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A Study on the Elaterid-beetles of SHIBATA Collection from Taiwan, I (Coleoptera, Elateridae)

On the subfamilies Oxynopterinae and Agrypninae

By Takashi Kishii

Abstract Four Oxynopterine-species and seventeen Agrypnine-species are reported from Taiwan, of which three species and a subspecies are newly described as follows: Agrypnus (Agrypnus) formosanus lanyuanus, A. (A.) ami, A. (A.) dilatipennis, and Agrypnus (Colaulon) muscroides. Lacon kawamurae Miwa, 1929 is newly synonymized with Agrypnus (Sagojyo) montanus (Miwa, 1929).

Recently, I had an opportunity to examine a lot of Taiwanese elaterid-beetles through the good will of Mr. Taichi Shibata (芝田太一). The collection was made by the members of the Osaka Coleopterological Society by their surveys in Taiwan from 1968 to 1972 under the leadership of Mr. Shibata. After long and careful examination, I have been able to accumulate many valuable and interesting informations on the Taiwanese elaterids, and the following result has been clarified.

At the beginning of my first report, above all, I wish to express my hearty thanks to Mr. Shibata for his kind help in the course of my study. More, I am indebted also to the collecting members of the survey as follow as: Messrs. Yasuhiko Hayashi (林靖彦), Yoshimi Kiyoyama (清山好美), Taku Kobayashi (小林卓), Yôichi Maéda (前田洋一) and Hideyo Nomura (野村英世).

All the specimens herewith treated will be deposited in the collection of Mr. Shibata, excepting some types and specimens are preserved in my private collection.

Besides, the Chinese characters of localities are as follows: Ali, Mt. (阿里山), Nantou Hsien; Chinshan (錦山), Taoyuan Hsien; Chipon (知本), Taitung Hsien; Chitou (鶏頭), Nantou Hsien; Funchifo, Funchihu or Fenchifo (奮起湖), Chiai Hsien; Houfuan, Mt. (合歓山), Nantou Hsien; Kenting-Park (墾丁国家公園), Pingtung Hsien; Lanyu, Is. (蘭嶼), Taitung Hsien; Lienhwachi (蓮華池), Nantou Hsien; Liukuei or

Luikuei (六亀), Kaohsiung Hsien; Lishan (梨山), Taichung Hsien; Liyutan (鯉魚潭), Miaoli Hsien; Lutao, Is. (緑島), Taitung Hsien; Meifon (梅峰), Nantou Hsien; Musha or Wusha (霧社), Nantou Hsien; Nanshanchi (南山渓), Nantou Hsien; Neiwan (內湾), Hsinchu Hsien; Oluanpi (鵝鑾鼻), Pingtung Hsien; Puli (埔里), Nantou Hsien; Roshan (蘆山温泉), Nantou Hsien; Shihmen Reservoir (石門水庫), Taoyuan Hsien; Sungkang (松崗), Nantou Hsien; Taitung (台東), Taitung Hsien; Taloko (太魯閣), Hualien Hsien; Tanansha (大南社), Taitung Hsien; Tienshan (天祥), Hualien Hsien; Wurai (烏来), Taipei Hsien; Yang-Ming or Yangming, Mt. (陽明山), Taipei City; Yuli (玉里), Hualien Hsien.

Subfamily **Oxynopterinae**Tribe Campsosternini

Campsosternus auratus (Drury, 1773) (Fig. 5)

Elater auratus Drury, 1773, Illustrat. exot. Ins., 2:65, t. 65, fig. 3 (China).

Campsosternus gemma watanabei Miwa, 1929 (Figs. 1-b & 6)

Campsosternus gemma Candèze, ab. watanabei Miwa, 1927, Ins. Mats., 2 (1):15 (Hoppo in Formosa).

Funchifu: $1 \, \mathcal{J}$, June 24, 1972, Y. Kiyoyama leg.; $2 \, \mathcal{F} \, \mathcal{F}$, Aug. 15, 1972, Y. Maéda leg.; $1 \, \mathcal{F}$, Aug. 19, 1972, ditto. Liukuei: $1 \, \mathcal{F}$, June 21, 1972, Y. Kiyoyawa leg.; $1 \, \mathcal{F}$, Aug. 6, 1972, Y. Maéda leg.; $1 \, \mathcal{F}$, Aug. 13, 1972, ditto. Formosa without exact data: $1 \, \mathcal{F}$, 1963; $2 \, \mathcal{F} \, \mathcal{F}$, 1968, native collector leg.

The Taiwanese population of this species is divided from that of China proper as the different subspecies, by the shape of apico-lateral expansion of male genitalia as figured (figs. 1-a & b).

Campsosternus mirabilis Fleutiaux, 1930 (Fig. 7)

Campsosternus mirabilis Fleutiaux, 1930, Bull. Mus. hist. nat. Paris, 2 (4):409 (Formosa).

Formosa without exact locality: 1 3, June 28, 1969, native collector leg.

Campsosternus guishuni ÔHIRA, 1977 (Fig. 8)

Campsosternus guishuni Öhira, 1977, Elytra, 5 (2): 34-35, fig. 3 (Kao-Hsiung Hsien

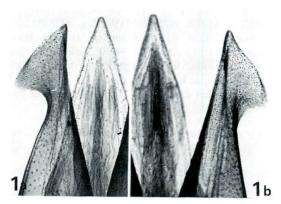


Fig. 1. Apical part of male genitalia. a, *Campsosternus gemma gemma* Candèze, 1857, from China; b, *Campsosternus gemma watanabei* Miwa, 1929, from Sungkang in Taiwan.

in Taiwan).

Wusha, vic.: $1\, \circ$, Feb., 1966, native collector leg. Formosa without exact data: $1\, \circ$, 1968, native collector leg.

Subfamily Agrypninae

Rismethus scobinula (Candèze, 1857) (Fig. 17)

Meristhus scobinula Candèze, 1857, Monographie des Élatérides 1: 164, t. 2, f. 26 (Chine et Mexique).

Chipon: 1 7, Oct. 5, 1970, Y. KIYOYAMA leg.

Meristhus (Sulcimerus) babai Kishii, 1991 (Fig. 21)

Meristhus (Sulcimerus) babai Kishii, 1991, Trans. Essa ent. Soc., Niigata, (73):(11) & 17-19, figs. 5 & 36 (Liukuei in Taiwan).

Liukuei: 1 &, June 21, 1972, Y. Кічочама leg., at light.

Agrypnus (Agrypnus) formosanus formosanus (BATES, 1866) (Fig. 31)

Lacon formosanus Bates, 1866, Proc. zool. Soc. London, 2:348 (Formosa). Kenting-Park: $1 \, \mathring{\sigma}$, Aug. 12, 1969, T. Kobayashi leg.; $2 \, \mathring{\sigma} \, \mathring{\sigma}$, $1 \, \mathring{\varphi}$, Aug. 13, 1969, Y. Maéda leg.; $1 \, \mathring{\sigma}$, $2 \, \mathring{\varphi} \, \mathring{\varphi}$, Aug. 14, 1969, Y. Maéda & T. Kobayashi leg., at light;

13, May 21, 1970, Y. Kiyoyama leg.; $2 \circ \varphi$, Sept. 29, 1970, ditto; $1 \circ \sigma$, $1 \circ \varphi$, June 13, 1972, ditto, at light; $1 \circ \varphi$, Aug. 3, 1972, Y. Maéda leg., at light; $1 \circ \varphi$, Aug. 4, 1972, ditto. Liyutan: $1 \circ \varphi$, Aug. 23, 1970, T. Kobayashi leg., at light. Musha: $1 \circ \sigma$, June 2, 1970, A. Rin leg. Nanshanchi: $1 \circ \sigma$, Aug. 3, 1969, T. Kobayashi leg., at light; $1 \circ \sigma$, ditto, Y. Maéda & T. Kobayashi leg., at light; $1 \circ \sigma$, May 17, 1970, Y. Kiyoyama leg.; $2 \circ \sigma \sigma$, June 7, 1970, ditto, at light. Taloko: $2 \circ \sigma \sigma$, $2 \circ \varphi \sigma$, May 24, 1968, Y. Hayashi leg. Formosa without exact data: $2 \circ \sigma \sigma$, $2 \circ \varphi \sigma$, 1968, native collector leg.

Agrypnus (Agrypnus) formosanus lanyuanus Kishii, subsp. nov. (Fig. 32)

Lacon formosanus: MIWA et alt., 1932, Trans. nat. Hist. Soc. Formosa, 23 (121): 302 (Kotosho).

Agrypnus (Agrypnus) formosanus: ÔHIRA, 1970, Bull. Jap. ent. Acad., 6 (1): 17 (Lan-hsu I.).

The population from Is. Lanyu of this species has some distinguishable structures from the nominotypical subspecies as given as follows. It may have the position as a distinct new subspecies indigenous to the island.

Male, $16.60-18.00\times6.10-6.50$ mm., female, $16.40-19.20\times5.70-6.50$ mm. Body remarkably larger and robuster as compared with nominotypical subspecies in average value of measurements. The 2nd and 3rd antennal joints a little shorter. Pronotal punctures generally denser and coarser. Pronotal nodulous projections more obvious. Apico-lateral expansion of each lateral lobe in male genitalia as figured (figs. 32-b & c), generally triangular and not subcircular like that of nominotypical subspecies (figs. 31-b & c).

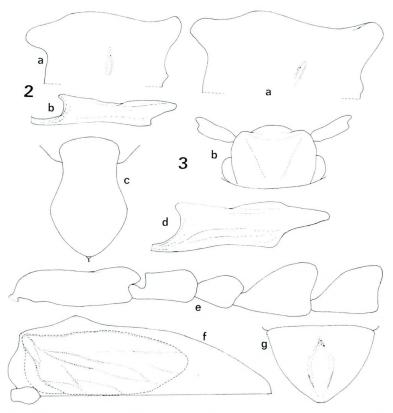
Agrypnus (Agrypnus) bipapulatus bipapulatus (Candèze, 1865) (Figs. 9 & 22)

Lacon bipapulatus CANDÈZE, 1865, Elat. nouv., 1:11 (Chine).

Fenchifo: $1 \circ$, July 20, 1970, T. Kobayashi leg.; $1 \circ$, June 25, 1972, Y. Kiyoyama leg., at light. Sungkang: $1 \circ$, July 31, 1970, T. Kobayashi leg., at light. Formosa without exact data: $1 \circ$, 1968, native collector leg.

Agrypnus (Agrypnus) ami Kishii, sp. nov. (Figs. 2 & 33)

The general feature of this new species closely resembles that of A. formosanus (Bates, 1866), but can be easily distinguished by the following points.



Figs. 2-3. 2, Agrypnus (Agrypnus) ami Kishii, sp. nov., 3. a, right half of pronotum; b, prosternal process in profile. 3, Agrypnus (Agrypnus) dilatipennis Kishii, sp. nov., 3. a, right half of pronotum; b, head; c, scutellum; d, prosternal process in profile; e, right antennal joints from 1st to 5th; f, right elytron and hind wing; g, 7th sternite in \$\varphi\$.

Male, 12.50×4.30 mm; female, 12.90×4.30 mm. Plainly smaller, narrower and more slender. Coloration of body generally similar to formosanus, but greyish patterns on above surface by scale-like hairs more or less obsolescent. Pronotum (fig. 2-a) not so broad, with punctures smaller and sparser; nodulous elevations transverse and remarkably glabrous without any scales (in formosanus usually covered by dense scales wholly). Strial punctures of elytra plainly smaller and sparser. Prosternal process in profile (fig. 2-b) entirely horizontal at under surfcae. Male genitalia as figured (figs. 33-b & c), with apical end of paramere rather triangular, and latero-apical projection acutely pointed.

Holotype: ♂, Liukuei in Kaohsiung Hsien, Aug. 12, 1972, Y. Maéda leg., at light. Paratype: 1 ♀, ditto to holotype, Oct. 3, 1970, Y. Kiyoyama leg., at light.

Agrypnus (Agrypnus) dilatipennis Кізнії, sp. nov. (Figs. 3 & 34)

Male, $11.70\text{-}13.30 \times 4.10\text{-}4.50 \text{ mm.}$, female, $12.00\text{-}13.60 \times 4.50\text{-}5.10 \text{ mm.}$ Rather stout, oblong elliptic, distinctly depressed on dorsal as well as ventral surfaces, widest behind elytral humeri, not shining all over, clothed evenly with dense long, and whitish grey and pale brownish scales mixedly on whole surface excepting antennae, tibiae and tarsi. Entirely rusty brownish to red, with antennae and legs more or less clear reddish.

Head (fig. 3-b) quadrate, broader across eyes than median length, with a broad large and triangular depression at anterior part, remarkably developed and angulate upon antennal sulci; relative breadth between eyes and each eye width as 90:15 in dorsal view; frontal edge plainly limited and carinate; whole surface microscopically shagreen-likely and obviously sculptured, with punctures circular, deep, dense and a little uneven.

Antennae elongate, well developed, a little shorter than combined length of head and pronotum together; relative lengths and widths from basal joint to 5th as 43/16, 20/12, 15/11.5, 25/17 and 20/16.5 respectively (fig. 3-e, male); basal joint clearly robust, voluminous and parallel-sided in dorsal view, with a distinct emargination at apex, 2nd broadened apically and plainly and angulately emarginate at base, 3rd subtriangular, 4th to 10th serrated, and 11th ovate.

Pronotum (fig. 3-a) subquadrate, surely broadened before the middle, more or less narrowed behind anterior corners as well as before posterior angles; anterior edge distinctly and broadly emarginate at the middle, namely, exceedingly, broadly and roundly developed ahead at fore angles; lateral margins complete and not entirely crenuate; hind angles short, rounded at apices, feebly divergent postero-laterally, each with an obscure short carina-like elevation; disc rather flattened laterally, weakly convex above medianly with a pair of distinct transverse smooth and nodulous projections, shallowly impressed medio-longitudinally behind nodules, evenly, simply and slightly convex above at anterior area; relative median length and maximum width as 100:103; punctures and general surface well corresponding with those on head.

Scutellum (fig. 3-c) slightly declivous antero-inferiorly, subpentagonal at posterior part, plainly narrowed behind fore corners, wholly with distinct dense scales.

Elytra (fig. 3-f) suboval, distinctly dilated behind humeri and clearly concave from humeral parts to before the dilated points along lateral sides, subparallel near the middle, then gently and roundly converging posteriorly; striae rather invisible, but having large discontinual elongate punctures linearly; interstices flattened with dense punctures and shagreen-like sculptures on whole surface; sutural line and apices moderate. Hind wings clearly degenerated (fig. 3-f).

Prosternum longitudinally convex ventrally, broadened anteriorly, with frontal lobe hemicircular, declivous antero-inferiorly, rounded at anterior edge; punctures a little larger than pronotal ones. Prosterno-pleural sutures closed at basal one-third, then remarkably grooved for receiving antennae at anterior part. Prosternal process in profile (fig. 3-d) straight, gently narrowed apically, with a clear notch at apex. Propleura simple, without any tarsal grooves. Mesocoxal cavity elongate and parallel-sided. Propleural and metasternal punctures similar to pronotal ones. Metasternum simple, without any groove nor impression. Terminal segment of abdomen (7th sternite) with an obscure elongate elliptical smooth area in female (fig. 3-g). Legs slender, well developed, with tarsal joints simple entirely.

Male genitalia as figured (figs. 34-b & c).

Holotype: \circlearrowleft , Sungkang in Nantou Hsien, March 22, 1970, H. Nomura leg. Paratypes: Funchifu: $1\,$ \circlearrowleft , May 3, 1970, Y. Kiyoyama leg.; Musha: $1\,$ \circlearrowleft , Aug. 7, 1969, T. Kobayashi leg. Sungkang: $1\,$ \circlearrowleft , $1\,$ \circlearrowleft , Aug. 6, 1969, T. Kobayashi leg.; $1\,$ \circlearrowleft , Aug. 4, 1969, Y. Maéda leg.; $1\,$ \circlearrowleft , Aug. 20, 1969, T. Kobayashi leg.; $1\,$ \circlearrowleft , $2\,$ \circlearrowleft , April 14, 1970, ditto; $2\,$ \circlearrowleft , April 1, 1971, ditto.

It is easily distinguishable from other Agrypnus-species from Taiwan and its adjacent area by the outline of body and the degenerated hind wings.

Agrypnus (Agrypnus) polishaensis Ôhira, 1977 (Fig. 10)

Agrypnus (Agrypnus) polishaensis Ôhira, 1977, Elytra, 5 (2): 33-34, figs. 1 & 2 (Nanshanchi, Mt. Rara & Polisha in Taiwan).

Nanshanchi: $1\, \cup{\circ}$, paratype, April 3, 1971, H. Nomura leg.

This specimen was designated as the paratype in the original description.

