMOTO, 1964, Kyushu Univ. J. Fac. Agr., 13(2), 252 (Ryukyu Is., Taiwan). — KIMOTO & GRESSITT, 1966, Pac. Ins., 8(2), 509 (Ryukyu, Taiwan). — KIMOTO, 1969, Esakia, 7, 18 (Taiwan, Ryukyu Is.). (in parts)

This new subspecies is separated from *T. okinawana okinawana* NAKANE by having distinctly shagreened intersices of punctures at least in the basal part of pronotum and by more flat and parallel-sided apical portion of aedeagus.

Length: ♂, 5.5-6.5 mm; ♀, 6.4-7.6 mm.

Holotype: ♀, Shanping, Liukuei, Kaohsiung Hsien, Taiwan, 28. IV. 1978, Y. KOMIYA 1gt.

Paratypes: 1♂1♀, Nanshanchi, Jenai, Nantou Hsien, Taiwan, 2. V. 1978, Y. KOMIYA 1gt.; 1♂ the same locality as thepreceedings, 7. V. 1977, Y. KOMIYA 1gt.; 1♂2♀♀, Wushe, Jenai, Nantou Hsien, Taiwan, 10. V. 1977, H. FUJITA 1gt.; 1♂, Sungkang, Jenai, Nantou Hsien, Taiwan, 9. V. 1978, M. ITO 1gt.; 2♀♀, Tseyfeng, Jenai, Nantou Hsien, Taiwan, 1. V. 1977, Y. KOMIYA 1gt.; 1♂1♀, Lienhwachi, Yuchi, Nantou Hsien, Taiwan, 12. V. 1975, K. AKIYAMA 1gt.; 6♂♂2♀♀, Tehwashe, Jiuyuehtan, Nantou Hsien, Taiwan, 3. V. 1977, Y. KOMIYA 1gt.; 1♂1♀, Liukuei, Kaohsiung Hsien, Taiwan, 13. V. 1977, W. L. CHEN 1gt., 1♀, the same data as the holotype; 1♂2♀♀, Mt. Nanfengshan, Kaohsiung Hsien, Taiwan, 28. IV. 1981, S. TSUYUKI 1gt.; 1♂1♀, Shihtoushan, Miaoli Hsien, Taiwan, 3. VI. 1976, J. OKUMA 1gt.; 1♀, Urai, Taipei Hsien, Taiwan, 1. VI. 1976, J. OKUMA 1gt.; 2♂♂1♀, Shenmu, Pulu, Hwalien Hsien, Taiwan, 28. V. 12. VI. 1980, M. ITO 1gt.; 1♂1♀, Hsileng, Fuhsing, Taoyuan Hsien, Taiwan, 17. V. 1984, Y. KOMIYA 1gt.

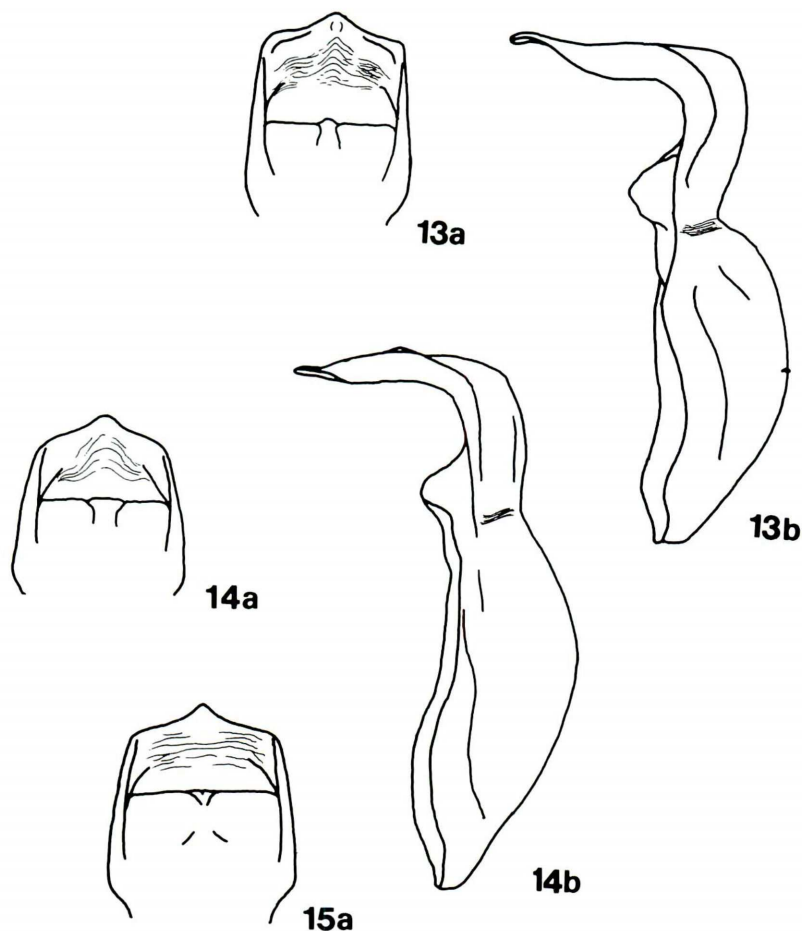
Holotype is deposited in the collection of National Science Museum (Nat. Hist.),

