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A REVISION OF THE GENUS INDASCLERA IN JAPAN (COLEOPTERA, OEDEMERIDAE)

By KÔJI MIZOTA

Abstract

Mizota, K. 1999. A revision of the genus *Indasclera* in Japan (Coleoptera, Oedemeridae). *Ins. matsum. n. s.* 56: 69–94, 120 figs.

Seven species of the oedemerine genus *Indasclera* Švihla from Japan are revised. A new species, *I. nakanei*, is described from Honshû and Kyûshû. The other species are redescribed with figures of male and female genitalia and some other details, and a key is provided to distinguish the species. A lectotype is designated for *Asclera amamiana* Miyatake (= *Indasclera japonica amamiana*).

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Contents

Introduction

The present study is the second part in a series of revisionary papers for a comprehensive study on Japanese Oedemeridae.

The genus *Indasclera* Švihla, 1980 is one of main genera in the tribe Asclerini of Oedemerinae, and about 40 species have hitherto been recognized from the Palearctic region. Almost all the member of *Indasclera* are thought to be important pollinators for some wild flowers, but information about their biology is quite limited.

In 1997 Švihla revised the genus, and showed that *Indasclera* has its center of diversification in southeastern to eastern Asia including Japan. He divided eight species-groups mainly on the basis of the male genitalia; of them, three species-groups, the *brunneipennis*-group, the *subrugosa*-group and the *rugosipennis*-group, occur in Japan. I follow his classification in this study.

I recognize seven species of the genus from Japan, including one new species from Honshû and Kyûshû. In this study, all these species are described, and their important taxonomic features are illustrated; especially, their female genitalia are figured for the first time. A key to the Japanese species is provided.

Material and methods

This revision is chiefly based on material borrowed from various museums and private collections. Depositories of the material examined are abbreviated in the text as follows:

APM Aomori Prefectural Museum, Aomori; S. Yamauchi.
ELEU Entomological Laboratory, Ehime University, Matsuyama; M. Miyatake & N. Ohbayashi.
HA H. Akiyama's private collection, Yokohama.
HY H. Yoshitomi's private collection, Tôkyô.
NSMT National Science Museum, Tôkyô; S. Nomura.
SEHU Systematic Entomology, Hokkaidô University, Sapporo.
TN T. Nakane's private collection, Chiba.
TU T. Ueno's private collection, Fukuoka.
TUAT Tôkyô University of Agriculture, Tôkyô; Y. Watanabe & T. Kishimoto.
YCM Yokosuka City Museum, Yokosuka; N. Ohba & I. Kawashima.

The terminology generally follows Švihla (1985) and Vázquez (1996). Specimens are, in general, rather variable in size, and whenever possible 10 males and 10 females of each species, appearing to represent extremes of variation, were measured. Nine body parts were measured following Vázquez (1996, see Fig. 1). They are:

1) HW – width of head across eyes.
2) HL – length of head from posterior margin of eye to basal margin of labrum.
3) FWE – width of frons between eyes (= interocular area).
4) FWA – width of frons between antennal pits.
5) EYW – dorsal width of eye.
6) PL – maximum length of pronotum.
7) PW – maximum width of pronotum.
8) EL – length of elytron.
9) EW – width of elytra across humeri.

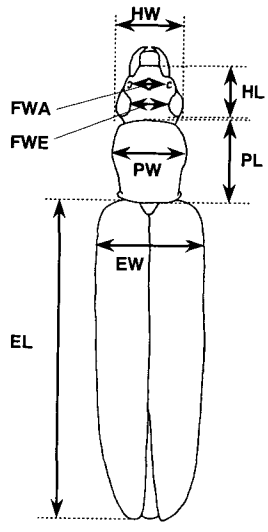


Fig. 1. Body parts measured.

Male genitalia were dissected and prepared for study as follows: (1) the whole abdomen was separated from the body; (2) heated in 10% KOH solution at 60°C for about 1 hour or more according to the size; (3) washed and dissected in 70% ethyl alcohol; (4) transferred into lactic acid containing acid fuchsin and heated at 60°C for 1 hour; (5) transferred into a mixture of glacial acetic acid 1 part and methyl salicylate 1 part and heated at 60°C for about 30 minutes; (6) transferred into carboxylol and left there for 5 minutes; (7) transferred into xylene and left there for 30 seconds and (8) observed in α -terpineol in a small glass dish.

Female genitalia were treated the same until the stage (3). After the weak portions of the internal copulatory organs were expanded satisfactorily for their taxonomic evaluation, the female organs were stained with Fast Green in 100% ethyl alcohol.

Systematics

Genus Indasclera Švihla, 1980

Indasclera Švihla, 1980: 48.
Type species: *Asclera indica* Fairmaire, 1894, by original designation.

Diagnosis.

Coloration predominantly metallic, rarely fuscous. Both mandibles bifid apically. Claws simple. Elytra parallel-sided or moderately dilated apically, nervation distinct to completely absent. Pygidium always exceeding the last sternite in both sexes. Male: projections of the sternite VIII visible; pygidium apically rounded or emarginate, regularly and slightly vaulted; sternite IX without or with simple, pointed median process; tegminite very small; tegmen tubular all along with its length; parameres short and glabrous; median lobe without or with one pair of apical teeth, basal apodeme with crest, supporting sclerite exist.

Distribution. South and Southeast Asia, Japan, Russia.

The *brunneipennis*-group

Švihla's (1997) diagnosis. "Body subdepressed. Eyes small, prominent, vertex very slightly to moderately vaulted. Last antennal segment slightly to very slightly constricted near its midlength. Pronotum cordiform, with pair of very shallow depressions, praebasal depression very slight to absent. Tibiae straight or very moderately curved. Apex of elytron rounded. Elytral veins, excluding subhumeral one, slightly developed or absent. Tegmen tubular, aedeagal apex without teeth."

Additional diagnosis. Bursa copulatrix of female genitalia absent.

1. *Indasclera brunneipennis* (Lewis, 1895)
[Japanese name: Haneaka-kamikiri-modoki]
(Figs. 2–17)

Asclera brunneipennis Lewis, 1895: 440; Kôno, 1937c: 45; Nakane, 1954: 177; Nakane, 1963: 259; Miyatake, 1985: 406.

Ascleropsis brunneipennis: Nikitsky, 1996: 20.

Indasclera brunneipennis: Švihla, 1997: 428.

Male. Body length: 5.5–7.5 mm. Head above black and shining, more or less brownish anteriorly; terminal segment of maxillary palpi, pronotum, scutellum and ventral part of body black; rest of mouthparts, antennae (except apical portion of terminal joint) and legs blackish brown; elytra light reddish brown and opaque.

Head very short (HW/HL: 1.5–1.6), slightly broader than pronotum (HW/PW: 1.0–1.2). Punctation fine, dense except for the anterior part, between punctures smooth and lustrous. Pubescence fine, white and recumbent. Eyes rather small but strongly vaulted, slightly emarginate anteriorly. Frons between eyes markedly broader than between antennal pits (FWE/FWA: 1.6–1.7). Interocular area very broad (FWE/EYW: 3.0–3.3). Maxillary palpi rather small, last segment (Fig. 13) markedly thickened and securiform, widest in middle, outer margin nearly straight. Segment I of antenna 1.5–1.8× as long as II, segment III 2.0–2.3 × as long as II; segments III–X decreasing gradually in length, segments XI 1.3–1.4 × as long as X and feebly constricted in apical third.

Pronotum cordiform, widest behind the anterior angles, then abruptly narrowed to the base, as long as wide (PL/PW: 1.0–1.1), with a pair of rather large shallow depressions before middle. Punctation and pubescence similar to that of head. Scutellum subquadrate.

Elytra parallel and moderately elongate (EL/EW: 2.7–2.8), with three faint to nearly indistinct costae except for subhumeral one, but it is made more outstanding by pubescence. Surface finely and imbricately punctate, between punctures densely microsculptured. Pubescence fine, white, dense and recumbent.

Tarsi rather stout, segment I 1.3 × as long as II in protarsi, about × 1.5 or slightly more in mesotarsi, more than twice in metatarsi.

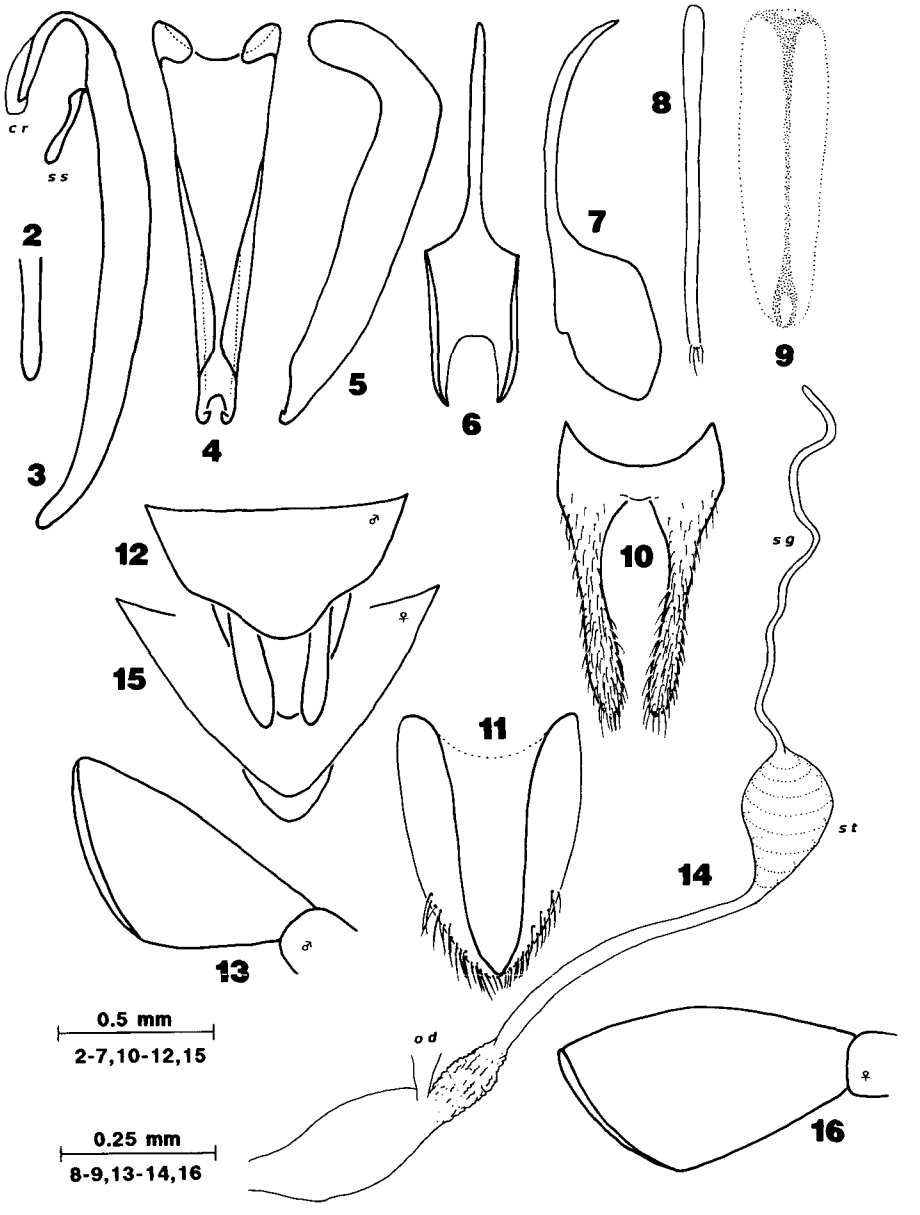
Terminalia. Last sternite about half as long as pygidium, sinuate at sides; pygidium slightly tapered apically (Fig. 12). Projections of urite VIII (fig. 10) rather thin, not concave. Tergite VIII shaped as in Fig. 11. Tergite IX (Fig. 9) large. Sternite IX (Figs. 6 & 7) without medial projection. Tegminite (Fig. 8) elongate and very narrow. Tegmen (Figs. 4 & 5) slender; parameres very short, toothed basally. Median lobe (Figs. 2 & 3) rather robust, slightly bent ventrally in apical region; basal apodeme with small crest.