Agrypnus (Paralacon) argillaceus shirozui (ÔHIRA, 1966) (Figs. 11 & 23)

Adelocera (Sabikikorius) argillaceus [!] shirozui Ôhira, 1966, Kontyú, 34 (3): 216, figs. 1, 2 (Alishan & Sungkang in Formosa).

Agrypnus (Sabikikorius) setiger (Bates, 1866) (Figs. 12 & 24)

Lacon setiger BATES, 1866, Proc. zool. Soc. London: 348 (Formosa).

Kenting-Park: 3 exs., May 18, 1968, Y. Hayashi leg.; 3 exs., Aug. 12, 1969, Y. Maéda & T. Kobayashi leg., at light; 3 exs., Aug. 14, 1969, ditto, at light; 1 ex., May 20, 1970, Y. Kiyoyama leg.; 1 ex., May 21, 1970, ditto; 1 &, May 23, 1970, ditto; 1 ex., May 25, 1970, ditto; 1 ex., June 15, 1972, ditto, at light. Lienhwachi: 1 ex., June 29, 1972, Y. Kiyoyama leg. Mt. Yang-Ming: 1 ex., May 30, 1968, Y. Hayashi leg.

Agrypnus (Sabikikorius) sauteri (Ôhira, 1970) (Figs. 13 & 27)

Adelocera (Sabikikorius) sauteri Ôhira, 1970, Annls hist.-nat. Mus. natn. hung., 62:208 & 210, fig. 1, pl. 1, fig. D (Kanshirei in Formosa).

Kenting-Park: $1 \, \varnothing$, May 24, 1970, Y. Kiyoyama leg. Mt. Yang-Ming: $1 \, \varnothing$, May 10, 1968, Y. Hayashi leg. Formosa without exact data: $1 \, \varphi$, 1968, native collector leg.

Agrypnus (Sabikikorius) taiwanus (MIWA, 1927) (Figs. 14 & 26)

Lacon taiwanus Miwa, 1927, Ins. Mats., 2 (1): 13 & 14, pl. 1, fig. 2, ♀ (Baibara, Koshun, Horisha & Arisan in Formosa).

Chipon: $1 \, \vec{\sigma}$, $1 \, \hat{\varphi}$, March 28, 1970, H. Nomura leg. Lienhwachi: $1 \, \vec{\sigma}$, $1 \, \hat{\varphi}$, June 30, 1972, Y. Kiyoyama leg. Taitung: $1 \, \vec{\sigma}$, June 18, 1972, Y. Kiyoyama leg., at light. Mt. Yang-Ming: $1 \, \vec{\sigma}$, May 9, 1968, Y. Hayashi leg.

Though, this species was treated as a member of the subgenus Sagojyo with a few doubts in my previous papers (1990 & 1993), this is concluded to belong to the subgenus Sabikikorius by the external outline of the body and the slender form of male genital organ (fig. 26) from the result of my latest comparative study based on plenty Asian Agrypnine-elaterids.

Agrypnus (Sagojyo) nagaoi (Ôhira, 1966) (Figs. 15 & 28)

Colaulon (Sagojyo) nagaoi Ôhira, 1966, Bull. Jap. ent. Acad., 2(2): 7, figs. A, D (Shin-mura in Amami-Ôshima Is.).

Is. Lanyu: $1 \, \varnothing$, Oct. 7, 1970, Y. Kiyoyama leg., at light; $1 \, \varnothing$, Oct. 8, 1970, ditto, at light; $1 \, \varphi$, June 2, 1972, ditto; $1 \, \varnothing$, $1 \, \varphi$, July 17, 1972, Y. Maéda leg., at light.

Agrypnus (Sagojyo) montanus (MIWA, 1929) (Figs. 16 & 29)

Lacon montanus MIWA, 1929, Trans. nat. Soc. Formosa, 19 (102): 229 (Shinchiku & Baibara in Formosa).

Lacon kawamurae Miwa, 1929, ibid.: 230 & 231 (Horisha in Formosa). syn. nov.

Chipon: $3 \circlearrowleft \circlearrowleft$, March 27, 1970, H. Nomura leg.; $1 \circlearrowleft$, March 20, 1972, Y. Maéda leg. Lienhwachi: $1 \circlearrowleft$, June 29, 1972, Y. Kiyoyama leg. Liukuei: $1 \circlearrowleft$, Aug. 12, 1972, Y. Maéda leg., at light. Liyutan: $1 \circlearrowleft$, Aug. 24, 1970, T. Kobayashi leg. Musha: $1 \circlearrowleft$, May 25, 1970, A. Rin leg.; $1 \circlearrowleft$, May 27, 1970, ditto; $1 \circlearrowleft$, Aug. 28, 1970, T. Kobayashi leg., at light. Nanshanchi: $1 \circlearrowleft$, March 28, 1970, T. Kobayashi leg.; $1 \circlearrowleft$, Aug. 4, 1970, ditto; $1 \circlearrowleft$, May 3, 1971, Y. Hayashi leg.; $1 \circlearrowleft$, May 25, 1971, Y. Maéda leg., at light; $1 \circlearrowleft$, June 26, 1971, Y. Maéda leg. Neiwan: $1 \circlearrowleft$, July 25, 1969, Y. Maéda & T. Kobayashi leg., at light. Taitung: $1 \circlearrowleft$, June 9, 1971, Y. Maéda leg.; $1 \hookrightarrow$, May 28, 1972, Y. Kiyoyama leg.; $1 \hookrightarrow$, June 19, 1972, ditto, $1 \circlearrowleft$, July 9, 1972, Y. Maéda leg. Taloko: $1 \circlearrowleft$, $1 \hookrightarrow$, May 24, 1968, Y. Hayashi leg Tanansha: $1 \hookrightarrow$, June 9, 1972, Y. Kiyoyama leg.; $1 \hookrightarrow$, July 7, 1972, ditto, at light.

Lacon montanus and L. kawamurae described simultaneously by MIWA in 1929 were once pointed out their possibility of conspecies by me in 1990, and my further examination of many examples confirms their identity that the differentiae between both species stated by MIWA on the body coloration and pronotal nodulous projections are nothing but the variation within the same species.

Agrypnus (Compsolacon) baibaranus Hayek, 1973 (Figs. 18 & 25)

Neolacon formosanus MIWA, 1929, Trans. nat. Hist. Soc. Formosa, 19 (102): 235 & 236, fig. 2 (Baibara in Formosa), junior secondary homonym of Agrypnus formosanus BATES, 1866.

Agrypnus baibaranus HAYEK, 1973, Bull. BM (NH), Ent. Suppl., 20:129, replacement name for Neolacon formosanus MIWA, 1929.

Musha: 1♀, March 23, 1970, H. Nomura leg.; 1♀, June 1, 1970, A. Rin leg.

Agrypnus (Compsolacon) sakaguchii (Miwa, 1927) (Fig. 19)

This species is newly transferred from the subgenus Sagojyo (see Kishii, 1990) to Compsolacon on the structures of pronotum.

Agrypnus (Colaulon) shirakii (MATSUMURA, 1911) (Figs. 20 & 30)

Lacon Shirakii Matsumura, 1911, Mem. Soc. ent. Belg., 18:146 (Formosa).

Agrypnus (Colaulon) shirakii (Matsumura, 1911): Kishii, 1990, Trans. Essa ent.

Soc. Niigata, (70): 12-13, figs. 4, 17 & 39 (Mt. Sen-pei near Liukuei in Taiwan).

Chipon: 1♀, Oct. 5, 1970, Y. Kiyoyama leg. Liyutan: 2 exs., Aug. 23, 1970, T.

Kobayashi leg. Musha: 1♀, April 30, 1970, A. Rin leg. Neiwan: 4 exs., July 24, 1969, Y. Maéda leg.; 4 exs., July 25, 1969, T. Kobayashi leg. Puli: 4 exs., July 31, 1969, T. Kobayashi leg.

Agrypnus (Colaulon) muscroides Kishii, sp. nov. (Figs. 4 & 35)

Agrypnus (Colaulon) shirakii: Kishii, 1990, Trans. Essa ent. Soc. Niigata, (70):12 & 13, figs. 4, 17 & 39 (Mt. Sen-pei near Liu-kuei).

Male, $7.60-8.10\times3.15-3.20$ mm., female, $9.10-10.20\times3.25-3.70$ mm. Rather robust, not so broad, closely ovate, distinctly depressed above as well as beneath, and subparallel-sided. Entirely opaque by waxy covering on whole surface of body. Black to somewhat rusty brownish with antennae and legs more or less reddish brown. Scales born on punctures short, small, rather triangular, a little curved, mostly ferruginous brown and mixed with some greyish ones.

Head (fig. 4-b) broad, subpentagonal, feebly declivous antero-inferiorly, rather flattened with an obscure broad and triangular depression at medio-anterior area; relative breadth across eyes and each eye width as 63:10 in dorsal view; latero-frontal edges upon antennal sulci plainly and roundly carinate, not conglutinate with anterior margin, which is arched and well defined; antennal sulci broad, triangular and shallowly concave; vertical surface remarkably shagreened, with punctures rather dense, deep and circular, and average extent among punctures subequal to their diameter.

Antennae short, not slender, slightly exceeding beyond the middle of pronotum; relative lengths and widths from basal joint to 5th as 26/10.5, 10/7.5, 10/6, 11/10.5 and 10.5/10 respectively (fig. 4-a, male, holotype); basal joint cylindrical, robust and parallel-sided, 2nd clearly incised at antero-basal part, 3rd elongete triangular, 4th to 10th triangular, and 11th broad and ovate.

Pronotum (fig. 4-c) rather broad, simply and evenly convex above without any median line nor depression, subparallel-sided or slightly and roundly expanded outwards at the middle, and flattened simply and declivous at posterior slope; anterior edge conspicuously emarginated medio-transversely with latero-anterior angles subtriangularly developed ahead; lateral sides obviously crenate through whole span; hind angles short, not developed nor divergent outwards, without any carination, and truncate at apices, which are feebly emarginated; relative median length and width as 80:100 (holotype); discal surface microscopically and entirely shagreened, with punctures circular, rather dense, deep and a little uneven in density, and their interstices generally narrower than the diameter in average.

Scutellum (fig. 4-d) subpentagonal, flattened entirely, a little declining antero-inferiorly, subequal at median length and width, weakly constricted behind anterior corners, slightly and roundly expanded ahead

at anterior edge, and triangularly angulated at posterior apex, with punctures similar to those on pronotum.

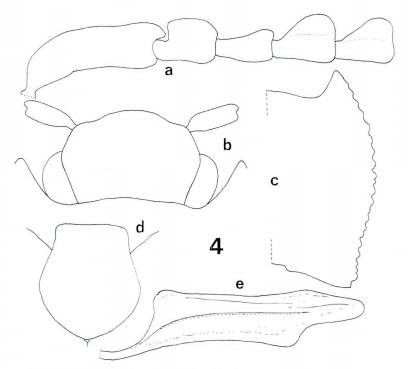


Fig. 4. Agrypnus (Colaulon) muscroides Kishii, sp. nov., 3. a, right antennal joints from 1st to 5th; b, head; c, right half of pronotum; d, scutellum; e, prosternal process in profile.

Elytra ovate, gradually rounded laterally behind the middle, then roundly convergent posteriorly, clearly crenate only at lateral sides behind humeri; striae visible and narrowly grooved with discontinual round punctures; interstices flattened with two or three irregular rows of punctures. Hind wings normal.

Prosternum oblong triangular, widened forwards, well convex below longitudinally, with fore lobe large, obscurely furrowed transversely at base, feebly depressed at antero-medianly near fore edge, which is well defined and carinated; punctures more or less similar to those on pronotum. Prosterno-pleural sutures closed at basal one-third only, then remarkably canaliculated anteriorly for keeping antennae. Prosternal process in profile (fig. 4-e) elongate, not so narrow, with a clear deep furrow

medio-longitudinally on both sides and distinctly carinated at upper sides of the furrows; apex rather triangular with a small excavation behind apex; under side of process exceedingly crenate. Propleuron flattened, without any tarsal groove nor depression; punctures having some resemblance to those of prosternum. Metasternum simple, without any tarsal depression. Abdominal segments moderate. Legs ordinary. Male genitalia as figured (figs. 35-c & d), with median lobe conspicuously broadened and rounded at apex.

Holotype: \eth , Shi-nan Shan near Liukuei, Kao-hsiung Hsien, June 16, 1986, K. Baba leg. Paratypes: Shihmen Reservoir: 3 + 4, July 27, 1969, T. Kobayashi leg.; 1 + 4, ditto, Y. Maéda leg. Nanshanchi: 3 + 4, May 17, 1970, Y. Kiyoyama leg.; 1 + 4, Sept. 1, 1970, T. Kobayashi leg.; 1 + 4, Sept. 22, 1970, Y. Kiyoyama leg., at light; 1 + 4, June 27, 1971, Y. Maéda leg., at light. Mt. Sen-pei near Liukuei: 1 + 4, June 4, 1987, K. Baba leg.

In the coloration and general appearance this new species plainly resembles $Lacon\ musculus\ Candeze,\ 1857$ from South China, and the latter has been frequently reported from Taiwan before now by many entomologists since Miwa (1929). The shape of male genitalia of this new species is, however, characteristic among L. musculus (see figs. 35-c & 36) and other Asian Colaulon-species.

Literatures cited

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 - —— 1993. Taiwanese Elateridae collected by Mr. M. Yagi in 1991, with the descriptions on some new taxa (Coleoptera). Ent. Rev. Japan, 48 (1):15-34, 5 pls., 50 figs.
- Miwa, Y., 1929. Elateridae of Formosa (contribution to the fauna of Formosan Coleoptera). Trans. nat. Hist. Soc. Formosa, 19 (102): 225-246, 3 figs.

Explanation of plates 1-4

- Plate 1, fig. 5. Campsosternus auratus (Drury, 1773), \$\operact \, \text{Nanshanchi}, 26. VI, 1971, Y. Maéda leg., 39.5 mm.
 - 6. Campsosternus gemma watanabei Miwa, 1929, ♀, Liukuei, 21. VI, 1972, Y. Kiyoyama leg., 34.7 mm.

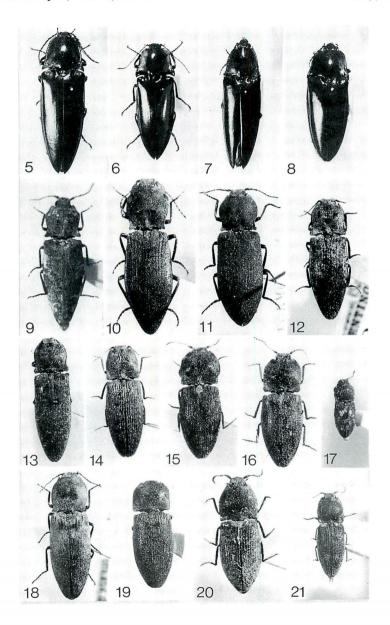
 - 8. Campsosternus guishuni Ôhira, 1977, \$\varphi\$, vic. Musha, II, 1966, native collector leg., 35.4 mm.
 - 9. Agrypnus (Agrypnus) bipapulatus bipapulatus (Candèze, 1865), ♀, Sungkang, 31. VII, 1970, T. Kobayashi leg., 14.9 mm.
 - 10. Agrypnus (Agrypnus) polishaensis Ôніка, 1977, ♀, paratype, Nan-

- shanchi, 3. IV, 1971, H. Nomura leg., 20.6 mm.
- Agrypnus (Paralacon) argillaceus shirozui (ÔHIRA, 1966, ♀, Mt. Ali, 17. V, 1968, Y. KIYOYAMA leg., 16.9 mm.
- Agrypnus (Sabikikorius) setiger (BATES, 1866), ♂, Kenting Park, 23.
 V, 1970, Y. KIYOYAMA leg., 16.2 mm.
- Agrypnus (Sabikikorius) sauteri (Ôніка, 1970), ♂, Kenting Park, 24.
 V, 1970, Y. Кіуоуама leg., 13.6 mm.
- 14. Agrypnus (Sabikikorius) taiwanus (MIWA, 1927), &, Mt. Yang-Ming, 9. V, 1968, Y. HAYASHI leg., 9.8 mm.
- Agrypnus (Sagojyo) nagaoi (Ôніка, 1966), ♂, Ів. Lanyu, 7. X, 1970,
 Y. Кіуоуама leg., 7.8 mm.
- 16. Agrypnus (Sagojyo) montanus (Miwa, 1929), ♂, Yuli, 23. V, 1972, Y. Kiyoyama leg., 10.2 mm.
- 17. Rismethus 'scobinula' (CANDÈZE, 1857), ♂, Chipon Spa, 5. X, 1970, Y. KIYOYAMA leg., 2.8 mm.
- 18. Agrypnus (Compsolacon) baibaranus Hayek, 1973, &, Musha, 23. III, 1970, H. Nomura leg., 16.9 mm.
- 19. Agrypnus (Compsolacon) sakaguchii (Miwa, 1927), ♀, Liukuei, 27. V, 1970, Y. Kiyoyama leg., 11.2 mm.
- 20. Agrypnus (Colaulon) shirakii (Matsumura, 1911), \$\varphi\$, Puli, 31. VII, 1969, T. Kobayashi leg., 7.9 mm.
- Meristhus (Sulcimerus) babai Kishii, 1991, ♂, Liukuei, 21. VI, 1972,
 Y. Kiyoyama leg., 4.9 mm.