Tokyo. Paratypes are separately deposited in the above and in the author's collections.
Distribution. Taiwan.

Trichochrysea okinawana okinawana NAKANE 1956, stat nov.

(Figs. 6, 14 & 20b)

Trichochrysea japana okinawa NAKANE, 1956, Sci. Rep. Saikyo Univ. (Nat. Sci & Liv. Sci.) 2(3), 41, pl. 2, fig. 35 (Okinawa, Amami-Oshima, Formosa), — KIMOTO, 1964, J. Fact. Agr., Kyushu Univ., 13(2), 252 (Ryukyu Is., Taiwan). — KIMOTO & GRESSITT, 1966, Pac. Ins., 8(2), 509-510 (Ryukyu, Taiwan). — KIMOTO, 1969, Esakia, 7, 18 (Taiwan, Ryukyu Is.). (in parts).



Figs. 13–15. Male genitalia of *Trichochrysea* spp. — 13, *T. okinawana taiwana* subsp. nov.; 14, *T. okinawana okinawana* NAKANE; 15, *T. okinawana meridio japonica* subsp. nov. a, dorsal view of apical part; b, lateral view.

Distribution. Japan (Ryukyu Isds.; Amami-Oshima, Tokunoshima* and Okinawa-Honto Isds.: Yakushima Is.).

Specimens examined. Yakushima; 1♂, Shratani, 22. VII. 1975, H. AKIYAMA 1gt.: Amami-Oshima; 11♂♂25♀♀, from the following localities, Ukenon, Uken Super-Rindo, Kofukujigawa-Rindo, Yuwangama-Rindo, Ongachi-Rindo, Hatsuno, Yamatohama, Mt. Yuwandake and Yanma.: Tokunoshima; 1♂, Kametoku, 20. IV. 1976, J. OKUMA 1gt.: Okinawa-Honto; 16♂♂13♀♀, from the following localities, Yona, Oku, Hentono, Mt. Yonahadake and Mt. Yaedake.

Trichochrysea okinawana meridiojaponica Y. KOMIYA subsp. nov.

(Figs. 7, 15 & 21b)

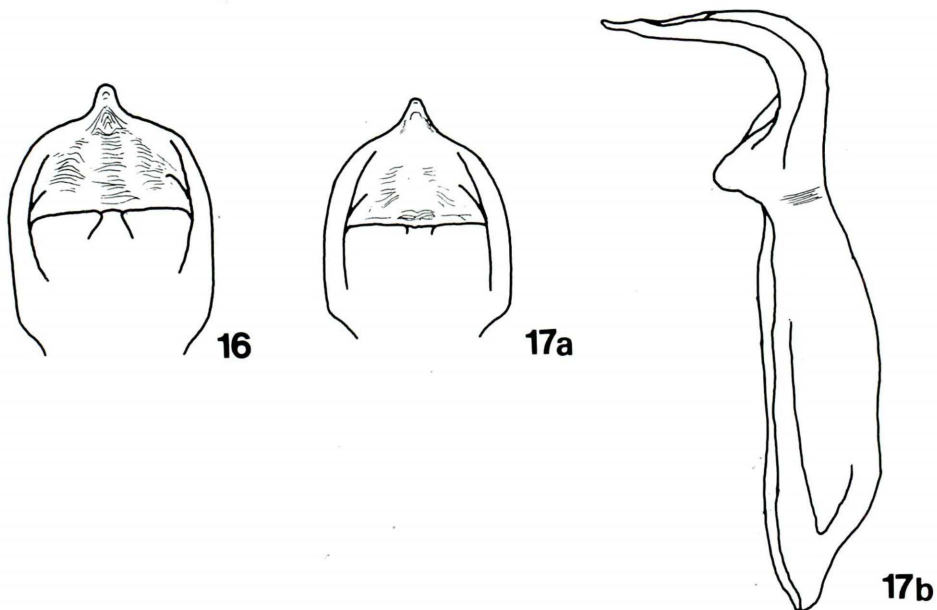
Trichochrysea japana: CHUJO, 1956, Philip. J. Sci., 85(1), 85 (Japan, Formosa, Korea, China). – GRESSITT & KIMOTO, 1961, Pac. Ins. Monogr. 1A, 246, fig. 61b (Japan, S. China). (in parts).