Female. Length: 7.0–9.0 mm. Robuster and darker in color than male, clothed with dark brownish hairs, elytra reddish with lateral margin sooty. Antennae, palpi and legs also dark. HW/HL: 1.6–1.7. Eyes smaller (FWE/FWA: 1.5–1.6, FWE/EYW: 3.7–3.8). Last segment of maxillary palpi shaped as in Fig. 16. Segment of antennae I 1.6–1.8× as long as II, segment III 1.7–2.1 × as long as II. EL/EW: 2.6–2.9.

Terminalia. Last sternite a little shorter than pygidium, feebly produced apically; pygidium rounded at apex (Fig. 15). Spermatheca rather large, dilatate apically; spermathecal gland relatively short (Fig. 14).

Specimens examined. Hokkaidô: 1 ♀, Maruyama, Sapporo, 30.vii.1952, H. Ishida leg. (TN).

Honshû. Aomori-ken: 4♂♂, Mt. Osore, 1.viii.1956, T. Nakane leg. (TN); 1♂, Sasanai, Iwasaki,



Figs. 2–16. *Indasclera brunneipennis* (Lewis). — 2–13: Male, 2. median lobe, dorsal view, 3. ditto, lateral view (cr: crest, ss: supporting sclerite), 4. tegmen, ventral view, 5. ditto, lateral view, 6. sternite IX, dorsal view, 7. ditto, lateral view, 8. tegminite, 9. tergite IX, dorsal view, 10. sternite VIII, ventral view, 11. tergite VIII, dorsal view, 12. last abdominal segment, ventral view, 13. last segment of maxillary palpus (right). — 14–16: Female, 14. internal copulatory organs (od: oviduct, sg: spermathecal gland, st: spermatheca), 15. last abdominal segment, ventral view, 16. last segment of maxillary palpus (right).

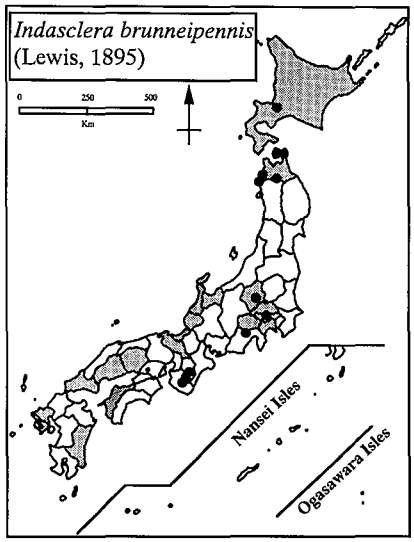


Fig. 17. Distribution of *Indasclera brunneipennis* in Japan. Shadowed areas indicate prefectures recorded in Mizota (1998); solid circles indicate localities of examined material in this study.

27.vii.1990, J. Kon leg. (APM); 2 ♂♂ 2 ♀♀, ditto, 25.vii.1991, J. Kon leg. (APM); 1♂, Jûniko, Iwasaki, 16.viii.1975, K. Shimoyama leg. (APM); 1♂, ditto, 26.vii.1994, J. Kon leg. (APM); 1♂, Ajigasawa, 24.vii.1985, K. Shimoyama leg. (APM); 1♂, ditto, 25.vii.1985, A. Abe leg. (APM); 1♀, ditto, 11.viii.1986, A. Abe leg. (APM); 1♀, Oirase, Fukuura, 1.viii.1988, A. Abe leg. (APM); 1♂, Kawauchi, 27.vii.1984, A. Abe leg. (APM); 1♂, Hinokigawa, Higashidôri, 30.vii.1998, S. Yamauchi leg. (APM); 1♂, Oippegawa, Higashidôri, 31.vii.1998, S. Yamauchi leg. (APM). Gumma-ken: 1♀, Hinatami, 11.vii.1961, K. Takahashi leg. (TUAT). Tôkyô-to: 1♀, Mt. Mitake, Ôme, 8.viii.1941, T. Kitagawa leg. (TN); 1♂, Okutama, 28.vii.1956, K. Tanaka leg. (TN). Shizuoka-ken: 1♂, Sumatakyô, 15.viii.1987, K. Suga leg. (TN). Nara-ken: 1♂, Ôdaigahara, 22.vii.1937, T. Nakane leg. (NSMT); 1♂, Mt. Gomadan, 29.vii.1957, T. Shibata leg. (TN); 2 ♂♂, ditto, 29.vii.1957, T. Shibata leg. (TN); 1♀, Goshikiyu, 7.vii.1940, Y. Ashikawa leg. (TN). Wakayama-ken: 1♂, Mt. Kôya, 19.vii.1948, I. Kôno leg. (TN).

Distribution (Fig. 17). Japan: Hokkaidô, Honshû, Shikoku, Kyûshû.

Remarks. Kôno (1937a) mentioned this species as a variety of *I. carinicollis*, and Gressitt (1939) followed him. However, according to Nakane (1954), *I. brunneipennis* is a good species, and is characterized as follows: (1) punctation of pronotum distinctly finer and closer than that of *I. carinicollis*, (2) elytra entirely opaque, light reddish brown with sides narrowly blackish, (3) hairs on elytra blackish and recumbent, (4) antennae black (except apical portion of terminal joint), (5) body conspicuously robust and clothed with blackish hairs.

2. *Indasclera carinicollis* (Lewis, 1895)
[Japanese name: Mesuguro-kamikiri-modoki]
(Figs. 18–33)

Oxacis carinicollis Lewis, 1895: 439, ♂.

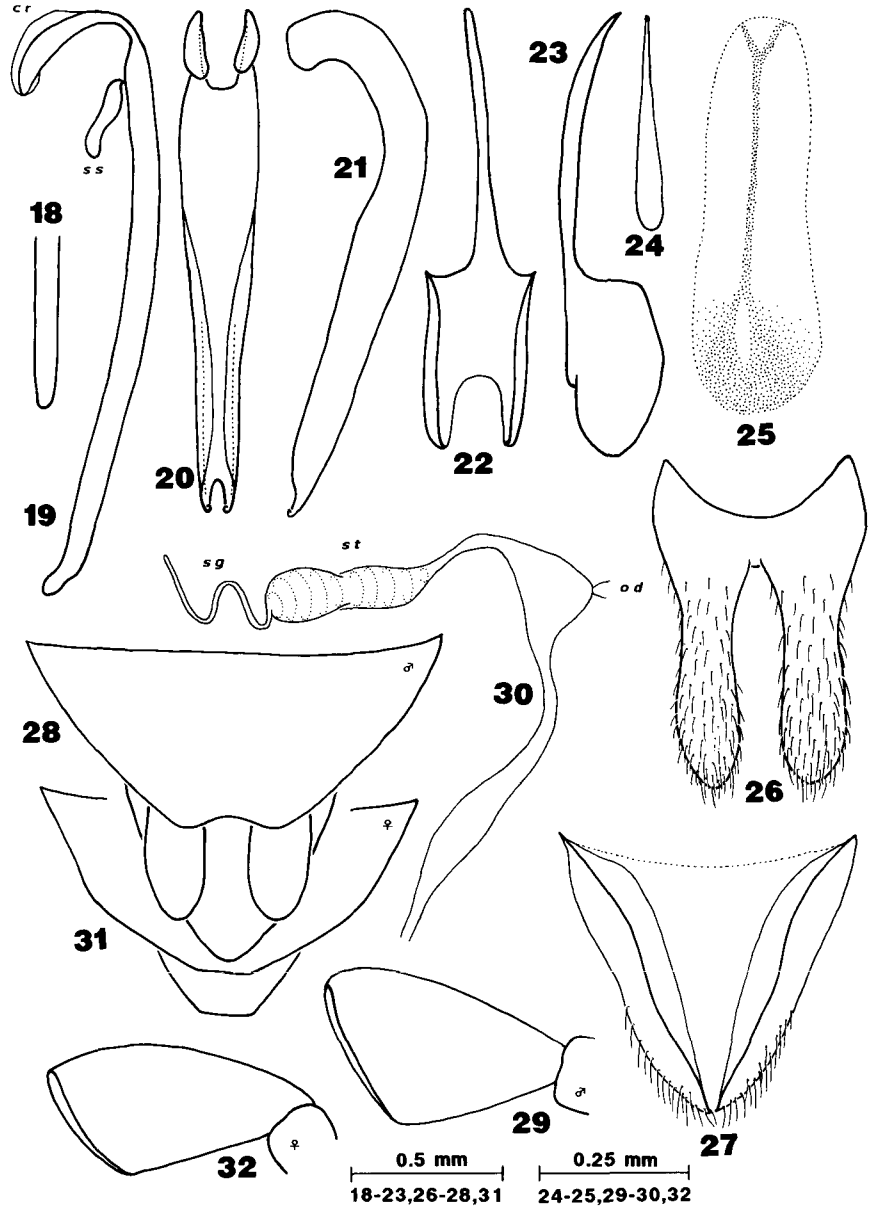
Asclera brunneipennis Lewis, 1895: 439, ♀, synonymized by Kôno (1937a).

Asclera carinicollis: Kôno, 1937a: 137; Kôno, 1937b: 13; Kôno, 1937c: 44; Nakane, 1963: 259; Miyatake, 1985: 405.

Ascleropsis carinicollis: Nikitsky, 1996: 20.

Indasclera carinicollis: Švihla, 1997: 429.

Male. Body length: 6.0–8.0 mm. Head, thorax and abdomen blackish brown, anterior part of head more or less yellowish; mouthparts, legs and basal parts of antennae flavous, terminal segments of antennae and tarsi darkened; elytra dull brown with golden tinge.



Figs. 18–32. *Indasclera carinicollis* (Lewis). — 18–29: Male, 18. median lobe, dorsal view, 19. ditto, lateral view (cr: crest, ss: supporting sclerite), 20. tegmen, ventral view, 21. ditto, lateral view, 22. sternite IX, dorsal view, 23. ditto, lateral view, 24. tegminite, 25. tergite IX, dorsal view, 26. sternite VIII, ventral view, 27. tergite VIII, dorsal view, 28. last abdominal segment, ventral view, 29. last segment of maxillary palpus (right). — 30–32: Female, 30. internal copulatory organs (od: oviduct, sg: spermathecal gland, st: spermatheca), 31. last abdominal segment, ventral view, 32. last segment of maxillary palpus (right).