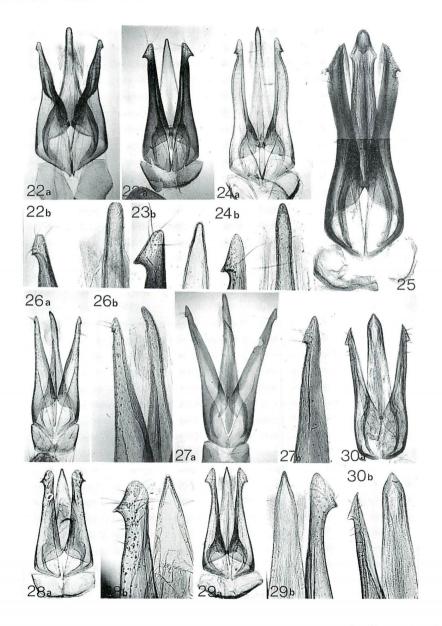
Plate 2. figs. 22-30. Male genitalia.

- Agrypnus (Agrypnus) bipapulatus bipapulatus (Candèze, 1865), Szuling,
 V, 1992, M. Yagi leg.
- Agrypnus (Paralacon) argillaceus shirozui (ÔHIRA, 1966), Alisan, 14.
 V, 1968, Y. HAYASHI leg.
- Agrypnus (Sabikikorius) setiger (Bates, 1866), Kenting Park, 18. V, 1968, Y. KIYOYAMA leg.
- Agrypnus (Compsolacon) baibaranus Hayek, 1973, Musha, 23. III, 1970,
 H. Nomura leg.
- Agrypnus (Sabikikorius) taiwanus (MIWA, 1927), Mt. Yang Ming, 9.
 V, 1968, Y. HAYASHI leg.
- 27. Agrypnus (Sabikikorius) sauteri (ÔHIRA, 1970), Liukuei 4. V, 1989, K. BABA leg.
- 28. Agrypnus (Sagojyo) nagaoi (ÔHIRA, 1966), Is. Lanyu, 7. X, 1970, Y. KIYOYAMA leg.
- Agrypnus (Sagojyo) montanus (Miwa, 1929), Yuli, 23. V, 1972, Y. Kiyoyama leg.
- Agrypnus (Colaulon) shirakii (Matsumura, 1911), Mt. Senpei, 4. VI, 1987, K. Baba leg.

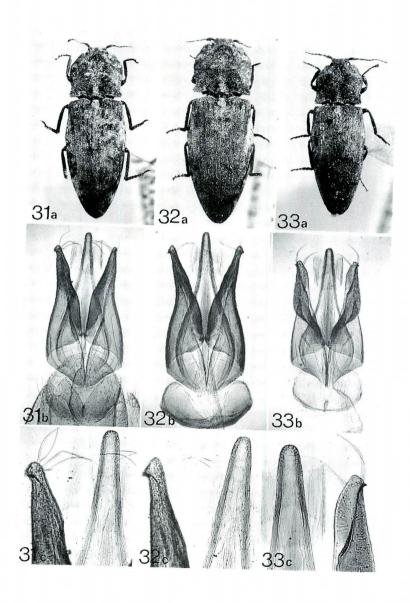
- Plate 3, fig. 31. Agrypnus (Agrypnus) formosanus formosanus (BATES, 1866). a, &, Kenting Park, 13. VI, 1972, Y. KIYOYAMA leg., 17.2 mm.; b, male genitalia, Taloko, 24. V, 1968, Y. HAYASHI leg.; c, ditto, apical part.
 - 32. Agrypnus (Agrypnus) formosanus lanyuanus Kishii, subsp. nov. a, ♀, paratype, Is. Lanyu, 18. VIII, 1970, T. Kobayashi leg.; b, male genitalia, holotype, Is. Lanyu, 8. X, 1970, Y. Kiyoyama leg.; c, ditto, apical part.
 - 33. Agrypnus (Agrypnus) ami Kishii, sp. nov. a, paratype, ♀, Liukuei, 3. X, 1970, Y. Kiyoyama leg., 12.6 mm.; b, male genitalia, holotype, Liukuei, 12. VIII, 1972, Y. Maéda leg.; c, ditto, apical part.
- Plate 4, fig. 34. Agrypnus (Agrypnus) dilatipennis Kishii, sp. nov. a, paratype, \$\varphi\$, Sungkang, 14. IV, 1970, T. Kobayashi leg., 13.6 mm.; b, male genitalia, holotype, Sungkang, 22. III, 1970, H. Nomura leg.; c, ditto, apical part.
 - 35. Agrypnus (Colaulon) muscroides Kishii, sp. nov. a, paratype, &, Nanshanchi, 22. IX, 1970, Y. Kiyoyama leg., 8.7 mm.; b, paratype, &, Shihmen Reservoir, 27. VII, 1969, Y. Maéda leg., 9.9 mm.; c, male genitalia, paratype, Nanshanchi, 22. IX, 1970, Y. Kiyoyama leg.; d, ditto, apical part.
 - Agrypnus (Colaulon) musculus (Candèze, 1857), male genitalia, vicinity of Chengtu in Sichuan Prov., China, 24. VII, 1992, M. Matsui leg.



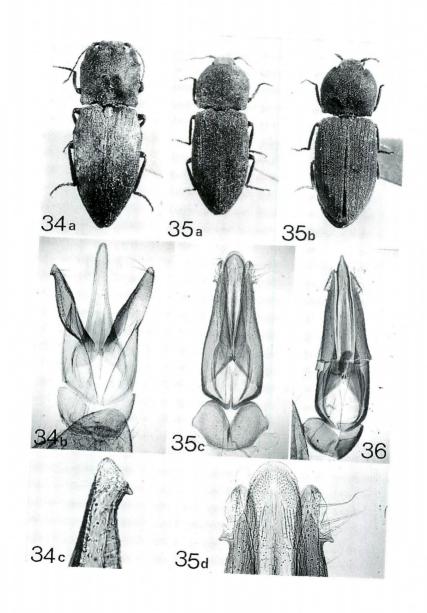
(T. KISHII photo.)



(T. KISHII photo.)



(T. KISHII photo.)



(T. KISHII photo.)

Description of a New Species of the Genus *Ambrostoma*MOTSCHULSKY from Taiwan, China (Coleoptera, Chrysomelidae, Chrysomelinae)

By Shinsaku Kimoto¹⁾ and Syozo Osawa²⁾

In this paper, a characteristic new species belonging to the genus *Ambrostoma* Motschulsky from Taiwan is described. This genus is here recorded from Taiwan for the first time. The specific name of this new species is dedicated to Mr. Chinkin Yu, Muh Sheng Museum of Entomology, Puli, Taiwan, who is the collector of the type specimen of this interesting species.

Ambrostoma chinkinyui Kimoto et Osawa (Pl. 5, fig. 1)

Elongate-oblong. Generally metallic green to bluish, and marked with bands or markings of purplish red; head green to bluish, with a large purplish reddish marking at middle; pronotum green to bluish, broadly marked with a pair of purplish red markings between middle and sides; scutellum purplish to blue; elytron with three broad bands of copper-red with narrower intervening bands blue to green, and with borders including suture blue or green; ventral surfaces generally green to blue with anterior and lateral parts of each segment somewhat purplish red; antenna and legs generally purplish green to blue.

Head broad, smooth, very finely punctured, and subtriangularly depressed near anteriorly margin, and slightly grooved medially. Antennae nearly $\frac{1}{3}$ as long as body length; first segment large, robust, somewhat club-shaped; second, short, almost half as long as first, and nearly $\frac{1}{2}$ times as long as wide; third elongate, long, nearly $\frac{1}{2}$ times as long as second; fourth elongate, nearly $\frac{4}{5}$ as long as third; fifth elongate, slightly shorter than fourth; sixth subequal to fifth in length but more subtriangular in shape; seventh and eighth subeqaul to sixth in length and shape; ninth $\frac{1}{3}$ times as long as eighth and more elongate than eighth in shape; tenth subequal to ninth in length and shape;

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eleventh 1% times as long as tenth and its apex pointed. Pronotum transverse, nearly 1% times as broad as long, and widest slightly behind anterior angles and gradually narrowed posteriorly; anterior margin almost straight at middle and produced anteriorly at sides; posterior margin generally rounded posteriorly, and more strongly produced posteriorly at middle; anterior angle rounded at apex and posterior angle angulate, each with a setigerous pore; dorsal surface slightly convex, sparsely impressed by strong punctures and their interstices smooth, and shining. Scutellum impunctate, rounded apically. Elytra subovate, slightly widened behind middle, arcuate posteriorly; disc convex, widely depressed postbasally, with semiregularly arranged eleven longitudinal rows of punctures.

Length: 8.3 mm.

Holotype: Pileesunmuh, 2,400 m, Hualien Hsien, Taiwan, 28. x. 1992, Chin-Kin Yu leg. (Preserved in Biohistory Research Hall, Takatsuki, Osaka, Japan).

This new species resembles *Ambrostoma fortunei* BALY from China, but differs in being the body length shorter and having the elytral punctures arranged in semiregular rows.



Taxonomic Study on the Genus *Thinobius*KIESENWETTER from Japan (Coleoptera, Staphylinidae)

By Shun-Ichiro Naomi

Natural History Museum and Institute, Chiba 955-2 Aoba-cho, Chuo-ku, Chiba, 260 Japan

Abstract This is the first record of the genus Thinobius from Japan. Four new species, Thinobius (Thinobius s. str.) nomurai from Hokkaido, T. (Thinobius s. str.) japonicus from western Honshu, T. (Platyderothinophilus) ootsukai from central Honshu, and T. (Platyderothinophilus) yabakeinis from Shikoku and Kyushu are described. Aedeagus is illustrated for each new species.

The genus *Thinobius* belongs to the tribe Coprophilini of the subfamily Oxytelinae (e.g., Herman, 1970; Lohse, 1989), with about 120 species from the Palearctic, Ethiopian, Nearctic, Neotropical and Oriental regions, but no species from Japan. In this paper, four new species of this genus are described from Japan for the first time. Of these, two species (*T. nomurai* and *T. japonicus*) belong to subgenus *Thinobius* s. str. and two other species (*T. ootsukai* and *T. yabakeinis*) to subgenus *Platyderothinophilus* Scheerpeltz. A key to Japanese species is provided, and their aedeagi are illustrated for comparison.

Genus Thinohius KIESENWETTER

Thinobius Kiesenwetter, 1844, Stett. Ent. Zeit., V: 355; Bernhauer & Schubert, 1911, Coleopt. Cat., (29):137; Cameron, 1930, Fauna Brit. India Col. Staph., I: 286; Scheerpeltz, 1933, Coleopt. Cat., (129):1125; Blackwelder, 1952, Bull. Smith. Inst. US. nat. Mus., 200:385; Lohse, 1964, Käf. Mitt.-eur.: 100; Herman, 1970, Bull. Amer. Mus. nat. Hist., 142 (5):395; Lohse, 1989, Käf. Mitt.-eur., Suppl. 1:139.

Type-species: Thinobius ciliatus Kiesenwetter (fixed by monotypy).

Remarks. According to Herman (1970), the genus is characterized by the acicular 4th segment of maxillary palpus, the narrow prohypomeron that exposes the protrochantin, apex of mesoscutellum exposed and covered with setae, the absence of elytral epipleural ridge, the dehiscent elytral suture, the lack of a longitudinal row

[[]Ent. Rev. Japan, Vol. L, No. 1, pp. 17-25, July, 1995]

of tibial spines, the tarsal formula 2-2-2, and the presence of basolateral ridges on the abdominal terga. In this paper, this genus is first reported from Japan. The members of this genus are usually collected in the leaf litter or under stones near streams.

Key to Japanese species of the genus Thinobius

- 1 (4) Body smaller (0.7-0.9 mm); head convex, almost glabrous; temporal areas rounded; surface of head and pronotum coriaceous, without punctures; paramere of aedeagus minutely swollen apically.

- 4(1) Body larger (1.0-1.6 mm); head almost flat, pubescent; temporal margins subparallel; surface of head and pronotum with fine or very fine punctures; paramere of aedeagus strongly pointed apically.

Thinobius (Thinobius) nomurai NAOMI, sp. nov.

Male. Body 0.8-0.9 mm in length.

Coloration. Head dark brown to dark reddish brown, moderately shining; pronotum dark reddish brown, weakly shining; elytra dark yellowish brown and moderately shining except for dark reddish brown basal triangular area around mesoscutellum; abdomen dark brown, weakly shining; mouth parts, antennae and legs dark yellowish brown to dark brown.

Relative measurements: HL: 24; HW: 31; PL: 26; PW: 37; EL: 43; EW: 42.

Head almost circular in shape, rounded in temporal areas, convex above; anterior margin of head almost straight, antennal tubercles small, frontoclypeal suture arcuate, vertex continuously connected to neck; surface uniformly coriaceous, almost glabrous. Eyes weakly convex, facetted, longer than temporal areas. Antennae reaching anterior $\frac{1}{3}$ of elytra, 1st segment large and robust, 2nd distinctly narrower than 1st, 3rd almost conical, narrower than 2nd, 4th the smallest, 5th larger than 6th, 7th to 10th gradually broadened apically, 10th a little longer than broad, 11th large and obtusely pointed; ALP: 16:12:9:6:9:7:10:10:12:12:21.

Pronotum moderately convex, anterior margin very weakly and shallowly bisinuate, lateral and posterior margins continuously rounded; surface uniformly coriaceous. Mesoscutellum triangular and pubescent.

Elytra a little broadened posteriorly, strongly dehiscent; surface uniformly coriaceous, with very fine and dense pubescence.

Abdomen moderately convex above, side margins of abdomen very weakly rounded; paratergites developed, relatively broad, horizontal in position, pubescent and indistinctly punctured, 2nd to 6th tergites indistinctly punctured and coriaceous, pubescent, each furnished with a line of setae along posterior margin; 7th tergite more strongly convex in posterior part than the preceding tergite, similarly sculptured and pubescent as in the preceding, but devoid of setae along posterior margin, shallowly and arcuately emarginate at the middle of posterior margin; 8th sternite with a moderately deep and wide emargination, sides of the emargination produced posteriorly and acutely pointed. Aedeagus symmetrical, with median lobe (Fig. 1 E) strongly bulbous at base, behind the middle divided into ventral and dorsal lobes, the ventral lobe constricted thrice in ventral view, acutely pointed at apex, with internal armatures as Fig. 1 F, the dorsal lobe moderately constricted before apex which is truncate and pointed laterally; parameres slender, extending a little beyond apex of median lobe, each curved internally in basal $\frac{2}{3}$, then curved again externally in apical $\frac{1}{3}$, minutely swollen at apex.

Female. Unknown.

Holotype: \eth (Type No. CBM-ZI 33679), Iwaubetsu, Shiretoko, Hokkaido, 7. vii. 1986, S. Nomura coll. Paratype: $1\,\eth$, same data as holotype.

Distribution. Japan (Hokkaido).

Remarks. Thinobius nomurai is somewhat similar in ventral structure of aedeagus to T. crinifer Smetana, 1959 from Europe, but in T. nomurai the apical process of ventral lobe of the median lobe is distinctly shorter. Thinobius nomurai is clearly

separable from all the European species of the subgenus Thinobius s. str. (Lohse, 1964, pp. 104-106) by the combination of the two following characters: body small (0.8-0.9 mm) and 10th antennal segment a little longer than broad. Within the Japanese species $T.\ nomurai$ is similar in outline to $T.\ japonicus$, but the former is easily separable from the latter by the symmetrical shape of aedeagus.

Specimen measured is the holotype.

Etymology. This species is named in honour of Dr. Shuhei Nomura of Kyushu University who collected this interesting species.

Thinobius (Thinobius) japonicus NAOMI, sp. nov.

Male and female. Body 0.7-0.9 mm in length.

Coloration. Head and pronotum dark reddish brown; elytra brown to dark yellowish brown; abdomen dark brown to black; body moderately shining; mouth parts, antennae and legs yellowish brown to dark yellowish brown.

Relative measurements: HL: 28; HW: 28; PL: 23; PW: 33; EL: 37; EW: 38.