Trichochrysea japana japana, KIMOTO, 1964, J. Fac. Agr., Kyushu Univ., 13(2), 252 (China, Korea, Japan). – KIMOTO & GRESSITT, 1966, Pac. Ins., 8(2), 510 (China, Korea, Japan). (in parts).

This new subspecies is separable from the nominotypical one by its strongly reddish coloration.

Length: ♂, 5.7–6.4 mm; ♀, 6.9–7.7 mm.

Holotype. ♂, Hohi, Oita-Ken, Kyushu, Japan, 26. V. 1983, K. ISHIZUKA 1gt.



Figs. 16–17. Male genitalia of *Trichochrysea japana* (MOTSCHULSKY) – 16, specimen from Tsushima Is.; 17, specimen from Saitama-Ken. a, dorsal view of apical part; b, lateral view.

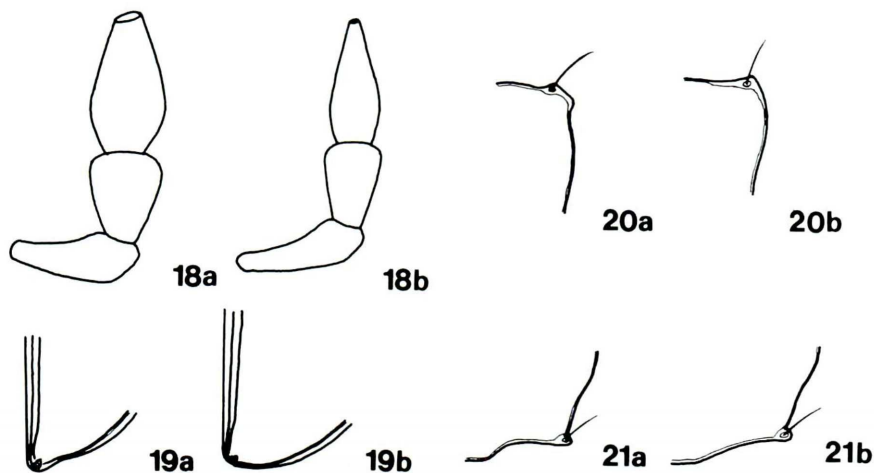


Fig. 18. Right maxillary palpus of male – a, *Trichochrysea chejudoana* sp. nov.; b, *T. sakishimana* sp. nov. Fig. 19. Apex of right elytron – a, *T. chejudoana* sp. nov.; b, *T. okinawana taiwana* subsp. nov. Fig. 20. Right anterior pronotal corner – a, *T. sakishimana* sp. nov.; b, *T. okinawana okinawana* NAKANE. Fig. 21. Right half of pronotal basal margin – a, *T. japana* (MOTSCHULSKY); b, *T. okinawana meridio-japonica* subsp. nov.