Head very short (HW/HL: 1.5–1.7), approximately as broad as or slightly broader than pronotum (HW/PW: 1.0–1.1). Punctation fine, dense except for the anterior part, between punctures smooth and lustrous. Pubescence fine, white and recumbent. Eyes small and rather emarginate anteriorly. Frons between eyes distinctly broader than between antennal pits (FWE/FWA: 1.5–1.7). Interocular area very broad (FWE/EYW: 4.8–5.2). Last segment of maxillary palpi (Fig. 29) markedly thickened and securiform, widest in middle, outer margin nearly straight. Antennae exceeding elytral midlength, segment I 1.4–1.6 × as long as II, segment III 1.8–2.0 × as long as II; segments III–X subequal in length, segment XI 1.4 × as long as X and feebly constricted in apical third.

Pronotum cordiform, as long as wide (PL/PW: 1.0), with a pair of large depressions before middle. Punctation and pubescence similar to that of head. Scutellum subquadrate.

Elytra parallel at the sides, relatively short (EL/EW: 2.7–2.8), with three faint to nearly indistinct costae except for subhumeral one. Surface finely and imbricately punctate, between punctures densely microsculptured. Pubescence fine, white, dense and recumbent.

Tarsi slender, segment I about 1.3× as long as II in protarsi, about 1.5× in mesotarsi, about twice in metatarsi.

Terminalia. Last sternite about half as long as pygidium, broadly emarginate at apex; pygidium tapered apically (Fig. 28). Urite VIII and tergite VIII shaped as in Figs. 26 & 27 respectively. Tergite IX (Fig. 25) large. Sternite IX (Figs. 22 & 23) without medial projection. Tegminite (Fig. 24) very small and slender. Tegmen (Figs. 20 & 21) slender; parameres very short, with small teeth. Median lobe (Figs. 18 & 19) almost straight, apex slightly bent ventrally; basal apodeme with small crest.

Female. Length: 7.0–8.5 mm. Robuster and darker in color than male, clothed with dark brownish hairs, elytra blackish with lustre. HW/HL: 1.5–1.7, FWE/FWA: 1.5–1.6. Eyes smaller (FWE/EYW: 5.2–5.4). Last segment of maxillary palpi shaped as in Fig. 32. Segment of antennae I 1.4–1.6× as long as II, segment III 1.6–1.8× as long as II, segment XI 1.3–1.4 × as long as X. EL/EW: 2.7–2.8.

Terminalia. Last sternite a little shorter than pygidium, rounded apically; pygidium truncate at apex (Fig. 31). Spermatheca rather large; spermathecal gland relatively short. (Fig. 30).

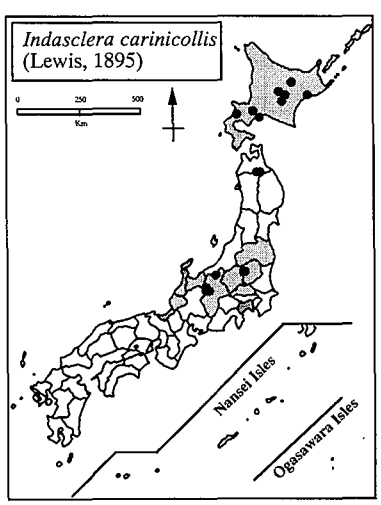


Fig. 33. Distribution of *Indasclera carinicollis* in Japan. Shadowed areas indicate prefectures recorded in Mizota (1998); solid circles indicate localities of examined material in this study.

Specimens examined. Hokkaidô: 4♂♂9♀♀, Sôunkyô, Kamikawa, 3–4.viii.1954, T. Nakane leg. (TN); 1♂, Nukabira, 3.viii.1951, T. Kishii leg. (TN); 1 ex., 24.viii.1912, H. Takabayashi (SEHU); 1♀, Tomuraushi, Tokachi, 30.vii.1949, K. Kojima leg. (TN); 1 ex., Maruyama, Sapporo, 25.vii.1925, K. Tamanuki leg. (SEHU); 1♂, Sapporo, 18.vii.1990, S. Shiyake leg. (SEHU); 1♂, Sapporo, 5.viii.1954, S. Takagi leg. (SEHU); 1♂, Shirataki, Kitami, 2.viii.1974, M. Kiuchi leg. (SEHU); 1♂, Niimi, Rankoshi, 9.viii.1953, M. Konishi leg. (SEHU); 1♀, Kamibeppo, Kushiro-cho, 17.viii.1995, M. Anzai leg. (SEHU); 1♀, Hokkaidô Univ. Exp. For., Takaoka, Tomakomai, 15.viii.1995, window trap, A. Katô leg. (SEHU).

Honshû. Aomori-ken: 2 exs., Towada, vii.1927, Y. Miwa leg. (SEHU); 1 ♀, Tsuta, Towada, 30.vii.1960, T. Nakane leg. (TN). Tochigi-ken: 2 exs., Chûzenji, 12.viii.1916, E. Gallois leg. (SEHU); 1 ex., ditto, 30.vii.1917, E. Gallois leg. (SEHU); 1 ex., ditto, 4.viii.1917, E. Gallois leg. (SEHU); Kôtoku, Nikkô, 23.vii.1984, T. Nakane leg. (TN). Nagano-ken: 1 ex., Mt. Togakushi, Shinano, 22.viii.1910, T. Ohtsuka leg. (SEHU); 1♂, Kisofukushima, 23.vii.1988, N. Ohbayashi leg. (SEHU); 1♂, Shimashima, Azumi V., 8–10.viii.1943, S. Osawa leg. (TN); 1♂, ditto, 5.viii.1940, K. Taniguchi leg. (TN); Tokugô, Azumi V., 3.viii.1967, K. Masumoto leg. (TN); 1♂, Kamikôchi, 25–26.vii.1949, T. Nakane leg. (TN); 1♀, ditto, 15.viii.1952, T. Nakane leg. (TN); 2♂♂, ditto, 2.viii.1986, M. Satô leg. (SEHU).

Distribution (Fig. 33). Japan: Hokkaidô, Honshû (central and northern parts).

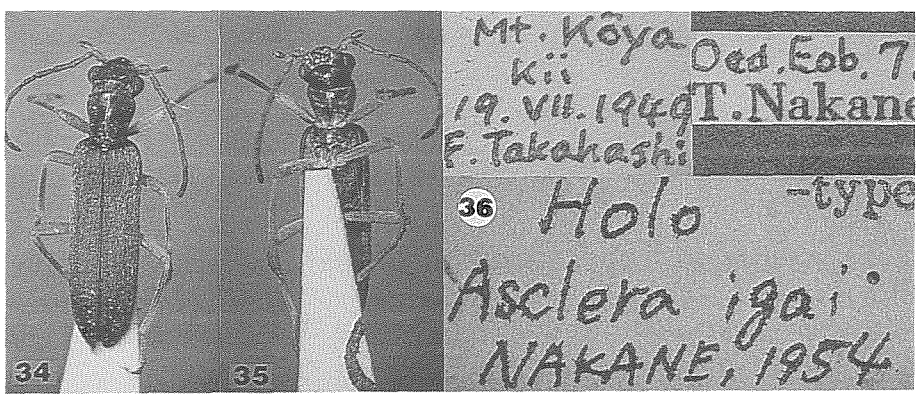
Remarks. In appearance this species is very similar to *I. igai*, but the head is gently narrowed behind the eyes towards the neck, interocular area more broader (FWE/EYW: 4.8-5.2), the apical margin of terminal segment of maxillary palpi is slightly shorter than the inner margin in the male (Fig. 29), and the projections of sternite VIII thicker (Fig. 26).

3. *Indasclera igai* (Nakane, 1954)
[Japanese name: Iga-mesuguro-kamikiri-modoki]
(Figs. 34–52)

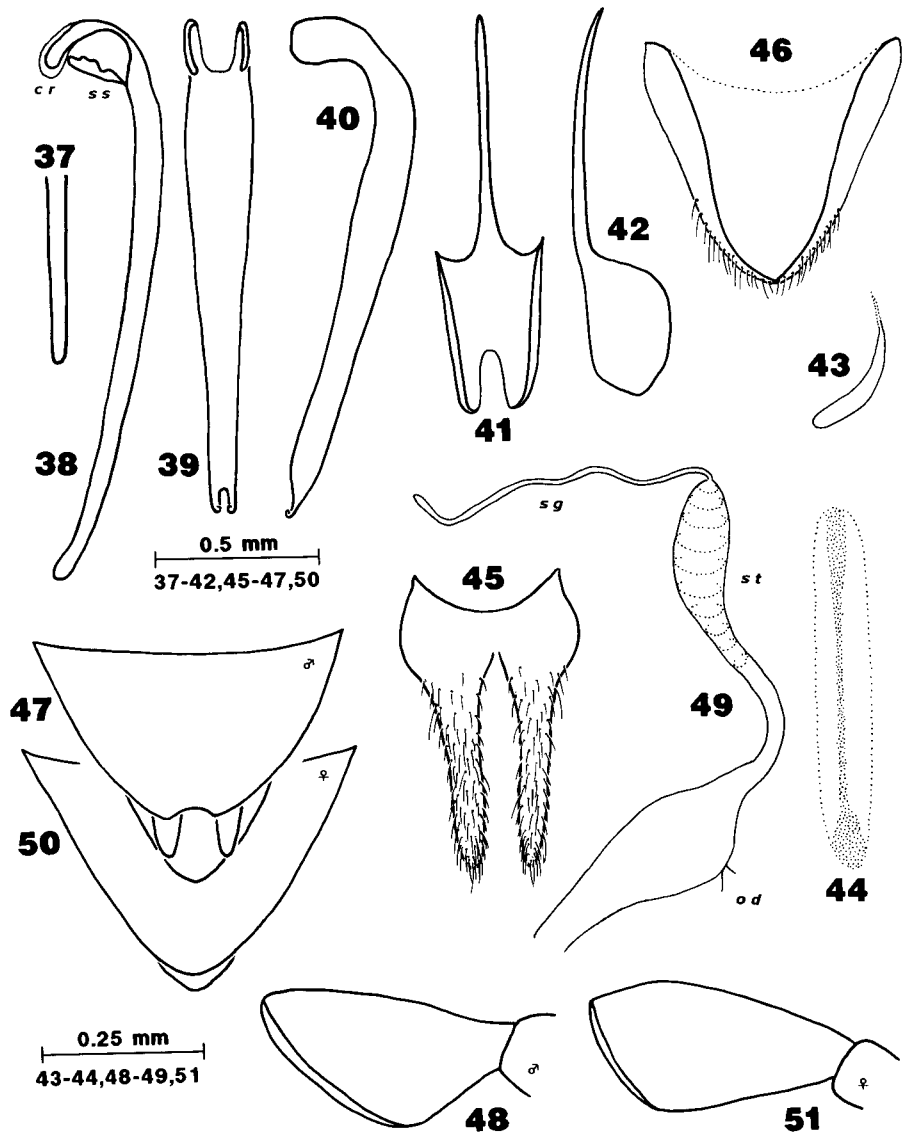
Asclera igai Nakane, 1954: 177; Nakane, 1963: 259; Miyatake, 1985: 405.
Ascleropsis igai: Švihla, 1987: 20; Nikitsky, 1996: 20.
Indasclera igai: Švihla, 1997: 431.