Head narrowed anteriorly before anterior margins of eyes, rounded in temporal areas, convex above; anterior margin of head rounded, antennal tubercles small, frontoclypeal suture arcuate and distinct, vertex continuously connected to neck; surface uniformly coriaceous, almost glabrous. Eyes facetted, a little more strongly convex than those in *nomurai*, longer than temporal areas. Antennae reaching posterior margins of elytra, 1st and 2nd segments robust, 1st as broad as 2nd, 3rd to 8th each conical, 9th and 10th each almost spherical, 10th a little broader than long, 11th elongate-oval, obtusely pointed; ALP: 13:10:6:5:6:5:7:6:9:9:16.

Pronotum moderately convex, anterior margin shallowly and widely emarginate, apicolateral corners very narrowly pointed, lateral and posterior margins continuously rounded; surface uniformly coriaceous. Mesoscutellum triangular, basal part strongly shining and smooth, apical part pubescent, weakly shining.

Elytra almost quadrate, but weakly broadened posteriorly, hind margins less strongly dehiscent than those in *nomurai*; surface uniformly coriaceous, covered with very fine pubescence.

Abdomen gently convex above, side margins weakly rounded; paratergites relatively broad, horizontal in position, pubescent; surface on 2nd to 6th tergites coriaceous and pubescent, each tergite with a line of setae along posterior margin; 7th tergite more strongly convex in posterior part than the preceding tergite, similarly coriaceous and pubescent as in the preceding, but devoid of setae along posterior margin, shallowly and arcuately emarginate at the middle of posterior margin.

Male. Eighth sternite with a wide, shallow and arcuate emargination, sides of the emargination not produced nor pointed. Aedeagus (Fig. 1 D) with median lobe strongly bulbous at base, constricted near basal $\frac{1}{3}$, asymmetrical in apical $\frac{2}{3}$ as in Fig. 1 D, internal armatures

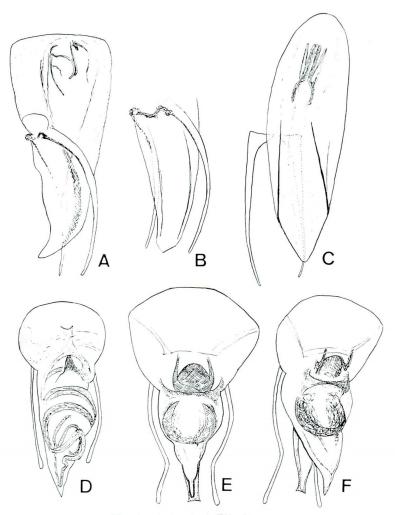


Fig. 1. Aedeagi of Thinobius spp.

A, T. yabakeinis sp. nov. in lateral view; B, do. behind median orifice in right dorsolateral view; C, T. ootsukai sp. nov. in ventral view; D, T. japonicus sp. nov. in ventral view; E, T. nomurai sp. nov. in ventral view; F, do. in right ventrolateral view.

developed as in Fig. 1 D; parameres slender, short, asymmetrical, not reaching apex of median lobe, minutely swollen at apices, left paramere a little shorter than and more strongly curved than right one.

Female. Eighth sternite entire.

Holotype: ♂ (Type No. CBM-ZI 33875), Mikado, Okayama-shi, Okayama Pref., 1. ix. 1977, S. Kaneda coll. Paratypes: 16 exs., same data as holotype.

Distribution. Japan (Honshu: Chugoku district).

Remarks. Thinobius japonicus is probably allied to T. longipennis (Heer) from Europe (Lohse, 1964, p. 106), but in T. japonicus the body is smaller $(0.7\text{-}0.9\,\mathrm{mm})$, and the 10th antennal segment is a little broader than long.

Specimen measured is a paratype from Okayama.

Etymology. The specific name is derived from the name of the country (Japan) where the type-specimens were collected.

Thinobius (Platyderothinophilus) ootsukai NAOMI, sp. nov.

Male. Body 1.4–1.6 mm in length, relatively flat above.

Coloration. Head dark brown except for yellowish brown antennal tubercles; pronotum and elytra dark yellowish brown to dark brown; abdomen dark brown to black; body moderately shining; antennae and mouth parts reddish brown; legs yellowish brown.

Relative measurements: HL: 28; HW: 33; PL: 31; PW: 37; EL: 48; EW: 50.

Head transverse behind anterior margins of eyes, narrowed anteriorly before anterior margins of eyes, subparallel-sided at temporal areas; anterior margin of head gently rounded, antennal tubercles small, frontoclypeal suture arcuate, a pair of very shallow longitudinal grooves between antennal tubercles, vertex almost flat except for a very shallow depression at central part, almost continuously connected to neck; surface with punctures very dense, fine, regular; pubescence very dense and golden-yellowish. Eyes strongly facetted, gently convex, longer than temporal areas. Antennae reaching posterior $\frac{1}{3}$ of elytra, 1st segment robust, broader than 2nd, 3rd almost conical, 4th and 6th each smaller than 5th, 7th to 10th each weakly broadened apically, 10th a little longer than broad, 11th large and obtusely pointed; ALP: 18: 12: 10: 7: 10:

Pronotum weakly convex above, anterior margin very weakly bisinuate, apicolateral corners rounded, lateral and posterior margins almost continuously rounded, posterolateral corners indistinct; surface slightly uneven, similarly punctured as on head, minutely pubescent around anterolateral corners, one seta at each of anterolateral and posterolateral corners. Mesoscutellum almost concealed undeer prontum in type-specimens, pubescent at apical part.

Elytra flat above, almost rectangular, or trapezoidel and very weakly broadened posteriorly, hind margins dehiscent; surface with punctures very dense, fine and indistinct; pubescence very fine and dense.

Abdomen slightly convex above, side margins slightly rounded; paratergites developed, erect; 3rd to 6th tergites covered with reticulate microsculptures, punctures and pubescence, each tergite with a line of setae along posterior margin; 7th tergite developed, but as convex as the preceding tergite, similarly sculptured, punctured and pubescent as on the preceding, but glabrous, very shining and covered with finger-print-like transverse sculptures along posterior margin which is very shallowly and arcuately emarginate at the middle; 8th sternite with a shallow and wide emargination. Aedeagus (Fig. 1 C) with median lobe elongate-oval, less sclerotized, triangular area moderate in size at apex which is obtusely pointed, a pair of sclerotized lines running on ventral surface and divergent apically, internal armatures as in Fig. 1 C; parameres slender, very narrowed toward strongly pointed apices.

Female. Unknown.

Holotype, & (Type No. CMB-ZI 33876), Mt. Kiyosumi, Chiba Pref., 27. v. 1990, I. Ootsuka coll. Paratype: 1 &, same data as holotype.

Distribution. Japan (Honshu: Kanto district).

Remarks. *Thinobius ootsukai* is allied to T. *yabakeinis*, but the body is larger $(1.4\text{--}1.6\,\mathrm{mm})$, the antennae are longer, and the $10\mathrm{th}$ antennal segment is a little longer than broad.

Specimen measured is the holotype.

Etymology. This species is named in honor of Mr. Ichiro Ootsuka, a member of The Entomological Association of Chiba Prefecture, who collected this new species.

Thinobius (Platyderothinophilus) yabakeinis NAOMI, sp. nov.

Male and female. Body 1.0-1.2 mm in length, relatively flat above. Coloration. Head dark brown to black; pronotum dark reddish brown to dark brown; elytra reddish brown to dark reddish brown except for dark brown basal triangular area around mesoscutellum; abdomen dark brown to black; body moderately shining; mouth parts and legs yellowish brown to reddish brown; antennae yellowish brown through reddish brown to dark brown.

Relative measurements: HL: 30; HW: 33; PL: 24; PW: 34; EL: 49; EW: 48.

Head slightly transverse behind anterior margins of eyes, narrowed anteriorly before anterior margins of eyes, subparallel-sided at temporal areas; anterior margin of head rounded, antennal tubercles small, frontoclypeal suture arcuate, a pair of obscure and very shallow longitudinal grooves between antennal tubercles, vertex almost flat but somewhat

uneven, connected almost continuously to neck; surface with punctures very fine and dense; pubescence very short and dense. Eyes gently convex, facetted, longer than temporal areas. Antennae reaching the anterior $\frac{1}{3}$ of elytra, structures of antennae just similar to those of *ootsukai* except for 10th segment which is about as long as broad; ALP: 15° : 12:10:7:10:7:10:11:11:12:19.

Pronotum weakly convex above, anterior margin almost straight, anterolateral corners rounded, lateral and posterior margins almost continuously rounded, posterolateral corners indistinct; surface very weakly uneven; punctures very fine and dense; pubescence sparse, only found [around marginal area, one seta at each of anterolateral and posterolateral corners. Mesoscutellum almost tongue-shaped, distinctly pubescent.

Elytra flat above, elongate-trapezoidal, hind margins strongly dehiscent; surface with punctures very dense and fine; pubesence very dense and short.

Abdomen broad, weakly convex above; paratergites broad, almost erect, covered with golden-yellowish moderately long pubescence, each furnished also with several long setae along posterior margin; 3rd to 6th tergites reticulately sculptured and indistinctly punctured, pubescent, each with a series of long and golden yellowish setae along posterior margin; 7th tergite more strongly convex in posterior part than the preceding tergite, similarly sculptured and punctured as on the preceding, but very shining, smooth, glabrous and covered with fingerprint-like transverse sculptures along posterior margin which is shallowly and widely emarginate at the middle.

Male. Eighth sternite with a wide, shallow and arcuate emargination at posterior margin. Aedeagus with median lobe weakly sclerotized, large, and more or less angular at base in lateral view (Fig. 1 A), narrowed apically, turned dorsad at apical part in lateral view, median lobe gradually narrowed apically also in dorsal view, with small triangular area at apex which is pointed (Fig. 1 B), a pair of sclerotized lines running behind median orifice and very weakly convergent apically, internal armatures as in Fig. 1 A; parameres extending a little beyond apex of median lobe, curved, narrowed toward strongly pointed apex.

Female. Eighth sternite entire.

Holotype: (Type No. CBM-ZI 33877), Chikushi-yabakei, Fukuoka Pref., 16. iii. 1986, S. Nomura coll. Paratypes: 2 exs., same data as holotype; 27 exs., Mt. Odami, Ehime Pref., 11-13. vi. 1981, S. Naomi coll.

Distribution. Japan (Shikoku and Kyushu).

Remarks. Thinobius yabakeinis is allied to T. ootsukai, but the body is smaller (1.0-1.2 mm), the antennae are shorter, and the elytra are bicolor.

Specimen measured is a paratype from Yabakei.

Etymology. The specific name is derived from the name of a type locality (Yabakei).

Acknowledgements

I thank Dr. Shuhei Nomura (Kyushu University, Fukuoka), Mr. Ichiro Ootsuka (Chiba), Mr. Shoichi Kaneda (Kanagawa) for their kindness in giving me the valuable specimens described in this paper.

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国際動物命名委員会からのお願い (15)

Application

The following applications were published on September 30, 1994 in Vol. 51, Part 3 of the Bulletin of Zoological Nomenclature. Comment or advice on these Applications is invited for publication in the Bulletin and should be sent to the Executive Secretary, I. C. Z. N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U. K.

Application No.

- 2638 Apis terrestris Linnaeus, 1758, A. muscorum Linnaeus, 1758 and A. lucorum Linnaeus, 1761 (currently Bombus terrestris, B. muscorum and B. lucorum) and Bombus humilis Illiger, 1806 (Hymenoptera): proposed conservation of usage of the specific names.
- Megalodontidae Morris & Lycett, 1853 (Mollusca, Bivalvia) and Megalodontidae Konow, 1897 (Insecta, Hymenoptera): proposed removal of homonymy.
- 2936 Caeciliidae Rafinesoue-Scrmaltz, 1814 (Amphibia, Gymnophiona) and Caeciliidae Kolbe, 1880 (Insecta, Psocoptera): proposed removal of the homonymy by the revocation of Opinion 1462 and the adoption of the spelling Caeciliusidae for the psocopteran family name.

Opinions

The following opinions were published on September 30, 1994 in Vol. 51, Part 3 of the Bulletin of Zoological Nomenclature. Copies of these Opinions can be obtained free of charge from the Executive Secretary, I. C. Z. N.

- 1781 Termes lacteus Froggatt, 1898 (currently Coptotermes lacteus; Isoptera): specific name conserved.
- 1782 Corisa nigrolineata Fieber, 1848 (currently Sigara (Pseudovermicorixia) nigrolineata; Heteroptera); specific name conserved.
- Aradus caucasicus Kolenati (Heteroptera): syntype replaced by a neotype, so conserving the usage of the specific name and that of A. hieroglyphicus Sahlberg, 1878.
- Buprestis Linnaeus, 1758 and Chrysobothris Eschscholtz, 1829 (Colepotera); conserved by the designation of Buprestis octoguttata Linnaeus, 1758 as the type species of Buprestis, and Chrysobothris and Dicerca Eschscholtz, 1829; conserved as the correct original spellings.
- 1785 Dystiscus biguttatus Olivier, 1795 (currently Agabus biguttatus; Colepotera); specific name conserved.

Note on the Species of Staphylinidae from Japan, VII (Coleoptera)

Descriptions of Two New Species of the Genus Astenus Dejean

Ву Татео Іто

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Abstract This paper treats three species of the genus Astenus from Japan. A. shibatai sp. nov. and A. yonezoi sp. nov. are described from the Ryukyus, and A. histrio (SHARP) is newly synonymized with A. latifrons (SHARP), which is redescribed.

Astenus histrio (Sharp) was described as the species closely allied to Astenus latifrons (Sharp) both from Nagasaki, and has not been examined in detail up to the present. Recently I have had an opportunity of examining the holotype and two female specimens of A. histrio which are preserved in the collections of the Natural History Museum in London through the courtesy of Miss Emma De Boise. As a result of my careful examination of the holotype and other specimens, A. histrio is found to be a junior synonym of A. latifrons.

In the present paper I would like to describe two new species of the genus from the Ryukyus, Japan and redescribe *Astenus latifrons* (SHARP).

Astenus latifrons (Sharp) (Figs. 1-2, 5.)

Sunius latifrons Sharp, 1874, Trans. ent. Soc. Lond.: 70.

Astenus latifrons: Bernhauer et Schubert, 1912, Coleopt, Cat., Pars 40 (Staphylinidae III): 217; Scheerpeltz, 1933, Coleopt. Cat., Pars 129 (Staphylinidae VII: Suppl. I): 1233; Adachi, 1955, J. Toyo Univ., (7): 19; Adachi, 1957, Ibid. (11): 189; Ito, 1992, Ent. Rev. Japan, 47: 63.

Sunius histrio Sharp, 1874, Trans. ent. Soc. Lond.: 71. syn. nov.

Astenus histrio: Bernhauer et Schubert, 1912, Coleopt. Cat., Pars 40 (Staphylinidae III): 216; Adachi, 1955, J. Toyo Univ., (7): 19; Adachi, 1957, Ibid. (11): 189. syn. nov.

Body rather large, robust, subconvex above, black, shiny; mandibles, labrum and anal styles yellowish brown; maxillary and labial palpi, antennae and legs sordid yellow; femora and apical some segments of antennae slightly darkened in color; pubescence on body whitish or

[[]Ent, Rev. Japan, Vol. L, No. 1, pp. 27-35, July, 1995]

silvery yellow, more evident on elytra.

Length (without mandibles and anal styles): 5.0-6.5 mm.

Head large, widest at eyes, scarcely longer than wide at the widest point, very coarsely and umbilicately punctate; the interstices forming fairly distinct reticulations composed of nearly isodiametric punctures except on vertex and frons; punctures on vertex scarcely longitudinal, those on subflattened from slightly close and fine, every puncture provided with a very fine tubercle in the middle; labrum uneven, slightly sinuate at apical margin on both outsides of denticles; eyes large and prominent, its longitudinal diameter nearly as long as or scarcely shorter than postgenae, which are slightly narrowed behind and then moderately arcuate toward neck; antennae slender, almost reaching base of pronotum, a little thickened distally, all segments fairly longer than wide, 1st segment longest but not longer than the following two segments together, and twice as long as 2nd, 4th longer than 3rd and as long as 5th, 6th to 10th subequal in length to each other, 11th nearly 1.3 times as long as 10th. Ventral surface of head uniformly, not reticulately, coarsely and rather sparsely punctate, except for undersides of antennal sockets (infra-antennal narrow spaces) seemingly umbilicate.