Paratypes. 1♂4♀♀, the same data as the holotype; 1♀, Mt. Kuju, Oita-Ken, Kyushu, Japan, 27. III. 1970, M. NODA 1gt.; 1♂3♀♀, Mt. Kurinodake, Kagoshima-Ken, Kyushu, Japan, 21. V. 1965, Y. KOMIYA 1gt.; 1♂1♀, Senbuki, Shimabara-Shi, Nagasaki-Ken, Kyushu, Japan, 27. V. 1976, S. IMASAKA 1gt.; 1♂, Kamikoba, Shimabara-Shi, Nagasaki-Ken, Kyushu, Japan, 22. IV. 1976, S. IMASAKA 1gt.; 1♂, Mt. Hikosan, Fukuoka-Ken, Kyushu, Japan, 3. V. 1971, S. OGATA 1gt.; 1♀, Mt. Hitsuzan, Kochi-Shi, Shikoku, Japan, 25. V. 1975, S. HISAMATSU 1gt.; 1♀, the same locality as the preceding, 20. VI. 1976, S. HISAMATSU 1gt.; 1♂, Mt. Saragamine, Ehime-Ken, Shikoku, Japan, 23. V. 1968, K. HATTA & Y. HORI 1gt.; 2♂♂, Komenono, Matsuyama-Shi, Ehime-Ken, Shikoku, Japan, 5. V. 1976, N. YASHIRO 1gt.; 2♀♀, Higashino, Matsuyama-Shi, Ehime-Ken, Shikoku, Japan, 15. V. 1979, Y. TAGAWA 1gt.; 1♂1♀, Namegawa, Tanbara-Cho, Ehime-Ken, Shikoku, Japan, 13. V. 1979, Y. SEIYAMA 1gt.

Holotype is deposited in the collection of National Science Museum (Nat. Hist.), Tokyo. Paratypes are deposited in the above and in that of Ehime University, in the author's and Mr. Imasaka's collections.

Distribution. Japan (Kyushu and Shikoku).

Trichochrysea japana (MOTSCHULSKY, 1857)

Heteraspis japana MOTSCHULSKY, 1857, *Etud. ent.*, 6, 37 (Japan).

Trichochrysea japana, CHEN, 1935, *Sinensia*, 6(3), 337, fig. 27 (China). –

CHUJO, 1956, *Philip. J. Sci.*, 85(1), 85 (Japan, Formosa, Korea, China).

– GRESSITT & KIMOTO, 1961, *Pac. Ins. Monogr.*, 1A, 246, fig. 61b

(Japan, S. China). (in parts).

Trichochrysea japana japana: KIMOTO, 1964, J. Fac. Agr. Kyushu Univ., 13(2), 252 (China, Korea, Japan). — KIMOTO & GRESSITT, 1966, Pac. Ins., 8(2), 510 (China, Korea, Japan). (in parts).

Distribution. Japan (Honshu, Tsushima Is.), Korea and S. China?

Specimens examined. Japan; Honshu, 34♂♂26♀♀, from the following localities, Tochigi-Ken (Utsunomiya), Saitama-Ken (Yorii-Machi, Kamabuse-Toge, Ohtsuki-Toge, Misawa-Mura, Mt. Minoyama, Shomaru-Toge, Chihibu), Tokyo-To (Mt. Kariyose, Mt. Takao, Kiyose), Kanagawa-Ken (Yokohama, Hatano, Narasawa, Fukuzawa-Mura), Yamana-shi-Ken (Shoji-Ko), Shizuoka-Ken (Hamaishi), Kyoto-Fu (Mt. Tennozan, Sugi-Toge), Nara-Ken (Kasugayama, Hasedera), Osaka-Fu (Mt. Iwawaki, Nose-Myoken), Hyogo-Ken (Tochihara), Okayama-Ken (Mt. Kinosan, Tsuki, Mt. Gagyusan): Tsushima Is., 18♂ 20♀♀, from the following localities, Mt. Ariakeyama, Mt. Oboshiyama, Tsutsu, Tsutsuzaki, Mt. Taterayama, Uchiyama, Kamisaka, Himi, Metoro, Shitaru, and Izuhara: S. Korea; 1♀ Kwangnŭng, Kyōnggido, 1, VI. 1924, Y. HASEGAWA lgt.

T. japana has been recorded from Iki Is., a small island northern offshore from mainland Kyushu between Tsushima Is. It is interesting to examine which species occurs in this island. *T. japana* has also been reported to occur in S. China, but it seems to be a species belonging to *T. okinawana* group, as an extension of Taiwanese population. The taxonomic status of the southern Chinese population, however, remains to be investigated until enough materials are collected.