Male. Body length: 6.0–8.0 mm. Head, thorax and abdomen blackish brown; mandibles brown, rest of mouthparts, legs and basal segments of antennae flavous, terminal antennal segments and tarsi darkened; elytra dull grey with brownish tinge and opaque, but somewhat shining at apical portion.

Head short (HW/HL: 1.5–1.6), broader than pronotum (HW/PW: 1.1–1.2). Punctation fine, dense except for the anterior part, between punctures smooth and lustrous. Eyes rather small but prominent, slightly emarginate anteriorly. Pubescence fine, white and recumbent. Frons between eyes distinctly broader than between antennal pits (FWE/FWA: 1.5–1.6). Interocular area very broad (FWE/EYW: 3.2–3.5). Frontal suture distinctly grooved



Figs. 34–36. Holotype of *Asclera igai* Nakane (= *Indasclera igai* (Nakane)). 34. dorsal view, 35. ventral view, 36. labels.



Figs. 37–51. *Indasclera igai* (Nakane). — 37–48: Male, 37. median lobe, dorsal view, 38. ditto, lateral view (cr: crest, ss: supporting sclerite), 39. tegmen, ventral view, 40. ditto, lateral view, 41. sternite IX, dorsal view, 42. ditto, lateral view, 43. tegminite, 44. tergite IX, dorsal view, 45. sternite VIII, dorsal view, 46. tergite VIII, ventral view, 47. last abdominal segment, ventral view, 48. last segment of maxillary palpus (right). — 49–51: Female, 49. internal copulatory organs (bc: bursa copulatrix, od: oviduct, sg: spermathecal gland, st: spermatheca), 50. last abdominal segment, ventral view, 51. last segment of maxillary palpus (right).

transversely. Last segment of maxillary palpi (Fig. 48) broadly securiform, widest behind middle, outer margin nearly straight. Antennae rather slender, reaching middle of elytra, segment I 1.4–1.7 × as long as II, segment III 1.7–1.9 × as long as II; segments III–X

subequal in length, segment XI 1.1–1.3 × as long as X and indistinctly emarginate.

Pronotum moderately cordiform, a little longer than wide (PL/PW: 1.0–1.1), with a pair of large depressions before middle. Punctation and pubescence similar to that of head. Scutellum subquadrate, slightly broader than long.

Elytra parallel, moderately elongate (EL/EW: 2.8–2.9), with three faint to nearly indistinct costae except for subhumeral one. Surface finely and imbricately punctate, between punctures microsculptured. Pubescence fine, pallid, dense and recumbent.

Tarsi slender, segment I 1.3–1.5 × as long as II in protarsi, 1.5 × or slightly more in mesotarsi, more than twice in metatarsi.

Terminalia. Last sternite (Fig. 47) shorter than pygidium, slightly emarginate apically. Pygidium rounded apically. Urite VIII and tergite VIII shaped as in Figs. 45 & 46 respectively. Tergite IX (Fig. 44) slender. Sternite IX (Figs. 41 & 42) without medial projection. Tegminite (Fig. 43) very small. Tegmen (Figs. 39 & 40) slender; parameres very short, with small teeth. Median lobe (Figs. 37 & 38) evenly arcuate, apex simple; basal apodeme with small crest.

Female. Length: 6.0–8.5 mm. Robuster and darker in color than male, clothed with dark brownish hairs, elytra blackish and opaque. HW/HL: 1.5–1.6. Eyes smaller (FWE/FWA: 1.4–1.6, FWE/EYW: 3.5–3.8). Maxillary palpi stouter; last segment shaped as in Fig. 51. Segment of antennae I 1.4–1.5 × as long as II, segment III 1.6–1.8 × as long as II, segment XI 1.2–1.3 × as long as X. EL/EW: 2.6–2.9.

Terminalia. Last sternite a little shorter than pygidium, rounded apically; pygidium feebly produced at apex (Fig. 50). Spermatheca rather large; spermathecal gland relatively short (Fig. 49).

Type material. Holotype (♂, see Figs. 34–36): Mt. Kôya, Kii, 19.vii.1949, F. Takahashi leg. (TN). Paratypes: 1♀, same data as holotype (TN); 1♂, Mt. Kôya, Kii, 24.vii.1949, M. Hayashi leg. (TN); 1♂, Mt. Gomadan, Kii, 4.viii.1950, T. Nakane leg. (TN).

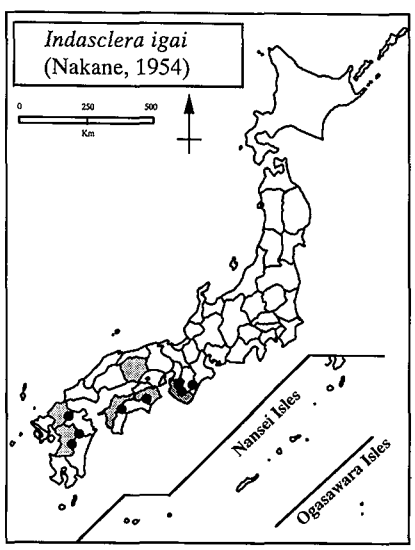


Fig. 52. Distribution of *Indasclera igai* in Japan. Shadowed areas indicate prefectures recorded in Mizota (1998); solid circles indicate localities of examined material in this study.

Additional material examined. Honshû. Nara-ken: 1♂, Ôdaigahara, 28–31.vii.1979, Y. Kurosawa leg. (NSMT); 2♂♂ 4♀♀, ditto, 31.vii–2.viii.1958, T. Shibata leg. (TN); 1♂, ditto, 30.vii.1964, M. N. leg. (TN). Wakayama-ken: 1♀, Mt. Gomadan, 4.viii.1957, T. Shibata leg. (TN).

Shikoku. Tokushima-ken: 8♂♂ 2♀♀, Mt. Tsurugi, 28.vii.1953, M. Miyai leg. (TN). Ehime-ken: 1 ex., Mt. Ishizuchi, 16.viii.1935, H. Okamoto leg. (SEHU).

Kyûshû. Fukuoka-ken: 1♀, Mt. Hikosan, 12.vii.1935, K. Yamauchi leg. (SEHU); 1♂ 3♀♀, ditto, 1.viii.1938, T. Okutani leg. (TN). Kumamoto-ken: 1♂, Naidaijin, Shiiya-tôge, 25.vii.1984, M. Ôhara leg. (SEHU). Ôita-ken: 1♀, Mt. Sobo, 28.vii.1954, Y. Miyake leg. (TN).

Distribution (Fig. 52). Japan: Honshû (western part), Shikoku, Kyûshû.

Remarks. In appearance this species is very similar to *I. carinicollis*, but the head is

much more strongly narrowed behind the eyes towards the neck, the interocular area is narrower (FWE/EYW: 3.2–3.5), the apical margin of terminal segment of maxillary palpi is much longer than the inner margin in the male (Fig. 48), and the projections of sternite VIII thinner (Fig. 45).

4. *Indasclera ruficollis* (Lewis, 1895)
[Japanese name: Akakubi-kamikiri-modoki]
(Figs. 53–68)

Ditylus ruficollis Lewis, 1895: 434.

Asclera japonica Pic, 1910, in part; Kôno, 1937a: 137; Kôno, 1937c: 46, in part; Nakane, 1963: 259; Miyatake, 1985: 405.

Asclera konoi Nakane, 1973: 7, synonymized by Švihla (1997).

Ascleropsis konoi: Nikitsky, 1996: 19.

Indasclera ruficollis: Švihla, 1997: 432.

Male. Body length: 6.5–8.0 mm. Head above black and shining, more or less brownish anteriorly; mouthparts, antennae and legs piceous, basal portions of femora lighter; prothorax, meso- and metasterna testaceous; abdomen pale brown; elytra dull blackish brown.

Head relatively large, slightly convex above, very short (HW/HL: 1.8–2.0), approximately as broad as or slightly broader than pronotum (HW/PW: 1.0–1.1). Punctation fine, dense except for the anterior part, between punctures smooth and lustrous. Pubescence fine, flavous and recumbent. Eyes rather small but strongly vaulted, slightly emarginate anteriorly. Frons between eyes distinctly broader than between antennal pits (FWE/FWA: 1.4–1.5). Interocular area very broad (FWE/EYW: 3.6–4.2). Maxillary palpi small, last segment (Fig. 64) markedly thickened and securiform, widest before middle, outer margin feebly curved. Antennae exceeding elytral midlength, relatively stout, segment I 1.5–1.7 × as long as II, segment III 1.5–1.8 × as long as II; segments III–X subequal in length, segment XI 1.1–1.2 × as long as X and indistinctly emarginate.

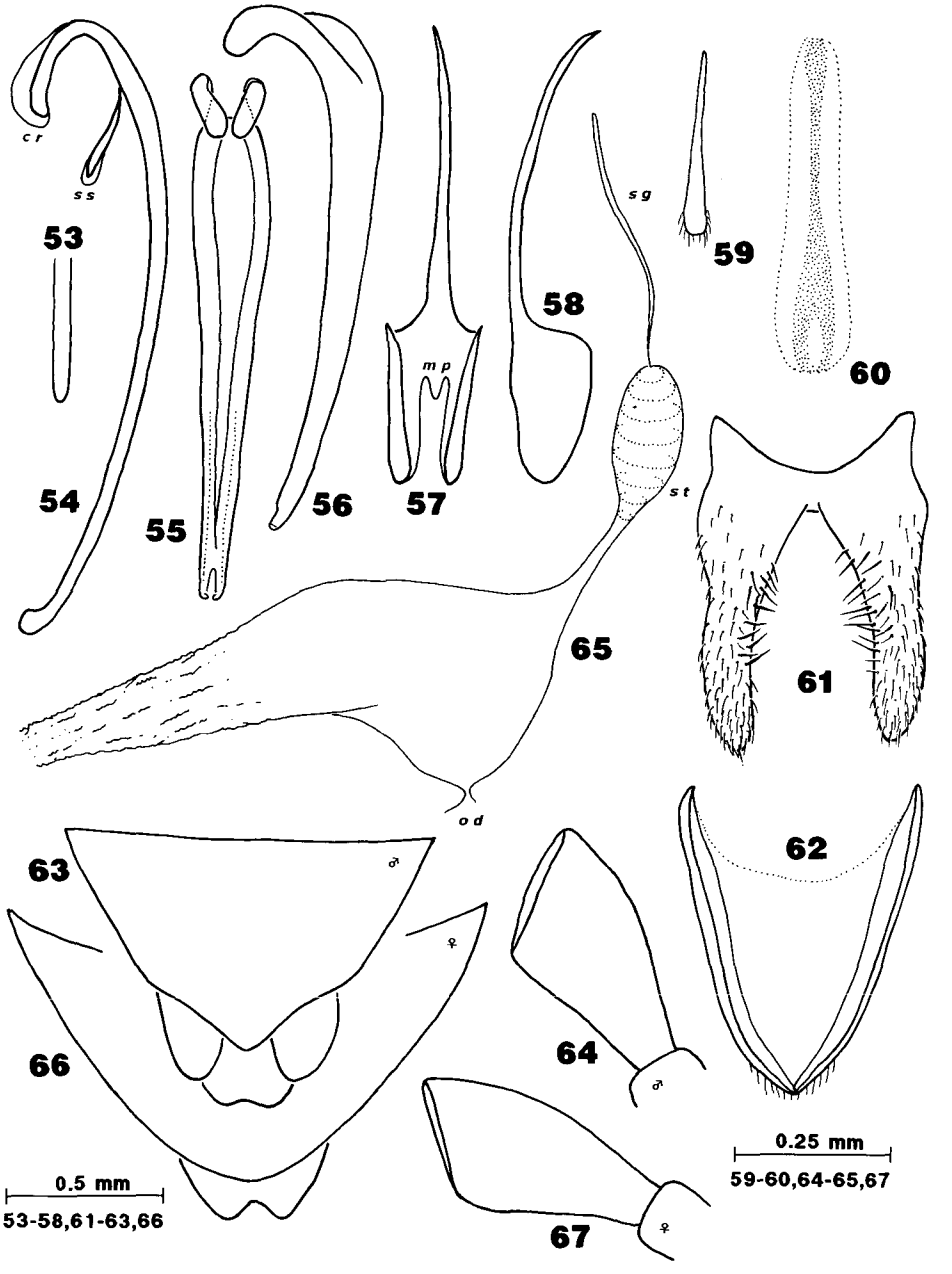
Pronotum markedly cordiform, as long as wide (PL/PW: 1.0), with a pair of large but vague depressions before middle. Punctation and pubescence similar to that of head, but sparse and uneven on anterior half. Scutellum subquadrate.