Pronotum oval, widest at apical third, longer than wide (1.21:1), shorter (0.88:1) and narrower (0.76:1) than head, much rounded laterally, each lateral margin furnished with about five long black bristles; discal sculpture similar to that on head but a little more coarsely and

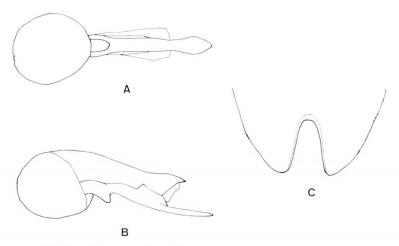


Fig. 1. Astenus latifrons (SHARP)
A, aedeagus in ventral view; B, do. in lateral view;
C, outline of 8th sternite in 3.

more uniformly arranged.

Elytra oblong, subparallel at sides, scarcely enlarged apically, about as long as or a little longer at shoulders than wide, wider (1.21:1) and a little longer (1.09:1) than pronotum; surface coarsely, obsoletely and rugosely punctate, the punctures not umbilicate, becoming coarser and less rugose toward lateral sides.

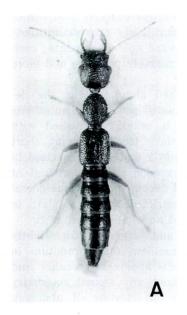
Abdomen fairly dilated laterally, basal tergites coarsely and rather closely punctate, faintly, irregularly and aciculately microsculptured; the sculpture becoming finer and weaker toward apical segments; each tergite finely rugged at base, sternites more coarsely punctate and more faintly microsculptured than on tergites.

In the male, 7th sternite slightly depressed along middle; the depression widened apically and bearing a very small prominence in middle near apex, its apical margin widely sinuate in middle, furnished with rather close and black spines like a comb, whose teeth becoming short in middle of the sinuation; 8th sternite narrowly and deeply excised in a U-shape at apical margin of middle; the excision clearly bordered at sides. Aedeagus (Fig. 1) strongly sclerotized except membranous dorsal side, slightly arcuate ventrally, weakly constricted at apical sixth in ventral view, apical part nearly spoon-shaped and not pointed at tip.

In the female, body a little robuster and larger; elytra slightly proportionally longer, scarcely longer at shoulders than pronotum in midline; microsculpture of abdominal segments apparently weaker and less clear; 7th and 8th sternites usually without any sexual secondary modifications. One female specimen¹) with 8th sternite of abdomen abnormally excised in middle of apical margin (Fig. 2), the excision almost symmetrical, wide and rather shallow, its sides not bordered, needless to say that the construction of the 9th and 10th sternites being positively the female sternites and the aedeagus absent.

Specimens examined: $1 \circlearrowleft$, Nara Park, Nara Pref., 3. V. 1989, S. Takahashi leg.; $1 \circlearrowleft$, $1 \circlearrowleft$, Hase, Nara Pref., 7 & 14. IV. 1959, T. Shibata leg.; $3 \circlearrowleft \circlearrowleft$, Kii-Oshima Is., Wakayama Pref., 30. IV. 1959 and 6. V. 1961, Y. Kimura leg.; $1 \circlearrowleft 1$) (holotype of Sunius histrio), "Japan, Sharp Coll., 1905-313"; $1 \circlearrowleft$ (paratype of Sunius histrio), "Japan, Sharp Coll., 1905-313"; $1 \circlearrowleft$, "Sunius histrio D. S., Japan. G. Lewis, 1910-320, 231"; $1 \hookrightarrow$, Kuchinotsu, Nagasaki Pref., 26. IV. 1977, S. Imasaka leg.; $1 \circlearrowleft$, Koyagi, Nagasaki Pref., 29. IV. 1992, Y. Kusui leg.; $1 \circlearrowleft$, Nishisonoki, Kabashima Is., Nagasaki Pref., 25. IV. 1992, Y. Kusui leg.; $2 \hookrightarrow \circlearrowleft$, Komeyama, Nakadori Is., Goto Iss., Nagasaki Pref., 9. VIII. 1993, K. Tanaka leg.; $1 \circlearrowleft$, Kosugidani, Yakushima Is., Kagoshima

 $^{^{1)}}$ The holotype specimen of $A.\ histrio\ (Sharp)$ is not male as noted by Sharp but is female according to my dissection. I have carefully compared the female specimens of both $A.\ histrio\$ and $A.\ latifrons\$ and confirmed in my belief of the identity of these two taxa.



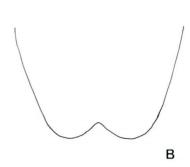


Fig. 2. Astenus histrio (SHARP)
A, photograph of the holotype specimen of Sunius histrio; B, 8th sternite of the specimen.

Distribution: Japan (Honshu, Kii-Oshima Is.*, Kyushu, Kabashima Is.*, Nakadori Is.*, Yakushima Is., Amami-Oshima Is., Okinawa-Honto Is.*, Ishigaki Is.*), Taiwan (after Scheerpeltz, 1933).²⁾

The present species generally resembles *Astenus bispinus* (Motsch.) from India, Burma, Sumatra and Annam, but the 7th abdominal sternite in 3 is more clearly sinuate in middle of apical margin and not uniformly set with shorter pectinations, and the 8th sternite in 3 is more narrowly excised in different shape.

Astenus shibatai sp. nov. (Fig. 5)

Female: Body moderate-sized, rather robust, a little shiny, reddish

^{*} Newly recorded.

²⁾ I have not found the original record with detail data. I think it may be correct that the record without any indications of Taiwanese localities except Moji (Japan) reported by M. Bernhauer in 1922 has been misread.

to brownish black; mandibles and labrum reddish brown; antennae and femora brown; terminal segment of antenna slightly darkened; tibiae and tarsi yellow; pubescence white to silvery yellow.

Length: 5.0-5.5 mm.

Head slightly longer than wide, coarsely, closely and reticulately punctate; punctures on vertex more cleary reticulate, coarser and distincter than those on frons; eyes large and distinctly prominent, with the longitudinal diameter a little longer than postgenae which are clearly narrowed behind and not angulate to neck; antennae conspicuous, last segment extremely large and more than three times as long as the preceding one, all segments clearly longer then wide, 2nd shortest and about half the length of 1st, 3rd to 10th gradually shortened and slightly thickened distally. Ventral surface of head coarsely, distinctly and uniformly punctate except for undersides of antennal sockets.

Pronotum oblong-oval, widest at apical third, longer than wide (1.24:1), narrower (0.77:1) and shorter (0.91:1) than head, similarly sculptured as on head; each lateral margin bearing five or six black bristles.

Elytra rather wide, distinctly wider (1.35:1) and apparently longer at shoulders (1.19:1) than pronotum, and also slightly wider than head; surface coarsely, obsoletely somewhat irregularly punctate.

Abdomen slightly widened laterally, with coarse punctures on basal segments decrescent in size and density toward apical segment as usual; microsculpture scarcely discernible.

Male: Unknown.

Holotype: $1\,$ $^{\circ}$, Kametsu, Tokunoshima Is., Kagoshima Pref., 29. III. 1966, T. Ito leg. (T. Shibata coll.). Paratype: $1\,$ $^{\circ}$, Inaba, Iriomote Is., Okinawa Pref., 21. VII. 1963, Y. Hama leg.

Distribution: Japan (Tokunoshima Is., Iriomote Is.).

The present species is similar to the preceding species in general appearance, but it is immediately distinguishable from the latter by the following characteristics: the ultimate segment of antenna is surprisingly large, much robuster and evidently more than three times as long as the penultimate one (the profile reminds that of a species of Lagria); the elytra are relatively larger, wider and longer than head; the postgenae are more apparently narrowed to neck and the body is slightly smaller and generally paler in colour. The present species is also easily separable from all the known species of the genus by the antennal features abovementioned.

The specific name is given after Mr. Taichi Shibata, who is the advisor of the Osaka Coleopterological Society, and to whom I am heartily grateful for his constant guidance and encouragement in my studying on Staphylinidae.

Astenus yonezoi sp. nov. (Figs. 3, 5.)

Body narrow, slender black, little shiny; elytra with shoulders brownish red, sutural areas widely and also apices rather narrowly brownish red, sutural margins and scutellum black, apices of abdominal last two segments and anal styles dark reddish brown; labrum, mandibles and femora yellowish brown; antennae, maxillary and labial palpi, tibiae and tarsi sordid yellow; pubescence yellow, distinctly visible on elytra and on abdomen.

Length: 5.0-6.0 mm

Head slightly longer than wide (1.08:1), somewhat coarsely, closely and umbilicately punctate, punctures on frons slightly fine and weak; eyes large, with the longitudinal diameter subequal in length to postgena; postgenae slightly narrowed behind at sides and then widely angulate to neck; antennae more or less short, hardly reaching base of pronotum, all segments clearly longer than wide, 1st segment robust, largest but not longer than the following two segments together, 2nd shortest and half the length of the preceding one, 3rd longer than 2nd and as long as 4th, 5th to 10th nearly equal in size to each other, 11th slightly wider and longer than 10th. Ventral surface of head coarsely, closely, not umbilicately punctate and perceptibly microsculptured, punctures behind submentum fine, close and becoming sparser toward neck, those on infra antennal areas partially umbilicate.

Pronotum oval, longer than wide (1.24:1), a little shorter (0.93:1) and narrower (0.81:1) than head, widest just behind apical fourth, then rapidly narrowed apically and gradually narrowed basally, provided with five erect, rather short and black bristles on each lateral margin; discal sculpture similar to that on head but slightly coarser.

Elytra quadrate, slightly narrowed behind, widest near shoulders, longer than wide (1.12:1), wider (1.19:1) and slightly longer at shoulders (1.08:1) than pronotum, coarsely, closely and obsoletely punctate, variable in coloration, sutural, humeral and apical areas widely brownish red, or shoulders black and sutural areas narrowly brownish red.

Abdomen well convex above, clearly constricted at base, gradually expanded laterally to apex of 6th segment, then narrowed distally, rather finely, closely and obsoletely punctate on basal segments; the punctures becoming sparser toward apical segments, those on each sternite slightly deeper than on the corresponding tergite.

In the male, 7th sternite slightly depressed medianly from base to apex, widely sinuate at apical margin and bearing black short spines nearly in front of the marginal sinuation; the pectination divided into

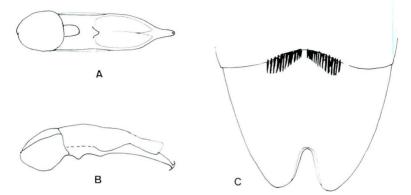


Fig. 3. Astenus yonezoi sp. nov.
A, aedeagus in ventral view; B, do. in lateral view;
C, outlines of 7th and 8th sternites in 8.

two combs in middle, each of combs consisting of about twelve teeth which are closely set together, and both ends of the comb slightly shorter than in middle; 8th sternite rather narrowly and deeply excised in middle of apical margin, sides of the excision distinctly bordered. gus well sclerotized especially on ventral side, slightly arched dorsally in profile, elongato-subconical in shape, distinctly bordered laterally at subparallel sides from near middle to subapex, seemingly blunt at tip in ventral view, but the tip provided with double hooks, in which one pointed ventro-internally, the other directed dorso-externally.

In the female, body a little larger and robuster in structure, abdomen less convex above, 7th and 8th sternites without any modifications.

Holotype: \circlearrowleft , Kametsu, Tokunoshima Is., Kagoshima Pref., 29. III. 1966, T. Ito leg. (T. Shibata coll.). Paratypes: $1 \, \updownarrow$, Hatsuno, Amami-Oshima Is., Kagoshima Pref., 30. III. 1965, H. Nomura leg.; $56 \, \circlearrowleft \, \circlearrowleft \, 28 \, \updownarrow \, \varphi$, same locality as holotype, 27 & 29. III. 1966, T. Ito leg.; $1 \, \circlearrowleft \,$



Fig. 4. Astenus andrewesi

CAMERON

Photograph of the
holotype specimen.

Inokawa, Tokunoshima Is., Kagoshima Pref., 28. III. 1966, T. Ito leg.; $1 \, \text{\rotate β}$, $2 \, \text{\rotate φ}$, Okinoerabu Is., Kagoshima Pref., 24 & 25. III. 1966, T. Ito leg.; $2 \, \text{\rotate φ}$, Yona, Okinawa-Honto Is., Okinawa Pref., 7. VIII. 1964, T. Ito leg.

Distribution: Japan (Amami-Oshima Is., Tokunoshima Is., Okinoerabu Is., Okinawa-Honto Is.).

The present species is similar to *Astenus andrewesi* CAMERON (Fig. 4) from India in general appearance, but it is separable from the latter by the quite different pectination on the 7th abdominal sternite in the male, the pectination

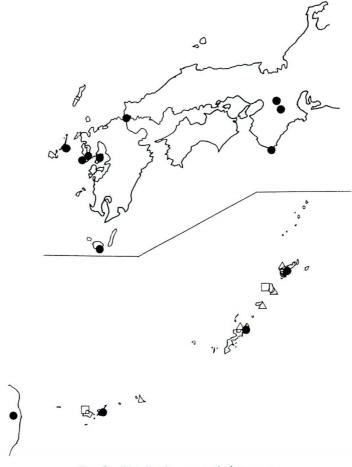


Fig. 5. Distribution map of Astenus spp.

- Astenus latifrons (Sharp)
- Astenus shibatai sp. nov.
- △ Astenus yonezoi sp. nov.

divided into two parts and each one composed of shorter and not bristly 12 teeth which are not separated from each other, whereas in $A.\ andrewesi$ the teeth of the pectination not partitioned in middle, cosisting of 16 stout spines slightly separated from each other.

And it is named after my father, the late YONEZO ITO who had both materially and morally given me his valuable assistance during my several collecting trips to the Satsunans and Ryukyus in the sixties of this century.

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国際動物命名委員会からのお願い (16)

Applications

The following applications were published on December 20, 1994 in Vol. 51, Part 4 of the Bulletin of Zoological Nomenclature. Comment or advice on these Applications is invited for publication in the Bulletin and should be sent to the Executive Secretary, I. C. Z. N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD, U. K.

Application No.

- 2893 Temnorhynchus Hope, 1837 (Coleoptera); proposed conservation.
- 2865 Brachypterinae Erichson, 1845 (Colepotera) and Brachypterinae Zwick, 1973 (Plecoptera); proposed of removal of homonymy.
- 2917 Coproica Rondani, 1861 and Ischiolepta Lioy, 1864 (Diptera): proposed conservation of usage by the designation of Limosina acutangulata Zetterstedt, 1847 as the type species of Coproica.
- 2907 Sphaerocera Latreille, 1804 and Borophage Enderlein. 1924 (Diptera): proposed conservation; Sphaerocera curvipes Latreille, 1805 and Phora flavimana Meigen, 1830; proposed conservation of the specific names.

Notes on the Species of Staphylinidae from Japan, VIII (Coleoptera)

Descriptions of Three New Species and A New Subspecies of the Genus *Lobrathium* Mulsant et Rey

By TATEO ITO

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Abstract Lobrathium nipponense sp. nov., Lobrathium okamotoi sp. nov., Lobrathium shibatai sp. nov. and Lobrathium shibatai varium ssp. nov. are described and their distribution map is given.

A few species of the genus Lobrathium MULSANT et REY without any pale-colored patches on elytra have been described from Japan. In the present paper I am going to describe three new species and one subspecies, Lobrathium nipponense sp. nov. from Kyushu, Chugoku and Kinki Districts, Lobrathium okamotoi sp. nov. from Shikoku District, Lobrathium shibatai sp. nov. and Lobrathium shibatai varium sp. nov. from Kinki District, of the genus belonging to the group of the immaculate elytra together with a distribution map of them.

Before going further I wish to express my cordial thanks to Mr. T. Shibata (Osaka) for his critical reading of the manuscript and to Dr. A. F. Newton, Jr. (Field Museum of Natural History, Chicago) for his kindness in giving me the chance to examine the material. And many thanks are also due to all the gentlemen whose names are printed in the sections of the types and specimens examined in this paper.

Lobrathium nipponense sp. nov. (Figs. 1-3, 9)

Body slender, cylindrical, a little shiny, black; elytra reddish black, each apical margin of abdominal segments narrowly and slightly reddish, ventral side of body generally reddish brown to black, mandibles, labrum, basal segments of antennae, femora reddish brown, maxillary and labial palpi, apical segments of antennae, tibiae and tarsi reddish yellow to brown.

Length: 5.5-6.2 mm.

Head subquadrate, scarcely wider than long or about as wide as

[[]Ent. Rev Japan, Vol. L, No. 1, 37-44, July, 1995]

long, coarsely, deeply, rather closely punctate except impunctate clypeus, the punctures becoming considerably finer and closer laterally and also posteriorly, frons and vertex sparsely punctate along middle, eyes moderate-sized, the longitudinal diameter equal to a half length of postgena, postgenae nearly parallel-sided and clearly rounded behind, antennae moniliform, robust, slightly incrassate distally, rather long and



Fig. 1. Lobrathium nipponense sp. nov.

passing over the middle of pronotum, all segments apparently longer than wide, 1st largest, very robust and 1.5 times as long as 2nd which is a little shorter than 3rd, 4th to 10th subequal in length to each other, 11th conical and 1.5 times as long as 10th. Ventral surface of head almost uniformly, coarsely and closely punctate, punctures near eyes relatively sparser, mentum and gular plate smooth, submentum uneven, finely and irregularly punctate, gular sutures fairly separated from each other, subparallel but slightly approximate at middle.