Key to the *Trichochrysea*-species and Subspecies of Japan, Ryukyu Archipelago, Taiwan and Korea

1. Shorter hairs of elytron erect, not forming a band behind the middle. Basal margin of pronotum feebly but distinctly sinuated with the median portion arched posteriorly. Body elongated. General color greenish bronzy with somewhat violaceous tinge in some specimens *T. chihtuana* sp. nov.
- Shorter hairs of elytron partly adpressed, forming a band behind the middle. 2.
2. Body smaller. Interstices of pronotal punctures shagreened throughout except extremely anterior margin. General color unicolorously dark bronzy with coppery tinge in some specimens *T. formosana* sp. nov.
- Body larger. Interstices of pronotal punctures shining and almost smooth or finely punctulate at least in anterior one forth 3.
3. Anterior corner of pronotum obliquely truncated. Apical angle of elytron less than 90° 4.
- Anterior corner of pronotum more or less angulated 5.
4. General color dark bronzy with reddish coppery tinge especially in female. Terminal segment of maxillary and labial palpi slender and very narrowly truncated apically in both sexes. Basal margin of pronotum rather straightly arched posteriorly. Lateral margin of elytron not emerginated near apex *T. sakishimana* sp. nov.
- General color dark violaceous bronzy with greenish tinge especially on pronotum in female. Terminal segment of maxillary and labial palpi thickened and widely

- truncated apically in male. Basal margin of pronotum distinctly sinuated with the median portion arched posteriorly. Lateral margin of elytron feebly but distinctly emerginated near apex *T. chejudoana* sp. nov.
5. Terminal segment of maxillary and labial palpi thickened and widely truncated apically in male. Basal margin of pronotum distinctly sinuated. Apical angle of elytron less than 90° . Lateral margin of apical part of aedeagus rounded with a prominent terminal denticle. General color reddish coppery
 *T. japana* (MOTSCHULSKY 1857).
- Terminal segment of maxillary and labial palpi slender and very narrowly truncated apically in both sexes. Basal margin of pronotum almost straightly arched or feebly sinuated near the middle. Apical angle of elytron 90° or more. Lateral margin of apical part of aedeagus almost parallel-sided or slightly narrowed apically with a broad obtuse denticle 6.
6. Interstices of pronotal punctures shagreened basally but finely punctulate and shining in its anterior portion. Apical part of aedeagus more flat with lateral margin almost parallel-sided. Dorsal surface multicolorous
 *T. okinawana taiwana* subsp. nov.
- Interstices of pronotal punctures finely punctulate or almost smooth and shining. Lateral margin of apical part of aedeagus slightly narrowed apically 7.
7. General color unicolorously dark bronzy *T. okinawana okinawana* NAKANE 1956.
 General color strongly reddish coppery *T. okinawana meridiojaponica* subsp. nov.

Acknowledgement

The author expresses his hearty thanks to Dr. Y. KUROSAWA for loaning the specimens preserved in the collection of National Science Museum (Nat. Hist.), Tokyo, to Dr. S. KIMOTO for his continuous guidance, to Mr. S. HISAMATSU for loaning the specimens in Ehime University, Matsuyama, to Dr. H. TAKIZAWA for valuable suggestions and for offering his collection to examine, and to Mr. S. IMASAKA for his continuous encouragement and for materials. Thanks are also due to Mr. A. HARA for taking photographs in the present paper, and to those who offered their collections to examine.

摘 要

台湾から *Trichochrysea chihutuana* 及び *T. formosana*, 八重山諸島から *T. sakishimana*, 済州島から *T. chejudoana* の4新種を記載した。従来 *T. japana japana* (MOTSCHULSKY) 及び *T. japana okinawana* NAKANE とされてきた個体群は2種に分割され、そのうちの1種 *T. japana* (MOTSCHULSKY) は日本(本州及び対馬)及び朝鮮半島に分布する。他の1種 *T. okinawana* NAKANE には、日本(四国及び九州)に分布する *T. okinawana meridiojaponica* (新亜種)、琉球列島北部(屋久島、奄美大島、徳之島及び沖縄本島)に分布する *T. okinawana okinawana* NAKANE 及び台湾に分布する *T. okinawana taiwana* (新亜種) の3亜種が区別される。これら地域に分布する *Trichochrysea* 属の種及び亜種の検索表を作成した。