Elytra subparallel or barely delated behind middle, relatively short (EL/EW: 2.6–2.8), with three faint to nearly indistinct costae except for subhumeral one. Surface finely and imbricately punctate, between punctures densely microsculptured. Pubescence fine, brown, dense and recumbent.

Tarsi slender, segment I slightly longer than II in protarsi, about 1.5 × or slightly more as long as in mesotarsi, more than twice as long as in metatarsi.

Terminalia. Last sternite produced apically, shorter than pygidium; pygidium feebly emarginated at apex (Fig. 63). Urite VIII and tergite VIII shaped as in Figs. 61 & 62 respectively. Tergite IX (Fig. 60) narrow. Sternite IX (Figs. 57 & 58) with a small medial projection. Tegminite (Fig. 59) very slender. Tegmen (Figs. 55 & 56) slender; parameres very short, with small teeth. Median lobe (Figs. 53 & 54) very long and narrow, moderately bent ventrally in apical region, apex dilatate; basal apodeme with small crest.

Female. Length: 7.0–8.0 mm. Somewhat robuster than male. HW/HL: 1.6. Eyes smaller (FWE/FWA: 1.5–1.7, FWE/EYW: 4.2–4.6). Last segment of maxillary palpi shaped as in



Figs. 53–67. *Indasclera ruficollis* (Lewis). — 53–64: Male, 53. medial lobe, dorsal view, 54. ditto, lateral view (cr: crest, ss: supporting sclerite), 55. tegmen, ventral view, 56. ditto, lateral view, 57. sternite IX, dorsal view (mp: medial projection), 58. ditto, lateral view, 59. tegminite, 60. tergite IX, dorsal view, 61. sternite VIII, ventral view, 62. tergite VIII, dorsal view, 63. last abdominal segment, ventral view, 64. last segment of maxillary palpus (right). — 65–67: Female, 65. internal copulatory organs (od: oviduct, sg: spermathecal gland, st: spermatheca), 66. last abdominal segment, ventral view, 67. last segment of maxillary palpus (right).

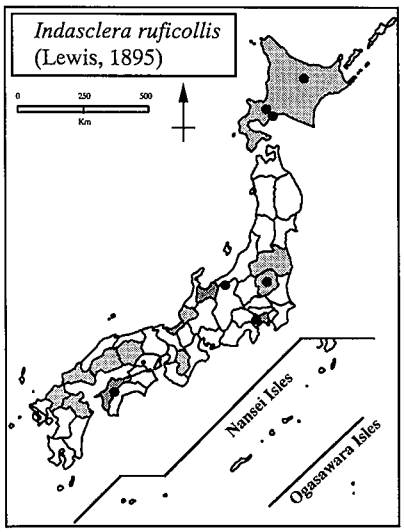


Fig. 68. Distribution of *Indasclera ruficollis* in Japan. Shadowed areas indicate prefectures recorded in Mizota (1998); solid circles indicate localities of examined material in this study.

Fig. 67. Segment of antennae I 1.7–1.9 × as long as II, segment III 1.6–1.8 × as long as II, segment XI 1.3–1.4 × as long as X. EL/EW: 2.6–2.7.

Terminalia. Last sternite a little shorter than pygidium, rounded apically; pygidium shallowly emarginate at apex (Fig. 66). Spermatheca rather large; spermathecal gland short (Fig. 67).

Specimens examined. Hokkaidô: 1 ♂, Ikutawara, 25.vii.1999, N. Ishihama leg. (TN); 1 ♂, Hyakumatsuzawa, Sapporo, 18.viii.1998, Malaise trap, K. Mizota et al. leg. (SEHU); 2♂♂, Hokkaidô Univ. Exp. For., Takaoka, Tomakomai, 1–2.ix.1995, window trap, A. Katô leg. (SEHU).

Honshû. Tochigi-ken: 1 ♀, Onomichi-rindô, Fujiwara, 14.viii.1979, H. Katô leg. (TN). Kanagawa-ken: 1 ♂, Kotsurushi-yama, Nishi-tanzawa, 26.viii.1995, T. Watanabe leg. (HA). Nagano-ken: 1 ♀, Mt. Togakushi, Shinano, 22.viii.1910, T. Ohtsuka (SEHU).

Shikoku. Ehime-ken: 1 ♂, Mt. Ishizuchi, 16.viii.1935, H. Okamoto leg. (NSMT-1-C-28871; Holotype of *Asclera konoi* Nakane).

Distribution (Fig. 68). Japan: Hokkaidô, Honshû, Shikoku, Kyûshû.

Biology. A montane species; adults visit flowers; lavae feeding on *Aesculus turbinata* Blume (Akiyama, 1992).

5. *Indasclera nakanei* Mizota, sp. nov.
[Japanese name: Ôzu-kamikiri-modoki]
(Figs. 69–82)

No new species of oedemerid beetles has been founded from Honshû, Japan, for more than 40 years since *Xanthochroa asahinai* was described by Nakane in 1958. Most members of the family are relatively large and conspicuous insects, and it would not be expected that there exist undescribed oedemerids, particularly in central part of Honshû, a region which has experienced considerable collecting for about a century. Discovery of the following species was thus a great surprise to me.

Male. Body length: 9.5–11 mm. Head above brown and shining, more or less testaceous anteriorly; mouthparts, antennae and legs brown, basal portions of femora lighter; prothorax, meso- and metasterna, abdomen testaceous; elytra and scutellum light brown.

Head very large, slightly convex above, very short (HW/HL: 1.9–2.0), approximately as broad as or slightly broader than pronotum (HW/PW: 1.0–1.1). Punctation fine, dense except for the anterior part, between punctures smooth and lustrous. Pubescence fine, blackish brown and recumbent. Eyes very small but strongly vaulted, slightly emarginate anteriorly. Frons between eyes distinctly broader than between antennal pits (FWE/FWA: 1.4–1.5). Interocular area very broad (FWE/EYW: 5.2–5.6). Last segment of maxillary

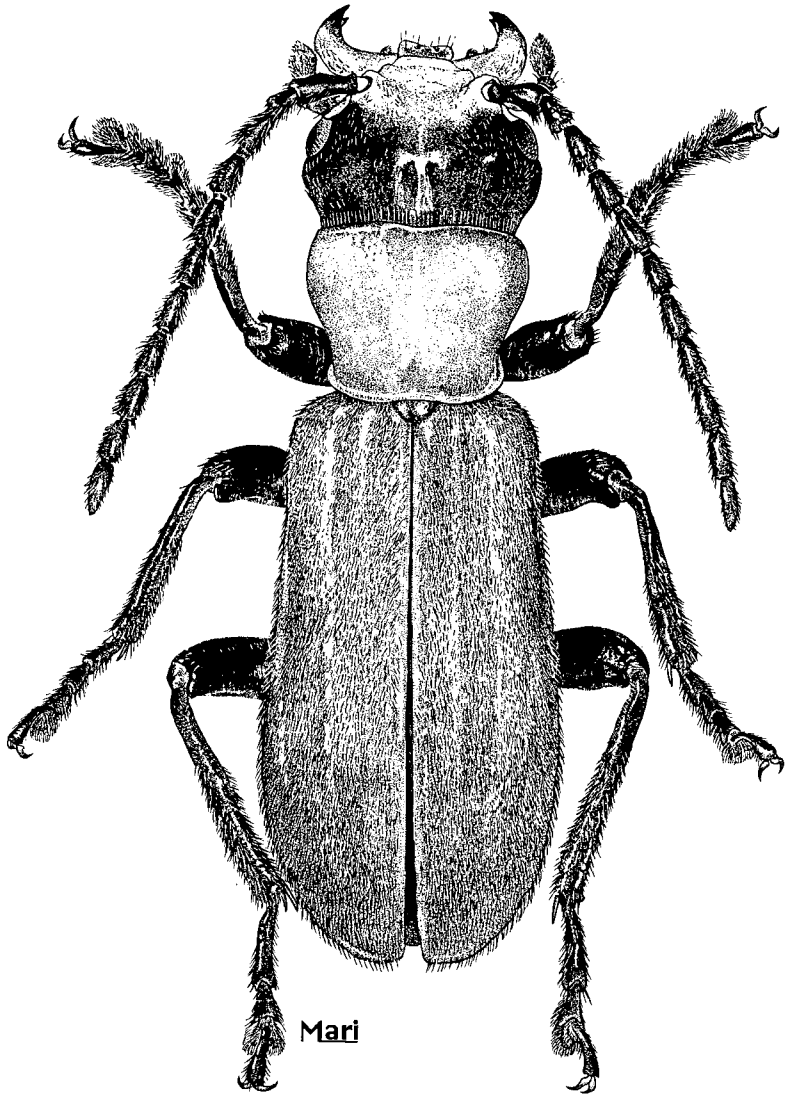
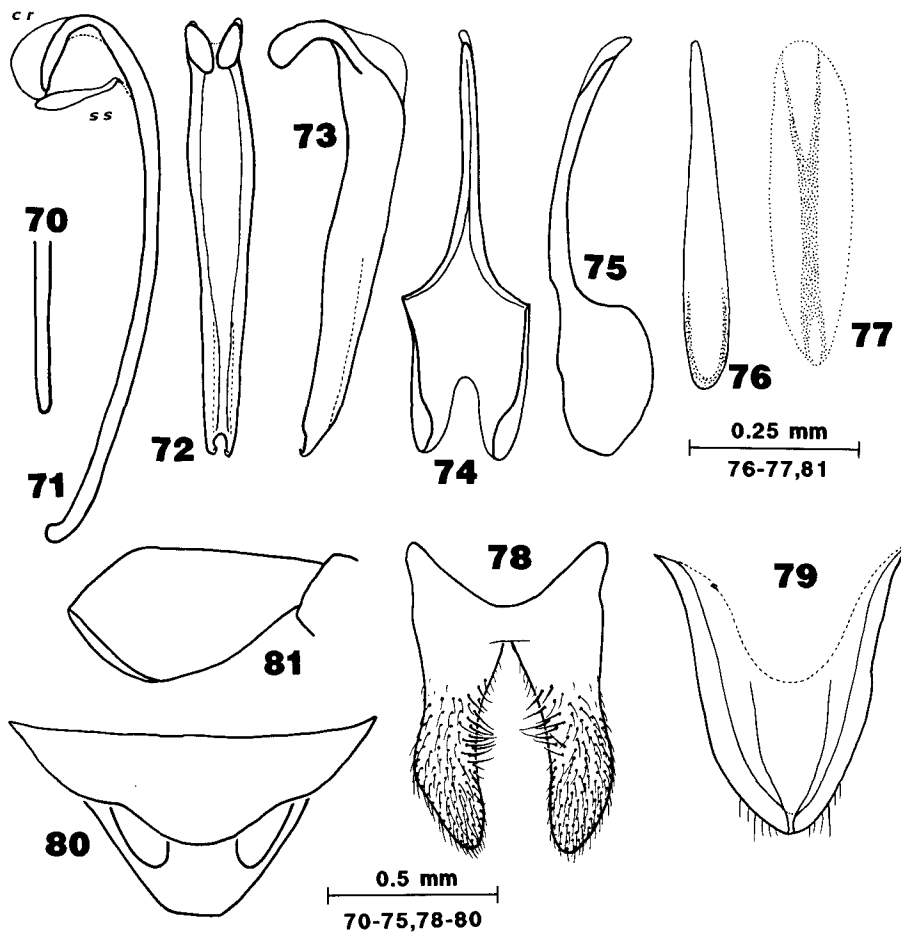