Pronotum oblong-oval (length/width=1.26), longer (1.18:1) and narrower (0.92:1) than head, slightly narrowed behind, coarsely, sparsely and more or less irregularly punctate except median line, the punctures sparser than on head, becoming finer and obsolete apico-laterally, median line rather wide, impunctate from base to apex but slightly interrupted by discal punctures; apical angles more gently arcuate than basal angles, lateral margins invisible when viewed from above, but thick throughout as well as

both apical and basal margins.

Elytra longitudinally oblong, scarcely narrowed basally, subparallel at sides, as long as and wider than pronotum (1.11:1), very slightly wider than head, ratio of length at shoulders to width at the widest point near apex about 1.15; surface with punctures a little coarser than on pronotum, arranged in somewhat irregular rows and becoming slightly finer laterally; pleural lateral margins distinctly thickened and pleural keels slightly disturbed by coarse punctures near at shoulders, but almost clearly visible. Wings well developed and functional.

Scutellum distinctly punctate. Prosternum smooth apically and coarsened basally, mesosternum also uneven and metasternum finely and uniformly punctate.

Abdomen slightly expanded laterally, successively dilated to base

of 7th segment; then narrowed rather rapidly to apex of the apical-most segment; all segments without any microsculptures; each base of tergites with punctures coarse, obsolete and becoming sparse and weak apically, those on each sternite a little coarser than on the corresponding tergite. In the male, 6th to 8th sternites each depressed along middle, 6th-sternal depression week, 7th-sternal one strong, widened apically, with a narrow, triangular and impunctate space along middle, apical margin of 7th sternite feebly sinuate in middle, 8th-sternal depression constricted at basal third, partitioned into two parts by the constriction, the basal part relatively shallow, the apical part gradually increasing behind in width and depth, bearing fine granules except submarginal area of apical excision which is rather narrowly triangular in outline.

Legs with profemora very robust and protarsi moderately dilated in both sexes.

Aedeagus well sclerotized except dorsal side of median lobe, with a ventral lamella rather thick, wholly strongly sclerotized, about twice as long as globular basal piece, narrowed at basal third, symmetrical spoon-shaped, slightly curved dorsally, not pointed at apex and almost smooth on ventral surface.

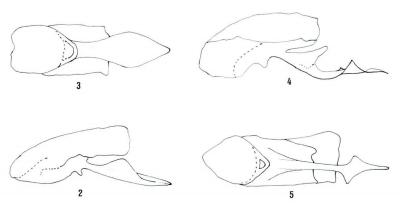


Fig. 2-5. Aedeagi of Lobrathium spp.; in lateral view (2, 4), in ventral view (3, 5).
2, 3. L. nipponense sp. nov. 4, 5. L. okamotoi sp. nov.

Holotype: \circlearrowleft , Mt. Unzen, Nagasaki Pref., 16. V. 1986, T. Ito leg. (T. Shibata coll.). Paratypes: $17 \circlearrowleft \circlearrowleft$, $8 \circlearrowleft \circlearrowleft$, same locality as holotype, 16 & 17. V. 1986 and 30. V. 1987, T. Ito leg.; $2 \circlearrowleft \circlearrowleft$, ditto, 27. V. 1980 and 20. IV. 1983, S. Imasaka leg.; $2 \circlearrowleft \circlearrowleft$, Mt. Taradake, Nagasaki Pref., 27. IX. 1994, S. Imasaka leg.; $3 \circlearrowleft \circlearrowleft$, $2 \circlearrowleft \circlearrowleft$, Mt. Hikosan, Fukuoka Pref., 19. V. 1986 and 2 & 3. VI. 1987, T. Ito leg.; $2 \circlearrowleft \circlearrowleft$, Shiiya

Pass, Kumamoto Pref., 21. VI. 1994, S. Imasaka leg.; $1 \ \vec{\sigma}$, Mt. Shiragatake, Kumamoto Pref., 13. IX. 1994, S. Imasaka leg.; $3 \ \vec{\sigma} \ \vec{\sigma}$, Sandankyo, Hiroshima Pref., 26. V, 22. VII and 8. IX. 1990, I. Okamoto leg.; $1 \ \vec{\sigma}$, Taishakukyo, Hiroshima Pref., 24. VI. 1990, I. Okamoto leg.; $1 \ \vec{\sigma}$. Geihokucho, Hiroshima Pref., 15. VIII. 1989, I. Okamoto leg.; $1 \ \vec{\sigma}$, Kakecho, Hiroshima Pref., 14. X. 1989, I. Okamoto leg.; $1 \ \vec{\sigma}$, Shiodani, Saiki, Hiroshima Pref., 9. X. 1994, K. Harusawa leg.; $2 \ \vec{\sigma} \ \vec{\sigma}$, Mt. Daihi, Kyoto Pref., 1. X. 1965 and 21. VII. 1968, T. Ito leg.; $19 \ \vec{\sigma} \ \vec{\sigma}$, $6 \ \varphi \ \varphi$, Hanase, Kyoto Pref., 4. XI. 1987, T. Ito leg.; $2 \ \vec{\sigma} \ \vec{\sigma}$, $1 \ \varphi$, Mt. Hira, Shiga Pref., 16 & 17. VIII. 1986, T. Ito leg.

The present species is immediately distinguished from Lobrathium nudum (Sharp) by the elytra without any yellow or red patches and the slenderer and smaller body. And it is clearly separable from the following species which were described as the species of Lathrobium: from L. cylindricum Bernhauer and L. scabripenne Sharp by the punctures on fore-body distinctly coarser and deeper, the head proportionally wider, the elytra relatively shorter, the body robuster, larger in size and darker in color; from L. monilicorne Sharp by the pronotum slightly narrower than pronotum and not narrowed in front, the penultimate segment of antenna clearly longer than wide.

Lobrathium okamotoi sp. nov. (Fig. 4-5, 9)

The present species is very similar in general appearance to the preceding species with the exception of the following distinctions: the body a little robuster and larger in size (5.7-6.3 mm), the head scarcely longer, as wide as long, more closely punctate except frons and vertex, the submentum more coarsened, the pronotum less wide, narrower (0.95: 1) and longer (1.20: 1) than head, more closely and more uniformly punctate, the elytra more regularly arranged in rows.

But it is drastically different from the preceding species by the aedeagus and the male sternal depressions as follows:

In the male, abdomen with 6th sternite scarcely or not depressed, 7th and 8th sternites clearly and widely depressed along middle, 7th-sternal depression distinctly enlarged apically, relatively shallow and without a longitudinal impunctate space along middle, but only with a narrow area smooth near apical margin of 7th sternite similarly sinuate as in the preceding species, 8th-sternal depression divided into two parts, the basal part very small and shallow, the apical one rather deep, U-shaped, almost bearing fine granules even to near excised apical margin except narrow space impunctate and smooth along middle, the excision of 8th sternite a little wider than that of the preceding species.

Aedeagus well sclerotized except dorsal side of median lobe, ventral lamella extremely peculiar in shape, exactly arrowsign-like, clearly arched ventrally and armed with a large denticle on dorsal side at basal third; arrowhead slightly asymmetrical, its apex sharply pointed and

slightly reversed, apices of both lateral hooks directed dorsally.

Holotype: \eth , Mt. Ishizuchi, Ehime Pref., 28. IV. 1992, I. Okamoto leg. (T. Shibata coll.). Paratypes: $1 \, \eth$, same locality as holotype, 21. VII. 1991, I. Okamoto leg.; $1 \, \eth$, $3 \, \varsigma \, \varsigma$, Omogo Valley (alt. 700 m), Ishizuchi Mts., Ehime Pref., 18-25. VIII. 1980, S. et J. Peck leg. (Field Museum, Chicago coll.); $1 \, \eth$, $1 \, \varsigma$, Mt. Takanawa, Ehime Pref., 30. IV. & 1. V. 1992, I. Okamoto leg.; $1 \, \eth$, \eth , $14 \, \varsigma \, \varsigma$, ditto, 26. IX and 11. X. 1993, I. Okamoto leg.; $1 \, \eth$, Tamagawa, Ehime Pref., 16. VIII. 1991, I. Okamoto leg.; $1 \, \eth$, $1 \, \varsigma$, Nibukawa, Ehime Pref., 27. XI. 1993, I. Okamoto leg.; $1 \, \varsigma$, Saragamine, Ehime Pref., 1. V. 1989, T. Ito leg.; $1 \, \varsigma$, Matsuyama, Ehime Pref., 27. IV. 1991, I. Okamoto leg.

Specimen examined: 1 $\stackrel{\circ}{_{\sim}}$, Mt. Kotsuzan, Tokushima Pref., 17. IX. 1968, M. Yoshida leg.

The present species is also related to *Lobrathium afghanicum* Coiffait from Afghanistan in the aedeagal shape, but it is easily recognized by the elytra without yellow or red patches.

Lobrathium shibatai sp. nov. (Fig. 6-7, 9)

Body slender, subcylindrical, shiny, black, elytra and apices of some posterior abdominal segments reddish black, greater part of ventral side of body, mouth parts, antennae and legs reddish brown, apices of appendices somewhat yellowish brown.

Length: 5.0-5.7 mm.

Head quadrate, as long as wide, coarsely and closely punctate except frons and vertex, clypeal area impunctate, punctures on vertex coarser and sparser than on postgenae, median line impunctate and running visibly from vertex to apical margin, eyes moderate in size, each longitudinal diameter about a half length of postgena, postgenae parallel-sided and widely angulate to neck, antennae moniliform, slightly incrassate distally, rather long, hardly reaching base of pronotum, all segments longer than wide, 1st segment large, but shorter than the following two segments together, 3rd slightly longer than 2nd, 4th to 10th subequal in length to each other, 11th conical and a little longer than 10th,

Pronotum oval, relatively shorter (length/wide=1.22), longer (1.10:1) and narrower (0.90:1) than head, slightly narrowed behind, coarsely but more sparsely punctate than on head, median line quite smooth, not interrupted from base to apex by discal punctures which are slightly coarser and deeper than on near lateral sides, lateral margins invisible from above but distinctly thickened besides both apical and basal ones.

Elytra narrow, longer at shoulders (1.15:1) than wide, wider (1.11:1) and slightly longer at shoulders (1.05:1) than pronotum at midline; surface slightly undulate, coarsely, obsoletely and rugosely punctate,

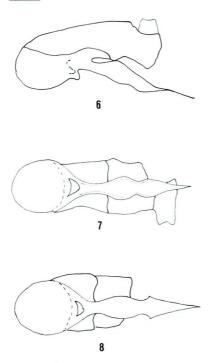


Fig. 6-8. Aedeagi of Lobrathium spp.; in lateral view (6), in ventral view (7, 8).
6, 7. L. shibatai sp. nov.;
8. L. shibatai varium ssp. nov.

pleural keels slightly disturbed by punctures near shoulders.

Abdomen slightly expanded laterally, with each tergal punctures coarse at base and fine at apex, each sternal punctures somewhat coarser than those on the corresponding tergite. In the male, 4th to 8th sternites more or less depressed along middle, the depression on each sternite wider and deeper than on the preceding sternite, 4th-sternal depression very week, 5th- and 6thsternal ones narrow and shallow, 7th-sternal one distinct, wide and enlarged posteriorly, apex of 7th sternite very widely and weakly sinuate in middle of apical margin, 8th-sternal depression deep, houseshoe-shaped and furnished with fine granules except narrow space along median U-shaped excision of apical margin.

Aedeagus composed of ill-sclerotized dorsal part and well-sclerotized ventral lamella, the ventral lamella symmetrical, spear-like, narrow, parallel-sided at base, slightly undulate on surface, apical part very

narrowly, extremely pointed at tip, bisinuate laterally, seemingly with two blunt prominences.

Holotype: \eth , Toonomine, Nara Pref., 9. X. 1988, T. Ito leg. (T. Shibata coll.). Paratypes: $1 \, \eth$, $8 \, \varphi$ φ , same data as holotype; $2 \, \eth$ \eth , $1 \, \varphi$, same locality as holotype, 11. IX. 1993, T. Ito leg.; $2 \, \eth$ \eth , $1 \, \varphi$, Mt. Kohjin, Nara Pref., 17. VIII. 1965, 15. VIII. 1975 and 18. VIII. 1976, T. Ito leg.; $1 \, \eth$, $1 \, \varphi$, Mt. Inamura, Nara Pref., 23. VII. 1994, T. Ito leg.; $1 \, \eth$, $2 \, \varphi$, Mt. Ohdai, Nara Pref., 20. VII. 1975 and 19. VI. 1984, T. Ito leg.; $2 \, \varphi \, \varphi$, ditto, 20. X. 1985, M. Yasui leg.

The present species is related to the preceding two species, but the ventral lamella of aedeagus is lancehead-like, the 4th to 8th sternites in the male are more or less depressed along middle, the elytra are proportionally narrower and more obsoletely punctate and the body is a little smaller and slenderer. It may be discriminated into the present nominotypical subspecies and the following one.

Lobrathium shibatai varium ssp. nov. (Fig. 8-9)

The present subspecies is distinguishable from the nominotypical one as in the following points: the aedeagus with the ventral lamella different in shape, the subapical prominences of lateral side clearly angulate instead of being blunt, the male sternal depressions respectively weeker, the 8th-sternal horseshoe-like depression ill-defined, and the body slightly slenderer and narrower.



Fig. 9. Distribution map of Lobrathium spp. and ssp.

○ Lobrathium nipponense
 △ Lobrathium shibatai shibatai
 □ Lobrathium okamotoi
 □ Lobrathium shibatai varium

Holotype: \eth , Hanase, Kyoto Pref., 31. X. 1987, T. Ito leg. (T. Shibata coll.). Paratypes: $2 \eth \eth$, same data as holotype; $1 \eth$, Mt. Koya, Wakayama Pref., 27. VIII. 1964, T. Ito leg.

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Studies on Staphylinidae (Coleoptera) from Japan, V.

Revision on the Type Specimens of *Amichrotus excellens*Bernhauer and *Staphylinus (Xanthoocypus)*ganglbauerianus Bernhauer

By Yasuhiko Hayashi

Abstract Characteristics of *Amichrotus excellens* Bernhauer and *Staphylinus* (*Xanthocypus*) ganglbauerianus Bernhauer are reviewed, and their systematic positions are discussed.

Recently I could examine the type specimens of *Amichrotus excellens* Bernhauer and *Staphylinus (Xanthocypus) ganglbauerianus* Bernhauer through the kindness of Dr. Alfred F. Newton Jr.

Amichrotus excellens Bernhauer is a remarkable species resembling Thoracostrongylus elegans (Cameron) from India in the general appearance. The features of its mouth organs, mesosternum and male genitalia are conspicuously different from the genus Amichrotus Sharp, but the present species is fairly similar in the general appearance and the mouth organs to some species of the genera Hesperosoma Scheeppeltz and Philomyceta Cameron from the Oriental subtropical region. I do leave expediently the species as it was in the previous arrangement, although this species should be basically transferred to a suitable genus. Because genera allied to Amichrotus are almost not revised closely till now except some ones.

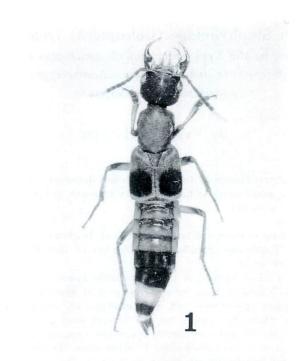
Staphylinus (Xanthocypus) ganglbauerianus Bernhauer is not Staphylinus species nor Agelosus (=Xanthocypus) species because of the presence of different structures of the mouth organs, the pronotal limbic conformation and the mesosternum. Though there are some problems in those organs, ganglbauerianus is regarded distinctly as a member of the genus Ocypus Leach. The allied species group is known mainly from Balkan, Asia minor and Trans-Caucasus.

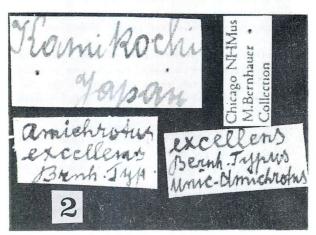
I feel some hesitation to admit the distribution of those 2 species in Japanese fauna, because Kamikochi, the type locality, is a cold district in Japan Alps and their allied species or species group have not been known from the Far East including Japan besides the types.

The materials (the type specimens) examined are in the custody of the Field Museum, Chicago. The main terminology and the abbreviations used herein are the same as those explained in HAYASHI 1993 and 1994.

At the begining of the 5th paper of this series, I wish to express my sincere gratitude to Dr. Alfred F. Newton, Jr. of the Field Museum of the Natural History, Chicago for his courtesy and generosity to lend me the type specimens of

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Figs. 1-2. Amichrotus excellens Bernhauer.

1, Habitus (holotype); 2, the labels attached to the type specimen.

Amichrotus excellens Bernhauer and Staphylinus (Xanthocypus) ganglbauerianus Bernhauer. Also I am much obliged to Mr. Taichi Shibata for his kindness of critically reading the manuscript of this paper.

Amichrotus (expediently!) excellens Bernhauer (Figs. 1-13)

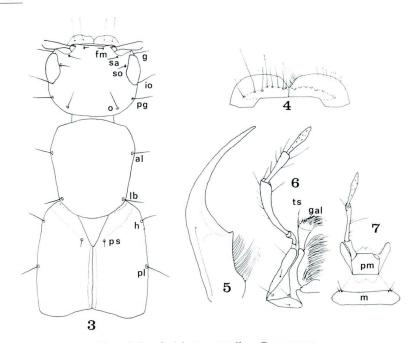
Amichrotus excellens Bernhauer, 1938, Ent. Nachr Bl., 12 (2): 100 (Kamikochi); Adachi, 1957, J. Toyo Univ., (11): 182; Naomi, 1983, Kontyu, 51: 52; Shibata, 1984, Annual Bul. Nichidai Sanko, 22: 110.

Male: Body elongate, thick, stout, nearly parallel-sided, rather flattened above and not shiny; colour brownish red, head black, antenna with 4th to 7th segments nearly black except reddish each base, and last 4 segments yellowish white, mandibles and tarsi brownish; each elytron clothed with golden yellow short pubescence, bearing a large black and subquadrate macula in hind half, apex narrowly yellow, and the macula clothed with dark pubescence, weakly shiny with deep bluish lustre and not reaching sutural space; abdomen with 6th segment, wide basal area of 7th and narrow apical area of 8th black, and the rest of 7th and 8th pale yellow; legs brownish yellow but dark brown at anterior margin of femora, knees and upper margin of tibiae. Length: 12.5 mm. (in the original description, but about 14 mm in extended abdomen).

Head subquadrate, a little wider than long (25.0:18.5), a little wider but much shorter than pronotum (25.0:22.0 but 18.5:26.0); front margin and hind one feebly emarignate, sides nearly straight and nearly parallel-sided, and hind angles widely round; upper surface feebly convex, densely covered with moderately coarse, subhexagonal and umbilicate punctures, median line faintly raised in the anterior two-thirds but impressed in the posterior third; chaetotaxy of macrosetae as shown in Fig. 3, front marginal seta only mal-developed. Antennae slender, filiform, extending a little beyond the middle of pronotum, somewhat thickened apicad from 3rd segment; basal 3 segments polished, 1st to 8th and 11th segments more or less longer than wide, 9th and 10th nearly as long as wide, 11th slightly slenderer than 10th, and each segment with the following relative length: 12.0-5.0-9.0-6.0-5.5-5.5-5.0-4.5-4.0-4.0-6.0. Eyes large, convex and a little longer than postgenae.

Mandibles (Fig. 5) slender and long, slightly longer than head, rather strongly incurved, each with a large and short subtriangulate molar tooth before the middle. Prostheca unilobed, slender and fringed with dense long pubescence at the inner margin.

Labrum (Fig. 4) short and very transverse, nearly flattened, bilobed by a deep and wide median notch; each lobe bearing 2 large setae and



Figs. 3-7. Amichrotus excellens Bernhauer.

3, forebody (with macrosetae as fm=front marginal: sa=supraantennal: g=genal: so=supraorbital: io=infraorbital: pg=postgenal: o=occipital: al=antero-lateral: lb=latero-basal: h=humeral: pl=post-lateral: ps=parascutellar); 4, labrum, fine setae are removed in the left half and large setae are removed in the right half; 5, left mandible; 6, right maxilla (gal=galea: ts=terminal seta); 7, labium (m=mentum: pm=prementum)

about 6 long setae on the transverse line in the middle and fringed with short pubescence at inner fifth of the gently arcuate anterior margin.

Galea (Fig. 6) densely pubescent on distal lobe and bearing a long teminal seta at apical corner of proximal sclerite. Lacinia (Fig. 6) long and wide, densely pubescent, with a few fine suberect hairs near the base. Maxillary palpus (Fig. 6) slender and very long, longer than two-thirds of mandible; 1st segment rather strongly geniculate near base and rapidly thickened apicad, with a fine seta near base of under side; 2nd very long, gently incurved and gradually thickened apicad, bearing very sparse pubesence and a few fine and long setae; 3rd straight, gently thickened apicad, a little shorter and narrower than 2nd, sparsely pubescent including a few long and fine setae at apical

portion, the pubescence rather sparser on the dorsal side; 4th subfusiform, subacute at the tip, slightly shorter and narrower than 3rd, glabrous but with several elongate minute tubercles here and there.

Labial palpus (Fig. 7) very elongate, a little longer than a half length of maxillary palpus; 1st segment straight, short but nearly twice as long as wide, gently thickened apicad and any hairs impercetible; 2nd nearly straight, a little slenderer than but twice as long as 1st, feebly thickened apicad, weakly oppressed dorso-ventrally, bearing some fine setae at base, in the middle and at apex, one of the middle setae being the longest; 3rd elongate-subfusiform, nearly as long as and slightly slenderer than 2nd, blunt at the tip, weakly oppressed dorsoventrally, glabrous but very sparsely and minutely tuberculate as 4th segment of maxillary papus. Ligula (Fig. 7) rather long, reaching the level of the middle of 1st segment of labial palpus, subtriangular but rather deeply notched at apex. Paraglossa (Fig. 7) rather narrow and long, reaching near the level of the apex of 1st segment of labial palpus, with scanty fine short hairs at inner margin. Prementum subpentagonal, a little transverse, shallowly depressed and finely lined medially.

Mentum (Fig. 7) short, very transverse, feebly emarginate at front margin, with a pair of fine setae on each front corner, the inner seta moderately long, but the outer one much shorter. Gular sutures weakly and shallowly impressed; gular plate straightly narrowed behind, very narrow in about posterior third, nearly flattened, finely and weakly rugose.

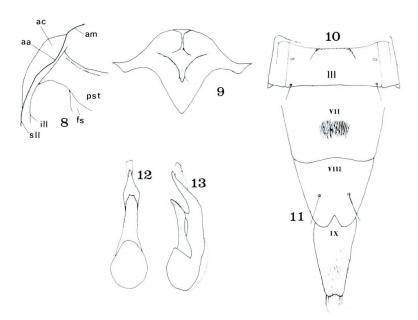
Pronotum (Figs. 3, 8) subcordate, strongly convex, gradually narrowed posteriad, a little longer than wide (26.0; 22.0), much narrower than (22.0; 36.0) and nearly as long as elytra in median length (but much shorter than maximum length of elytra); front margin feebly arcuate, basal one widely rounded, sides feebly sinuate, and all angles rounded; disk very densely punctured as well as on head, weakly reflexed near basal angles, without distinct median line (but a very faint median elevation is barely traceable in the basal half), and microsculpture absent; chaetotaxy composed of 2 macrosetae on each lateral side, one of them placed a little behind apical angle and the other on hind angle; superior lateral line gently incurved forwards from apical third, then hidden by apical corner and shifting to apical margin, and inferior lateral line ending just before front angle of lateral border of prosternum after junction of the border and the line (it is separated distinctly from superior lateral line) and never united with superior lateral line. Epimeron (=hypomeral projection of NAOMI 1988) absent.

Scutellum subtriangular, very shallowly depressed, finely and densely

punctured, the punctures barnacle-like; prescutum distinct, biarcuate at the hind margin.

Elytra (Fig. 3) subquadrate, slightly dilated posteriad, nearly straight at sides, a little wider than long (31.0: 25.0, but nearly as wide as the maximum length); apex feebly emarginate and hind angles rather rounded; surface flattened except for sutural space, coarsely, densely and strongly asperate-punctate and without distinct microsculpture, the punctures barnacle-like as on scutellum and a little smaller than those on pronotum; chaetotaxy consisting of 3 pairs of macrosetae, humeral setae rather mal-developed, fine, parascutellar ones far distant from scutellum and very mal-developed, postero-lateral setae fully developed; sutural space clearly defined, strongly convex, finely and densely punctured; elytral epipleuron not bordered above by a ridge or carina.

Prosternum weakly convex in middle, with well developed paired setae; lateral border long, placed at about pronotal apical angle and



Figs. 8-13. Amichrotus excellens Bernhauer.

8, prothorax, right front corner in latero-ventral view (pst=prosternum: aa=apical angle: ac=apical corner: am=apical margin: sll=superior lateral line: ill=inferior lateral line: fs=furcasternum); 9, mesosternum; 10, 3rd tergite; 11, 7th to 9th sternites; 12, male genitalia in ventral view; 13, ditto, in lateral view.

narrowly but distinctly separated from discal magin of pronotum; prosternal fossae shallow and well defined anteriorly; median ridge low and blunt but becoming a sharp carina at prosternal process which is acicularly protuberant at the tip. Furcasternum sharply carinate medianly except for the posteriormost portion.

Mesosternum (Fig, 9) shallowly depressed, ridged throughout at hind margin, bearing a conspicuous median carina in about basal third and a low Y-shaped convexity behind the median carina, which is widened at the posteriomost portion; mesosternal process subacute at the tip; intersternal piece shallowly sunken. Mesocoxae narrowly separated from each other.

Abdomen (Figs. 10, 11) nearly parallel-sided in basal 3 visible segments, those tergites deeply depressed at each base, the each depression tranversely depressed again medianly in subtrapezoid, and the following segments gently narrowed posteriad; 3rd to 5th segments sparsely, coarsely and shallowly punctured on each basal half, those hind halves and the following segments finely and densely punctured, the punctures a little denser on sternites; 3rd to 6th tergites each bearing a conspicuously long and thick seta at each postero-lateral corner; 7th sternite bearing a transverse suboval median area which is covered with long stiff hairs and reticulate microsculpture, and hind margin feebly emarginate; 8th sternite bearing a pair of conspicuous long erect setae and not deeply, rather widely and somewhat asymmetrically incised at apex; 9th sternite narrow, slightly asymmetrical, shallowly notched at apex and rather sparsely pubescent.

Legs slender and long; protibiae straight, gently thickened distally, without spines except apex; protarsi strongly dilated in basal 4 segments, nearly as wide as apices of protibiae; mesotibiae bearing several spines and metatibiae with a few spines, all the spines fine and short; empodial seta imperceptible.

Male genitalia (figs. 12-13) almost symmetrical and elongate; penis gently curved ventrad, dilated at base and apical fourth, subacute at the tip and bearing a subacute process at apical third of inner side (=ventral side); parameres unilobed, slender, not extending beyond penis, gradually narrowed apicad, then rapidly convergent to subtruncate apex, fringed with sparse fine short pubescence along lateral margins, the apex feebly emarginate, and bearing several pairs of tubercles (=peg setae of Smetana 1977) on inner (dorsal) side of the apical portion, which bears several fine long setae at the margin.

Female unknown.

Specimen examined: 1 of (holotype), Kamikochi, Japan (no further data).

Notes: The present species is readily distingushable from the other Amichrotus-





Figs. 14-15. Ocypus ganglbauerianus (Bernhauer). 14, Habitus (holotype); 15, the labels attached to the type specimen.

species by the conspicuous coloration, structures of the mouth organs and the mesosternum. In the genus Amichrotus 2nd segment of the maxillary papus is conspicuously thickened apicad as in the genus Anisolinus and the mesosternum is strongly keeled medianly throughout.

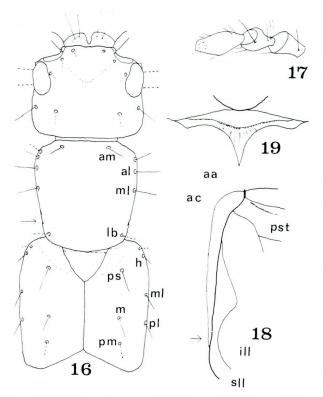
The present species resembles closely a species of the genus Hesberosoma or the genus Philomyceta in the structures of the mouth or-In Hesperosoma the mesosternum is not keeled, the male 7th abdominal sternite is distinctly depressed subovally in the tufted area, the male 9th abdominal sternite is markedly widened, foliaceous, and the parameres markedly bilobed. In Philomyceta the 3rd segment of the maxillary palpus is rather short, only a little longer than the 2nd and distinctly shorter than 4th, and the abdomen is depressed even in the middle of base of the 6th tergite. In consideration of the above mentioned characteristics, excellens has to be transferred from Amichrotus to a proper taxon related closely to Hesperosoma or Philomyceta.

> Ocypus ganglbauerianus (Bernhauer) (Figs. 14-23)

Staphylinus (Xanthocypus) ganglbauerianus Bernhauer, 1938, Ent. Nachr Bl., 12(2):101. Ocypus (Xanthocypus) ganglbauerianus: Adachi, 1957, J. Toyo Univ., (11):181; Shibata, 1984, Annual Bull. Nichidai Sanko, 22:94.

Male: Body stout, thick, nearly parallel-sided but somewhat constricted behind pronotum; forebody clothed with short golden yellow pubescence but hind body mostly with dark pucescence; colour black, antennae (1st segment a little darker) and legs brownish (femora darker and hind tibia yellowish in outer side), elytra brownish red, apical margin of each tergite bearing 3 small patches of golden yellow pubescence, 6th tergite bearing a large patch of dense golden yellow pubescence in the middle. Length: 14 mm. (in original description, but about 16 mm in rather extended abdomen).

Head (Fig. 16) subquadrate, slightly dilated posteriad, much wider



Figs. 16-19. Ocypus ganglbauerianus (Bernhauer).

16, fore body (am-antero-marginal: ml-mid-lateral: m-median: pm-post-median: →=the turning point of superior lateral line of pronotum: the other abvreviations are as same as in *Amichrotms excellens* Bernhauer): 17, labial palpus: 18, prothorax, the right side in ventral view: 19, mesosternum (in rough sketch).

than long (32.0 : 26.0), slightly wider and a little shorter than pronotum (32.0 : 29.0 and 26.0 : 32.0); sides feebly arcuate, front margin and basal one nearly straight, hind angles widely rounded; upper surface weakly convex, triangularly flattened in frontal area, densely, not coarsely and umbilicately punctured except front marginal area, without microsculpture, and median line indistinct; (macrosetae unfortunately almost lost, but their sockets well recognised and arranged equally as in the genus Agelosus Sharp). Eyes moderate in size, gently convex and a little shorter than postgenae (10.0 : 12.0). Antennae (unfortunately 10th and 11th segments were missing) slender, moderately long, reaching anterior third of pronotum and slightly thickened distally from 3rd segment; 1st to 7th segments more or less longer than wide, 8th and 9th slightly wider than long, basal 3 segments polished, and each segment with the following relative length: 25.0-12.0-15.0-10.0-10.0-9.5-9.0-8.5-8.0-()-().

Labrum moderately long, bilobed by a deep and wide median incision: each lobe nearly twice as wide as long, gently convex, bearing about 8 large setae along transverse mid-line and fringed with long stiff pubescence at inner half of apical magin. Mandibles a little shorter than head (22 : 26): left mandible bearing a large molar tooth at the middle of the inner margin, the tooth sharply bidentate at the top; prostheca unilobed. (Maxillary palpi missing.) Galea bearing a conspicuous terminal seta at apical angle of proximal sclerite. Labial palpi (Fig. 17) thick, somewhat oppressed dorso-ventrally; 1st segment a little longer than wide, gradually thickened apicad, obliqualy truncate at the tip, with a fine seta at each base and apex; 2nd subtriangular, a little shorter than 1st, obliquely truncate at apex, bearing a few setae of various length at base and apex; 3rd thick, subfusiform, a little longer than 1st, subtruncate at the tip and with very sparse and fine setae. Ligula wide, deeply incised medianly and reaching near apex of 1st segment of labial pulpus. Paraglossa rather wide and long, reaching the middle of 2nd segment of labial palpus, rounded at the tip, with rather sparse fine short setae at the inner margin. Prementum subhexagonal, strongly transverse and impressed medianly. Mentum short, very transverse, bearing a pair of well developed setae at each anterior corner, front margin feebly emarginate, rather vague in middle part, and middle area of basal one rather deeply so. Gular plate wide and weakly convex in about anterior third but very narrow and impressed as a sulcus. Subgenae (area between gena and gular suture) very coarsely and sparsely punctured, with fine reticulate microsculpture. Postgenae coarsely, shallowly and vaguely punctured.