Fig. 69. *Indasclera nakanei* Mizota sp. nov., dorsal view.

palpi (Fig. 81) markedly thickened and securiform, widest before middle, outer margin curved. Antennae exceeding basal third of elytra, very stout, segment I 1.7–1.9 × as long as II, segment III 1.6–1.8 × as long as II; segments III–X subequal in length, segment XI 1.2–1.3 × as long as X and indistinctly emarginate.

Pronotum markedly cordiform, broader than long (PL/PW: 0.8–0.9), with a pair of large but vague depressions before middle. Punctation similar to that of head, but the punctation on anterior half sparse and uneven. Pubescence fine, whitish brown, sparse and recumbent. Scutellum subquadrate, apical region excavated.

Elytra delated behind middle, very short (EL/EW: 2.2–2.3), with four prominent costae.



Figs. 70–81. *Indasclera nakanei* Mizota sp. nov. — 70–81: Male, 70. median lobe, dorsal view, 71. ditto, lateral view (cr: crest, ss: supporting sclerite), 72. tegmen, ventral view, 73. ditto, lateral view, 74. sternite IX, dorsal view, 75. ditto, lateral view, 76. tegminite, 77. tergite IX, dorsal view, 78. sternite VIII, ventral view, 79. tergite VIII, dorsal view, 80. last abdominal segment, ventral view, 81. last segment of maxillary palpus (right).

Surface finely and imbricately punctate, between punctures feebly microsculptured. Pubescence fine, black, short, dense and recumbent.

Tarsi relatively slender, segment I slightly longer than II in protarsi, about 1.5 × as long as in mesotarsi, about twice as long as in metatarsi.

Terminalia. Last sternite extremely dilatate, about half as long as pygidium, sinuate on sides; pygidium truncate at apex (Fig. 80). Urite VIII and tergite VIII shaped as in Figs. 78 & 79 respectively. Tergite IX (Fig. 77) small and narrow. Sternite IX (Figs. 74 & 75) without medial projection. Tegminite (Fig. 76) slender, without pubescence. Tegmen (Figs. 72 & 73) slender; parameres very short, with small teeth. Median lobe (Figs. 70 & 71)

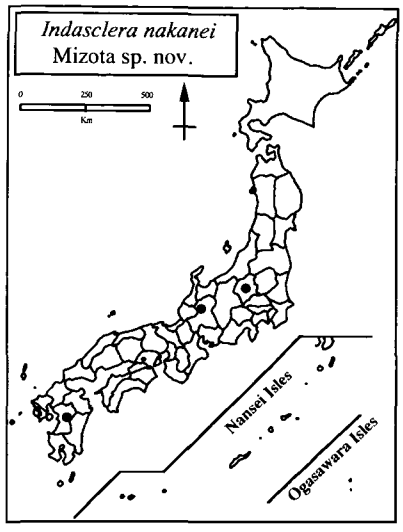


Fig. 82. Distribution of *Indasclera nakanei* in Japan. Solid circles indicate localities of examined material in this study.

extremely long and narrow, moderately bent ventrally in apical region, apex slightly dilatate; basal apodeme with crest.

Female. Unknown.

Type material. Holotype: ♂, Ogamigô, Shôkawa, Gifu-ken, 13.viii.1995, K. Hosokawa leg. (SEHU); Paratypes: 1 ♂, Mt. Inamura, Gumma-ken, 22.vii.1956, Yokoyama leg. (TN); 1 ♂, Hisatate, Tomochi, Kumamoto-ken, 31.vii.1980, I. Ohtsuka leg. (TN).

Distribution (Fig. 82). Japan: Honshû, Kyûshû.

Etymology. The specific name is dedicated to the late Dr. Takehiko Nakane for his great contribution to the Japanese coleopterology and also for his assistance to me in the present study in various ways.

Biology. Virtually nothing is known about the biology of *I. nakanei*. This species occurs in the mountain area of Honshû and Kyûshû, Japan, during the late summer. Mr. Kôji Hosokawa, collector of the holotype specimen, personally informed me that the specimen was flying to a fresh and relatively thick (about 15 cm in diameter) stump of *Aesculus turbinata* Blume in the daytime. It is uncertain whether *I. nakanei* is really associated with this plant, but there is a interesting report that its sister species, *I. ruficollis*, emerged from the lumber of *Aesculus turbinata* (Akiyama, 1992).

The collecting locality of the holotype, situated about 1,000m above the sea level, is surrounded by well-preserved natural forest (dominant tree is *Fagus crenata* Blume) in the Hakusan range. It is somewhat difficult to understand why *I. nakanei* was not collected until recently. A hint to solve this mystery may be hidden in their biology.

Remarks. This new species is somewhat similar to *I. ruficollis* (Lewis) in body shape and coloration pattern, but it has a very large head, yellowish brown elytra, remarkably dilatate last sternite, and the lack of medial projection of sternite IX.

The *subrugosa*-group

Švihla's (1997) diagnosis. "Body moderately vaulted. Eyes small, slightly prominent in male, so that head across eyes are very slightly wider than the pronotum, very slightly prominent in the female. Last antennal segment constricted behind its midlength. Pronotum moderately cordiform, with a pair of depressions on the anterior portion and with a very slight praebasal one. Tibiae straight or very slightly curved. Elytra metallic, very slightly narrowing posteriorly in male, their surface areolate to rugose, elytral veins well developed. Both pygidium and last sternum in female triangular, rounded apically. Tegmen tubular, aedeagus curved, without apical teeth."

6. *Indasclera subrugosa* (Kôno, 1937)
(Figs. 83–101)

Asclera subrugosa Kôno, 1937a: 137; Kôno, 1937c: 47; Gressitt, 1939: 224; Nakane, 1954: 176; Nakane, 1963: 259; Miyatake, 1985: 405.

Asclera subrugosa kyushuensis Nakane, 1954: 176, synonymized by Švihla (1997).

Indasclera subrugosa: Švihla, 1997: 434.

Male. Body length: 8.0–9.0 mm. Head, meso- and metasterna, abdomen and elytra dark metallic blue; mouthparts, antennae and legs piceous, femora and tibiae with metallic tinge; anteclypeus and prothorax testaceous; scutellum pallid.

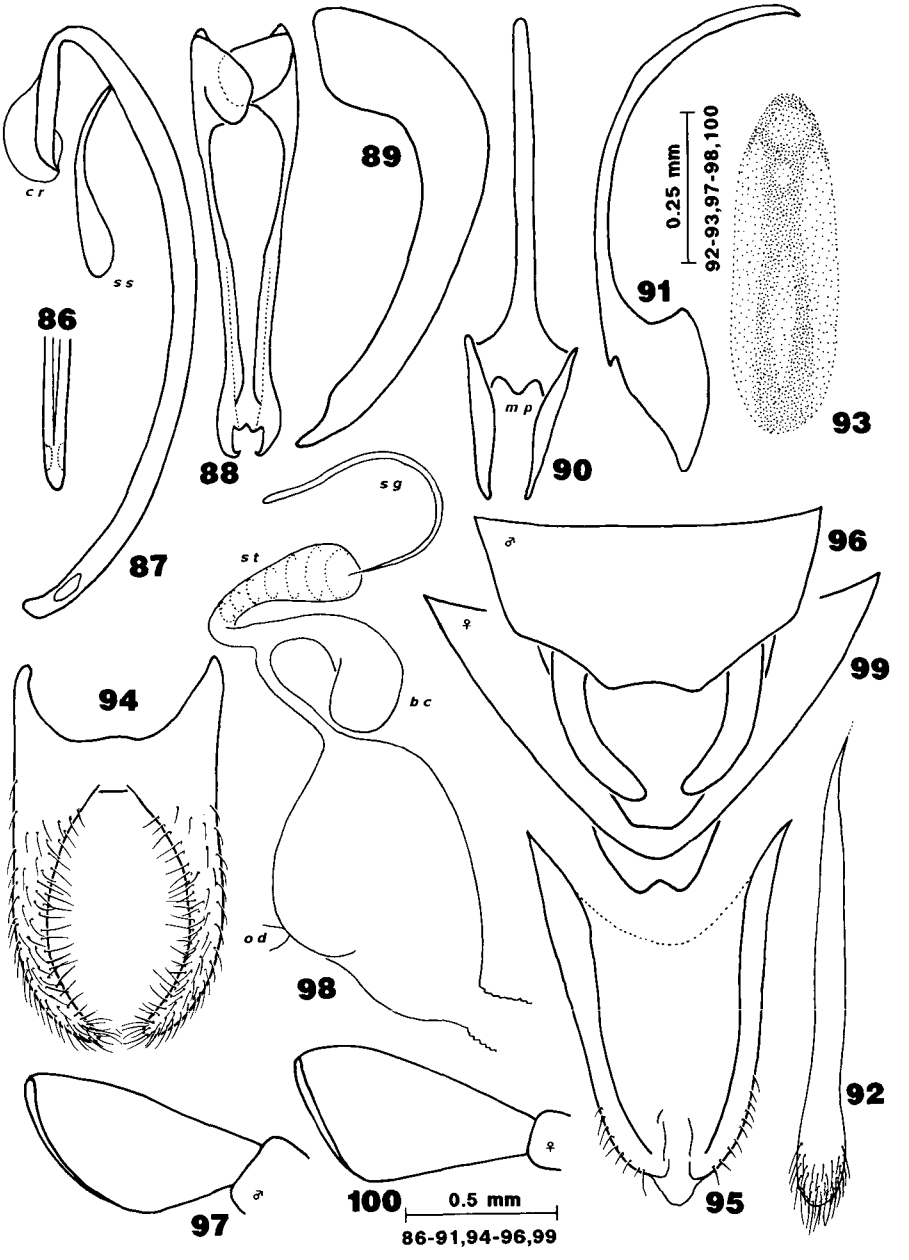
Head short (HW/HL: 1.5–1.6), approximately as broad as or slightly broader than pronotum (HW/PW: 1.0–1.1). Punctation moderately coarse and close, between punctures smooth and lustrous. Pubescence principally flavous, rather short and recumbent. Eyes small but moderately vaulted, broadly emarginate anteriorly. Frons between eyes distinctly broader than between antennal pits (FWE/FWA: 1.3–1.5). Interocular area broad (FWE/EYW: 2.4–2.6). Maxillary palpi relatively small, last segment (Fig. 97) securiform, widest somewhat behind middle, outer margin nearly straight. Antennae exceeding elytral midlength, relatively slender, segment I 1.7–1.8 × as long as II, segment III 2.5–2.6 × as long as II; segments III–X subequal in length, segment XI 1.4–1.6 × as long as X and constricted in apical third.

Pronotum cordiform, widest at anterior fourth, as long as or slightly longer than wide (PL/PW: 1.0–1.1), with a pair of large and rather deep depressions before middle and an antescutellar one much smaller and shallower but distinct. Punctation similar to that of head, but somewhat finer and less close. Pubescence on pronotum for the most part blackish, pallid on peripheral areas. Scutellum subquadrate.

Elytra subparallel or barely delated behind middle, relatively short (EL/EW: 2.7–2.9), with four obsolete costae, sutural margins slightly costate upon posterior half. Surface thickly and rugosely cribrate-punctate, between punctures densely microsculptured. Pubescence pallid except for both extremities, dense and short.

Tarsi slender, segment I about twice as long as II in pro- and mesotarsi, nearly three times in metatarsi.

Figs. 83–85. Holoype of *Asclera subrugosa* Kôno (= *Indasclera subrugosa* (Kôno)). 83. dorsal view, 84. ventral view, 85. labels.



Figs. 86–100. *Indasclera subrugosa* (Kôno). — 86–97: Male, 86. median lobe, dorsal view, 87. ditto, lateral view (cr: crest, ss: supporting sclerite), 88. tegmen, ventral view, 89. ditto, lateral view, 90. sternite IX, dorsal view (mp: medial projection), 91. ditto, lateral view, 92. tegminite, 93. tergite IX, dorsal view, 94. sternite VIII, ventral view, 95. tergite VIII, dorsal view, 96. last abdominal segment, ventral view, 97. last segment of maxillary palpus (right). — 98–100: Female, 98. internal copulatory organs (bc: bursa copulatrix, od: oviduct, sg: spermathecal gland, st: spermatheca), 99. last abdominal segment, ventral view, 100. last segment of maxillary palpus (right).

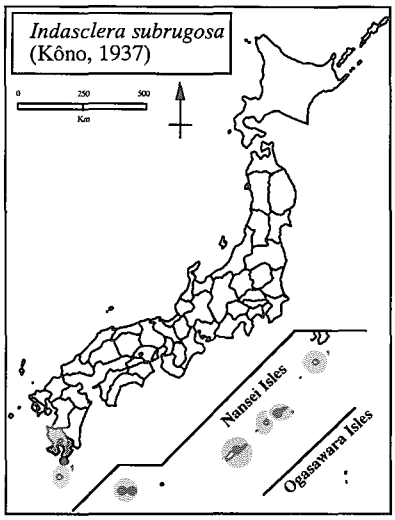


Fig. 101. Distribution of *Indasclera subrugosa* in Japan. Shadowed areas indicate prefectures recorded in Mizota (1998); solid circles indicate localities of examined material in this study.

Terminalia. Last sternite about half as long as pygidium, sinuate at sides, slightly emarginate apically; pygidium truncate at apex (Fig. 96). Urite VIII and tergite VIII shaped as in Figs. 94 & 95 respectively. Tergite IX (Fig. 93) broad. Sternite IX (Figs. 90 & 91) with a small medial projection. Tegminite (Fig. 92) elongate and narrow. Tegmen (Figs. 88 & 89) stout, strongly arcuate in lateral view; parameres very short. Median lobe (Figs. 86 & 87) evenly arcuate, with an apical pair of medium-sized cavities situated laterally; basal apodeme with crest.

Female. Length: 8.0–12.0 mm. Robuster than male. HW/HL: 1.4–1.5. Eyes smaller (FWE/FWA: 1.3–1.4, FWE/EYW: 2.5–2.8). Last segment of maxillary palpi shaped as in Fig. 100. Antennae somewhat shorter, reaching apical fourth of elytra, segment I 1.5–1.7× as long as II, segment III 2.4–2.6× as long as II, segment XI 1.3–1.4 × as long as X. EL/EW: 2.7–2.8.

Terminalia. Last sternite a little shorter than pygidium, rounded apically; pygidium slightly emarginate at apex (Fig. 99). Bursa copulatrix globose, rather large, longer than spermatheca; spermatheca rather large, connected laterally to bursa copulatrix; spermathecal gland relatively short (Fig. 98).

Type material. Holotype (♂, see Figs. 83–85): Okinawa, no date, Sakaguchi leg. (SEHU).

Additional material. Kyûshû. Kagoshima-ken: 1♂ 1♀, Cape Sata, 24.v.1958, Y. Miyake leg. (APM); 6♂♂ 3♀♀, ditto, 29.v.1952, T. Nakane leg. (TN; holotype and paratypes of *Asclera subrugosa kyushuensis* Nakane); 1♀, ditto, 24.v.1952, T. Nakane leg. (TN; paratypes of *Asclera subrugosa kyushuensis* Nakane). 1♂, ditto, 23.iv.1997 (emergence; 17.v.1997), N. Ishihama leg. (SEHU).

Nansei Isles. Amami-Ôshima Is.: 2♂♂, Mt. Yuwandake, 29.vi.1953, T. Shiraki leg. (TN); 1♀, Shin-mura, 14.v.1960, T. Shibata leg. (TN); 4♀♀, Ikari, 17–22.v.1960, T. Shibata leg. (TN); 1♂, Uragami, 22.v.1960, K. Yamada leg. (TN). Okinawa-Hontô Is.: 1♂2♀♀, Uebaru, Nakijin, 1.v.1991, M. Hayashi leg. (SEHU); 2♀♀, Yona, 1–3.v.1976, H. Takizawa leg. (SEHU); 1♀, Yona, 8.v.1992, N. Ohba leg. (YCM). Ishigaki Is.: 1 ex., vii.1926, Matsumura (SEHU). Iriomote Is.: 2♂♂ 1♀, Shirahama, 13.iv.1969, M. Chûjô leg. (SEHU); 1♂, Fall. Kampirei, 12.iv.1969, M. Chûjô leg. (SEHU).

Distribution (Fig. 101). Japan: Kyûshû, Nansei Isles (Yaku-shima Is., Amami-Ôshima Is., Tokuno-shima Is., Okinawa-Hontô Is., Ishigaki Is., Iriomote Is.).

Remarks. This species could be confused with *I. japonica* in Japanese fauna; it may be differentiated by the body relatively slender, elytra longer (EL/EW: 2.7–2.9), not having oblong an area with pallid griseous hairs on dorsum, as well as by genital features.

The *rugosipennis*-group

Švihla's (1997) diagnosis. "Body robust, subcylindrical. Eyes not to moderately prominent, vertex vaulted. Antennae covered by white, recumbent pubescence, last antennal segment constricted behind its midlength. Surface of head densely imbricate-punctate or punctate. Pronotum moderately cordiform, with pair of depressions on disc and with slight praebasal depression. Surface of pronotum with short, dark, semierect pubescence. Hind and especially middle tibiae curved, tibiae covered by recumbent, predominantly white pubescence. Elytra parallel-sided, coarsely imbricate-punctate, with semierect pubescence, metallic, elytral veins excluding subhumeral one not developed. Pygidium triangular, rounded apically, with very slight, apical oval depression. Tegmen and aedeagus very similar in the majority of species, the former tubular, mostly finely, obliquely strigilate before parameres."

7. *Indasclera japonica japonica* (Pic, 1910)
[Japanese name: Sata-kamikiri-modoki]
(Figs. 102–120)

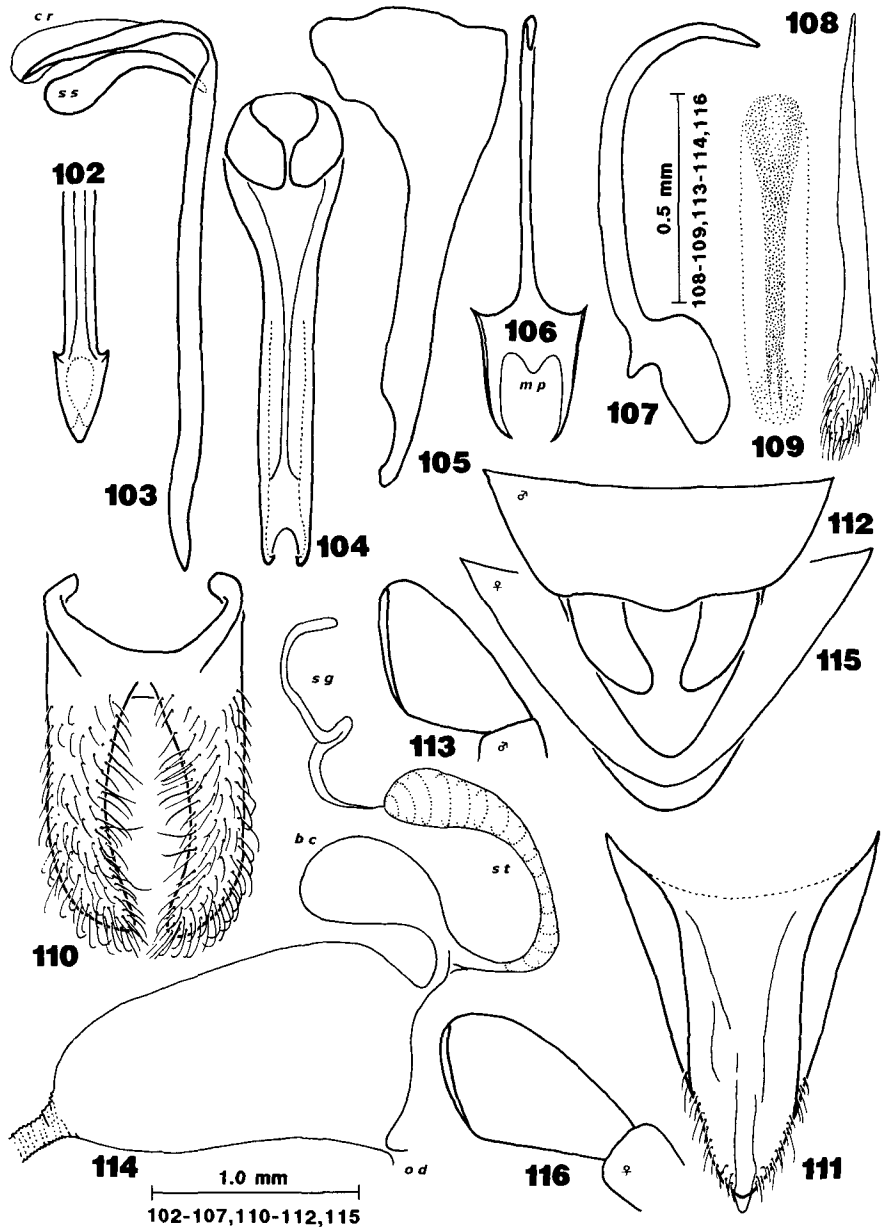
Asclera japonica Pic, 1910: 95, in part; Kôno, 1937c: 46, in part; Miyatake, 1985: 405.
Asclera satana Nakane, 1954: 175; Nakane, 1963: 259, synonymized by Nakane (1973).
Ascleropsis japonica: Nikitsky, 1996: 19.
Indasclera japonica japonica: Švihla, 1997: 450.

Male. Body length: 6.5–8.0 mm. Head, meso- and metasterna, abdomen and elytra dark metallic olive-green; mouthparts, antennae and legs piceous, femora and tibiae with metallic tinge; anteclypeus and pronotum testaceous; scutellum pallid.

Head rather large, short (HW/HL: 1.4–1.5), approximately as broad as or slightly narrower than pronotum (HW/PW: 0.9–1.0), feebly impressed in middle between eyes. Punctation moderately coarse but not so close, between punctures smooth and lustrous. Pubescence fine, flavous and recumbent. Eyes rather small, lateral and far apart, deeply emarginate anteriorly. Frons between eyes distinctly broader than between antennal pits (FWE/FWA: 1.4–1.5). Interocular area broad (FWE/EYW: 2.2–2.6). Last segment of maxillary palpi (Fig. 113) securiform, widest in middle, outer margin nearly straight. Antennae hardly reaching middle of elytra, segment I 1.6–1.8 × as long as II, segment III 2.4–2.6 × as long as II; segments III–X decreasing gradually in length, segment XI 1.3–1.4 × as long as X and distinctly constricted in apical half.

Pronotum rather cordiform, as long as wide (PL/PW: 1.0), widest behind anterior angles, sides rounded anteriorly, convergent backwards and sinuous before basal angles, with a pair of rather deep impressions before middle. Punctation similar to that of head, but a little coarser and less close. Pubescence fine, brown and recumbent. Scutellum linguiform.

Elytra subparallel or barely delated behind middle, relatively short (EL/EW: 2.5–2.6), with four nearly indistinct costae, apical portion of sutural margin costate posteriorly. Surface thickly and rugosely punctate, between punctures densely microsculptured. Pubescence dense and short, covered with subrecumbent blackish hairs principally and an oblong area on dorsum (occupying median one third along suture) and lateral margins bearing yellow and recumbent pubescence.



Figs. 102–116. *Indasclera japonica* (Pic). — 102–113: Male, 102. median lobe, dorsal view, 103. ditto, lateral view (cr: crest, ss: supporting sclerite), 104. tegmen, ventral view, 105. ditto, lateral view, 106. sternite IX, dorsal view (mp: medial projection), 107. ditto, lateral view, 108. tegminite, 109. tergite IX, dorsal view, 110. sternite VIII, ventral view, 111. tergite VIII, dorsal view, 112. last abdominal segment, ventral view, 113. last segment of maxillary palpus (right). — 114–116: Female, 114. internal copulatory organs (bc: bursa copulatrix, od: oviduct, sg: spermathecal gland, st: spermatheca), 115. last abdominal segment, ventral view, 116. last segment of maxillary palpus (right).

Tarsi robust, segment I slightly longer than II in protarsi, about 1.5× or slightly more as long as in mesotarsi, more than twice as long as in metatarsi.

Terminalia. Last sternite (Fig. 112) half as long as pygidium, sinuate at sides. Pygidium tapered apically. Urite VIII and tergite VIII shaped as in Figs. 110 & 111 respectively. Tergite IX (Fig. 109) long and narrow. Sternite IX (Figs. 106 & 107) with a small medial projection. Tegminite (Fig. 108) elongate and narrow. Tegmen (Figs. 104 & 105) rather stout; parameres very short, acutely toothed submedially. Median lobe (Figs. 102 & 103) straight, apex slightly bent ventrally in apical region, with a pair of lateral teeth; basal apodeme with crest.

Female. Length: 11.0–13.0 mm. Robuster than male. HW/HL: 1.4–1.5, FWE/FWA: 1.4–1.5, FWE/EYW: 2.5–2.7, EL/EW: 2.4–2.5. Last segment of maxillary palpi shaped as in Fig. 116. Segment of antennae I 1.6–1.7× as long as II, segment III 2.4–2.5× as long as II, segment XI 1.2–1.3× as long as X.

Terminalia. Last sternite a little shorter than pygidium, rounded apically; pygidium also rounded at apex (Fig. 115). Bursa copulatrix globose, rather large, slightly shorter than spermatheca; spermatheca large, connected laterally to bursa copulatrix; spermathecal gland moderate in length (Fig. 114).

Specimens examined. Honshû. Kanagawa-ken: 1♂, Saru-shima Is., Yokosuka, 4.vii.1979, M. Hayashi leg. (HA); 2♂♂ 2♀♀, ditto, 20.vi.1976, Y. Kusui leg. (YCM); 1♀, ditto, 18.vii.1954 (TN).

Kyûshû. Miyazaki-ken: 1♂, Miike, 14.v.1982, M. Ôhara leg. (SEHU). Kagoshima-ken: 2♂♂ 4♀♀, Cape Sata, 29.v.1952, T. Nakane leg. (TN; Holotype and paratypes of *Asclera satana* Nakane); 1♂ 1♀, ditto, 22.v.1955, K. Sawada leg. (TN); 1♂, ditto, 24.v.1958, Y. Miyake leg. (APM).

Distribution (Fig. 120). Japan: Honshû, Kyûshû. ESK & KSAE (1994) reported this species from Korea, but their record must be ascertained.

Remarks. *I. japonica* is somewhat similar to *I. subrugosa*, but it can be readily distinguished externally by the body relatively robust, elytra shorter (EL/EW: 2.5–2.6) and having an oblong area with pallid griseous hairs on dorsum (occupying median one third along the suture), as well as by genital features.

Indasclera japonica amamiana (Miyatake, 1985)
[Japanese name: Amami-kamikiri-modoki]

Asclera amamiana Miyatake, 1985: 405.
Indasclera japonica amamiana: Švihla, 1997: 452.

By the courtesy of Dr. M. Miyatake, I have examined one of the syntypes of *Asclera amamiana* Miyatake. This is the specimen figured in the original description, and is here designated as the lectotype.

Type material. Lectotype (♀, here designated, see Figs. 117–119): Japan: Naze, Amami-Ôshima Is., 11.v.1960, T. Shibata leg. (ELEU).

Additional material. Nansei Isles. Yaku-shima Is.: 1♂, Anbô, 16.vii.1997, H. Yoshitomi leg. (HY). Tane-ga-shima Is.: 1♂, Minamitane, 28.v.1960, S. Ishida leg. (SEHU). Amami-Ôshima Is.: 1♂ 9♀♀, Ikari, 11–29.v.1960, T. Shibata leg. (TN); 1♀, Mt. Akatsuchi, 4.vii.1980, T. Kinoda leg. (TN); 1♀, 8.vi.1962, M. Nagai leg. (TN); 1 ex., 26.iv–5.v.1967, H. Takizawa leg. (SEHU); 2♀♀,

Figs. 117–119. Lectoype of *Asclera amamiana* Miyatake (= *Indasclera japonica amamiana* (Miyatake)). 117. dorsal view, 118. ventral view, 119. labels.

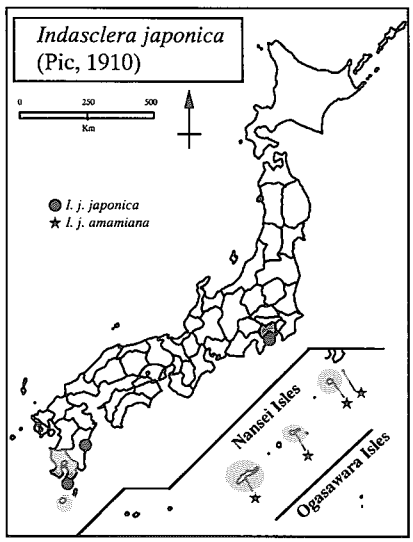


Fig. 120. Distribution of *Indasclera japonica* in Japan. Shadowed areas indicate prefectures recorded in Mizota (1998); solid circles and solid stars indicate localities of examined material in this study.

Mt. Yuwandake, 30.iv–1.v.1977, H. Takizawa leg. (SEHU); 1 ♀, ditto, 11-12.vi.1992, H. Yoshitomi leg. (HY); 1 ♂ 2 ♀ ♀, Nishinakama, 29.iv.1977, H. Takizawa leg. (SEHU); 1 ♀, Kamiya, Sumiyô, 2.vii.1992, R. Noda leg. (TU). Okinawa-Hontô Is.: 1♂, Yona, 1–3.v.1976, H. Takizawa leg. (SEHU).

Distribution (Fig. 120). Japan: Nansei Isles (Tane-ga-shima Is., Yaku-shima Is., Amami-Ôshima Is., Okinawa-Hontô Is.).

Remarks. Though this form was originally described as a distinct species by Miyatake (1985) from Amami-Ôshima Is., it well agrees with *Indasclera japonica* in the characters of male genitalia. It was therefore downgraded to a subspecies of the latter by Švihla (1997).

This subspecies differs from the nominotypical one in the following points: larger in size, surface of elytra entirely ultramarine and more strongly rugosed especially in female.

Key to the Japanese species of *Indasclera*

1. Pronotum black 2
–. Pronotum orange-yellow 4
2. Elytra entirely opaque, light to dark reddish brown; hairs on elytra blackish ..... *I. brunneipennis* (Lewis)
–. Elytra shining, dull brown; hairs on elytra not blackish 3

3. Head strongly narrowed behind the eyes towards neck. Male. Interocular area narrower (FWE/EYW: 3.2-3.5); apical margin of terminal segment of maxillary palpi is much longer than inner margin (Fig. 48); projections of sternite VIII thinner (Fig. 45) ..... *I. igai* (Nakane)

–. Head gently narrowed behind the eyes towards neck. Male. Interocular area broader (FWE/EYW: 4.8-5.2); apical margin of terminal segment of maxillary palpi is much shorter than inner margin (Fig. 29); projections of sternite VIII thicker (Fig. 26) ..... *I. carinicollis* (Lewis)

4. Elytra dull blackish brown, opaque 5

–. Elytra metallic 6

5. Head relatively small. Male. Interocular area narrower (FWE/EYW: 3.6-4.2); elytra dull blackish brown; last sternite not so dilatate (Fig. 63); sternite IX with a medial projection (Fig. 57) ..... *I. ruficollis* (Lewis)

–. Head very large. Male. Interocular area broader (FWE/EYW: 5.2-5.6); elytra yellowish brown; last sternite remarkably dilatate (Fig. 80); sternite IX without medial projection (Fig. 74) ..... *I. nakanei* sp. nov.

6. Elytra shorter (EL/EW: 2.5-2.6) and with hairs blackish except on median oblong area densely covered with pale hairs; apex of median lobe with a pair of lateral teeth (Fig. 102) ..... *I. japonica* (Pic)

–. Elytra longer (EL/EW: 2.7-2.9) and with hairs not blackish on whole area; apex of median lobe without lateral teeth (Fig. 86) ..... *I. subrugosa* (Kôno)

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