Pronotum (Figs. 16, 18) subcordate, slightly narrowed posteriad, widest at about anterior third, a little longer than wide (32.0 : 29.0), a

little narrower (29.0 : 37.0) than and nearly as long as elytra (but a little shorter than the maximum length of elytra); front magin straight in middle, obliquely and shallowly emarginate laterad, basal one gently rounded, front angles rounded and hind ones very widely rounded, sides feebly sinuate; disc rather flattened, much more densely punctured than on head, without microsculpture, median line short, narrow, smooth and recognized much before basal margin; chaetotaxy composed of anteromarginal, antero-lateral, mid-lateral and latero-basal macrosetae which are well developed except latero-basal setae (they were missing), antero-lateral ones accompanied by 1 or 2 well developed setae, which grow from large punctures as same as sockets; superior lateral line rapidly incurved just before hind angle, then immediately hidden by pronotal disc, extending forwards under the disc and linked with inferior lateral line much behind apical angle. Epimeron absent.

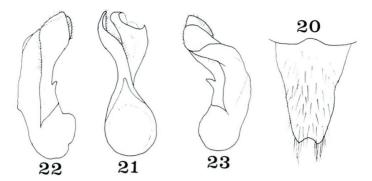
Scutellum triangulate, shallowly depressed, finely and very densely punctured, with golden blackish pubescence.

Elytra (Fig. 16) subquadrate, a little wider than long (37.0: 31.0, but almost as wide as the maximum length); sides nearly straight, apex feebly emarginate, latero- and inner apical angles rounded; surface flattened, coarsely, densely and strongly asperate-punctate, without microsculpture, the punctures convex as barnacle-like; macrosetae almost lost but their sockets well recognised in 2 rows, lateral row consisting of humeral, mid-lateral and postero-lateral socket, and median row of parascutellar, middle and postero-median one, the parascutellar one placed far distant from scutellum. Hind wing well developed.

Prosternum divided by a high median ridge, which is not sharp in anterior half; prosternal fossae rather shallow; lateral border moderately long and united with discal margin of pronotum at the apical angle; furcasternum sharply ridged medianly.

Mesosternum (Fig. 19) transversely convex, transversely and remarkably bounded at about the middle as in the genus *Philonthus*, smooth before the bound but rough behind it; mesosternal process narrow and subacute at the tip; inter sternal piece shallowly sunken. Mesocoxae contiguous to each other.

Abdomen gradually narrowed behind, minutely and very densely punctured, with recumbent pubscence, the punctures considerably sparser on sternites than on tergites; each segment covered with fine reticulate microsculpture except wide median area; 3rd to 5th tergites distinctly depressed at each base; 8th tergite with reticulate microsculpture on the whole; 8th sternite feebly emarginate at the middle of apex; 9th sternite (Fig. 20) narrow, gently narrowed posteriad, shallowly incised at apex and clothed with sparse pubescence of various length.



Figs. 20-23. Ocypus ganglbauerianus (Bernhauer). 20, 9th sternite: 21, male genitalia, in ventral view: 22, ditto, in left lateral view: 23, ditto, in right lateral view.

Legs not long but slender; protibia gently thickened apicad and not spinous except apex; protarsus moderately dilated except terminal segment, nearly as wide as apex of the tibia; mesotibia bearing several spines, which are thick and short on lateral side but slender and long on inner side; mesotibia bearing a few fine and short spines on outer side.

Male genitalia (Figs. 21-23) markedly asymmetrical, strongly twisted to the left; penis considerably curved ventrad in lateral view, considerably narrow in middle (in ventral view), strongly tumid in base and dilated towards obliquely truncate apex, and dorsal side weakly sclerotized, rather membranous; parameres unilobed, strongly twisted to the left, narrow in middle, subquadrately widened in about apical half (in lateral view), which is fringed closely with rather long fine pubescence at the margins.

Female unknown.

Specimen examined: 13 (holotype), Kamikochi, Japan (no further data).

Notes: Though the present species is very closely related to *Ocypus similis* (Fabricius) and its allies in the resemblance of the general appearance, mouth organs (but the maxillary palpi missing) and male genitalia, the limbic conformation of the pronotum and the structure of the mesosternum are rather different from those of *Ocypus olens* (Müller). In the fact that most parts of the pronotal superior lateral lines are not visible in dorsal view, the present species is rather similar to *Physetops* species. Transverse bound on the mesosternum is similar to that of *Philonthus*-species.

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なお, 今後とも一層のご協力をお願い申しあげます.

(日本甲虫学会)

Coprophagid-beetles from Northwest Thailand, IX (Coleoptera, Scarabaeidae)

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Abstract This is the 9th part of the series dealing with the coprophagid-beetles from Northwest Thailand. Seven new species belonging to the genera Haroldius (Alloscellini) and Onthophagus (Onthophagini) are described: Haroldius (s. str.) kawadai sp. nov., Onthophagus (s. str.) kiuchii sp. nov., O. (s. str.) apilularius sp. nov., O. (s. str.) falsivigilans sp. nov., O. (s. str.) grandivigilans sp. nov., O. (s. str.) pseudohystrix sp. nov., O. (s. str.) taayai sp. nov. A new assignment of subgenus is proposed for Onthophagus quaestus Sharp, which becomes O. (Parascatonomus) quaestus Sharp, stat. nov.

Keywards: Taxonomy; Coleoptera; Scarabaeidae; Northwest Thailand; Alloscellini; Onthophagini; Haroldius; Onthophagus.

Tribe Alloscellini Haroldius (s. str.) kawadai sp. nov. Fig. 1.

Black and moderately shining, with anterior margin of head, front angles of pronotum, legs, etc., reddish brown, hairs on surfaces pale yellow. Broadly oval, rather strongly convex above.

Head semicircular, gently convex above, micro-shagreened and micro-scopically punctate; clypeus notched and rather acutely bidentate in the middle of front margin; gena with outer margin obtusely angulate before eye. Pronotum about twice as wide as long, microscopically and not closely punctate, feebly micro-shagreened and finely striate, the striae directed apicad, becoming shorter in middle and longer in lateral portions; apical margin gently produced in median $\frac{1}{3}$; base widely triangular; lateral margins subparallel-sided in basal $\frac{2}{3}$, rounded in apical $\frac{1}{3}$; front angles obtusely angulate and hind angles obtuse.

Elytra with fine simple striae; intervals flat, 1st interval with one and the others with two rows of microscopic punctures, each with an

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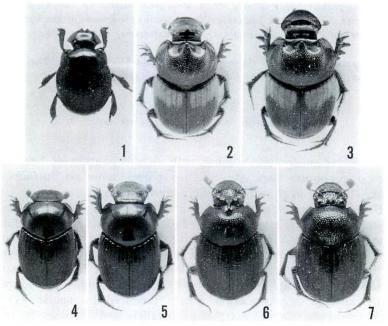
erect short hair, whose apical portion is bent posteriad. Pygidium gently convex, glabrous and micro-shagreened, sparsely scattered with microscopic punctures.

Fore tibia moderately widened towards apex with two outer teeth; middle tibia rather strongly widened, with a small tooth at outer angle; hind tibia rather strongly widened, with outer margin gently arcuate and inner margin slightly produced in basal $\frac{2}{5}$; hind femur with an angle on posterior margin in middle.

Body length: 3.2 mm.

Holotype: ♂, Doi Suthep, Chiang Mai Pref., NW Thailand, 26. VII. 1989, K. Kawada leg.

Notes. The new species somewhat resembles Haroldius (s. str.) rugatulus BOUCOMONT, originally described from Singapore, but can be distinguished from the latter by the larger blackish body with gently convex head and wholly striated pronotum. It is very interesting that PAULIAN (1987) described Haroldius loebli from the same locality as the new species. The latter can also be discriminated



Figs. 1-7. Habitus of *Haroldius* and *Onthophagus* spp. 1, *Haroldius* (s. str.) *kawadai* sp. nov., holotype, 3; 2-3, *Onthophagus* (s. str.) *kiuchii* sp. nov., 2, holotype, 3, 3, paratype, 4; 4-5, 4, 0. (s. str.) *apilularius* sp. nov., 4, holotype, 3, 5, paratype, 4; 6-7, 4, 0. (s. str.) *falsivigilans* sp. nov., 6, holotype, 4, 7, paratype, 4.

from H. loebli by the larger and less convex body with wholly striated pronotum.

Tribe Onthophagini Onthophagus (s. str.) kiuchii sp. nov. Figs. 2-3.

This new species resembles *O.* (s. str.) *trituber* (Wiedemann), widely distributed in Southeast Asia, but can be distinguished from the latter by the following characteristics:

Elytron more distinctly haired and brownish yellow, with 1st interval and a large transverse band covering posterior $\frac{2}{3}$ except apical portion dark brown, though lacking patch across 4th and 5th intervals as in O. (s. str.) *trituber*.

Male. Head wider and semicircular, gently and triangularly raised medially; clypeus with outer margin weakly reflexed; vertex with a wider lamina whose middle is narrowed and produced as a short horn; pronotum more strongly punctate; posterior edge of frontal declivity with 3 tubercles, which are separated by rather smooth and deep excavations; the middle tubercle conical and prominent. In small individuals, head with a ridge arcuate forwards on fronto-clypeal border and also with a ridge gently arcuate forwards on vertex; 3 tubercles on pronotum small, though the middle one is still more distinct than the others and is somewhat transverse.

Female. Apical margin of head rounded and not bilobed in front; fronto-clypeal ridge gently arcuate forwards; ridge between posterior portions of eyes more distinct and straight. Pronotal tubercles and excavations are alike in both sexes. In small individuals, head with a ridge gently arcuate forwards and also with a nearly straight ridge on vertex; 3 tubercles on pronotum becoming obsolete, though the middle one is still more distinct than the others and forms a small swell produced apicad.

Body length; 6.3-7.6 mm.

Holotype: 3, Maesa Vill., Chiang Mai Pref., NW Thailand, 26. VII.-1. VIII. 1987, K. Masumoto leg. Paratypes: 26 exs., same data as for the holotype; 5 exs., Maesa Vill., 3-6. V. 1994, K. Masumoto leg.; 4 exs., Phrao Distr., Chiang Mai Pref., 15. VIII. 1987, Manit Y. leg.; 3 exs., Maesa Vill., 4. VII. 1990, Maneit Y. leg.; 1 ex., Maerim Vill., Chiang Mai Pref., 21. IX. 1990, K. Masumoto leg.; 1 ex., Maesa Vill., 14. VIII. 1994, K. Masumoto leg.; 2 exs., Phrao Distr., 10. VIII. 1987, Manit Y. leg.; 1 ex., Phrao Distr., 20. VIII. 1987, Manit Y. leg.; 2 exs., Phrao Distr., 30. VIII.-3. IX. 1987, Manit Y. leg.; 1 ex., Maesa Vill., 30. VIII. 1987, Manit Y. leg.; 1 ex., Maetaeng Distr., Chiang Mai Pref., 10-20. IX. 1987, Manit Y. leg.;

Onthophagus (s. str.) apilularius sp. nov. Fig. 4-5.

Blackish brown, with antennae and mouth parts yellowish brown, head and pronotum strongly and legs feebly metallic coppery, elytra somewhat vitreously shining; dorsal surface almost glabrous. Oblongo-ovate, moderately constricted between prothorax and hind body, rather strongly thickened but slightly flattened in posterior portion.

Male. Head weakly elevated in middle; clypeus rather large and closely rugoso-punctate, with outer margin gently reflexed, very slightly truncate at apex, fronto-clypeal border arcuate and finely ridged; genae sparingly angulate, clypeo-genal border finely sulcate; frons rather closely but not rugosely punctate, slightly concave in posterior portion just before low straight ridge on vertex, whose hind declivity is rather smooth and microscopically punctate.

Pronotum slightly wider than long, covered with small but deep punctures, which become smaller and a little sparser in the posterior portion; apical margin widely emarginate; base rather strongly produced posteriad; sides swollen laterad and steeply declined towards rounded lateral margins; front angles roundly produced forwards; hind angles obliquely truncate and feebly sinuous; disc with an obscure median impression in basal half.

Elytra clearly punctato-striate; intervals rather remarkably convex and feebly undulate, sparsely and irregularly scattered with fine punctures; basal portion of 7th interval rather distinctly swollen, thus the 7th stria is shortened before the base.

Pygidium moderately convex and strongly punctate, the punctures sometimes fused with one another, each with a microscopic short hair.

Fore tibia with 4 large outer teeth and a spatulate terminal spur.

Female. Body larger than in male; head wider and more closely rugoso-punctate, with wider ridges on fronto-clypeal border and vertex; clypeus slightly bilobed at apex; front angles of pronotum less strongly produced anteriad; fore tibia with 4 larger outer teeth and a slender acute spur.

Body length: 4.3–5.5 mm.

Holotype: ♂, Doi Suthep, Chiang Mai Pref., NW Thailand, 12-18. IX. 1990, К. Маѕимото leg. Paratypes: 4 exs., same data as for the holotype; 8 exs., Doi Suthep, 3-6. V. 1994, К. Маѕимото leg.; 1 ex., Doi Suthep, 20. XI. 1988, К. Маѕимото leg.

Notes. This new species somewhat resembles O. (s. str.) pilularius Lansberge in having the fore body above strongly and metallically shining and the terminal spur of male fore tibia spatulate, but can be discriminated from the latter by the smaller body with the frons not asperate but punctate, the pronotum covered with

larger punctures, the elytra not asperate but feebly undulate and the narrower pygidium.

The following 4 species are the members of large-eyed *Onthophagus*, the subgenus *Micronthophagus* Balthasar, though Krikken and Huijbregts (1987, p. 124) pointed out the polyphyly of Balthasar's subgenus. The publication of this paper was kindly noticed by Mr. Teruo Ochi to whom I wish to express my heartfelt thanks. Thanks are also duo to Dr. Yves Cambefort, Muséum National d'Histoire Naturelle, Paris, for permitting me to examine type specimens for this study.

Onthophagus (s. str.) falsivigilans sp. nov. Figs. 6-7.

This new species resembles *Onthophagus vigilans* BOUCOMONT, originally described from Laos, and distributed in India and Indochina. The present new species can be distinguished from the latter by the following characteristics:

Male. Body wider and lighter in colour; each surface more distinctly clothed with long erect hairs. Head more sparsely punctate; clypeus less strongly produced apicad, fronto-clypeal border more distinctly ridged; eyes larger, diatone about twice the width of an eye (3 times in O. vigilans); horn on vertex not reflexed but simply directed obliquely posteriad, with a basal portion narrower and subparallel-sided. Pronotum more transverse, with smaller punctures; front angles less acute; front median excavation of pronotum shallower. Pygidium narrower, more clearly punctate.

Female: As the type specimen is a male, I will give here some account of the female as follows: Body slightly less thickened; head more strongly punctate; clypeus more distinctly rugoso-punctate, fronto-clypeal ridge wider and arcuate anteriad; vertex without a lamina as in stated by Arrow (1931, p. 165) and Balthasar (1963, p. 581) for O. vigilans but with a pair of small tubercles close to each other on a line across a little behind the middle of eyes; pronotum more strongly punctate.

Body length: 4.5–5.4 mm.

Holotype: ♂, Chiang Mai City, Chiang Mai Pref., NW Thailand, 25. IX. 1990, K. Masumoto leg. Paratypes: 2 exs., same data as for the holotype; 4 exs., Maesa Vill., Chiang Mai Prov., 3-6. V. 1994, K. Masumoto leg.; 1 ex., Doi Suthep, Chiang Mai Pref., 8. II. 1989, K. Masumoto leg; 1 ex., Angkang, Fang Distr., Chiang Mai Pref., IV. 1989, Manit Y. leg.; 1 ex., Doi Suthep, 30. XII. 1989, Manit Y. leg.

Onthophagus (s. str.) grandivigilans sp. nov. Fig. 8-9.

This new species also resembles $O.\ vigilans$, but can be discriminated by the following characteristics:

Body langer (6-7 mm), with surfaces clothed with shorter hairs.

Male. Head microscopically punctate and sparsely scattered with larger punctures, feebly elevated around fronto-clypeal area; clypeus less strongly produced forwards, weakly rugoso-punctate in anterolateral portions, with apical margin gently reflexed and slightly straight in the middle, fronto-clypeal ridge wide and straight; gena with lateral margin feebly arcuate; frons smooth and slightly, transversely concave; eyes large, diatone about twice the width of diameter of an eye; vertex with a large, slightly reflexed horn as in O. vigilans, but the basal portion is wider.

Pronotum wider, more strongly produced laterad, front median excavation wider; front angles more strongly projected forwards.

Pygidium feebly micro-shagreened, more clearly punctate. Ratio of the length of metatarsal segments from basal to apical: 1.0, 0.25, 0.15, 0.15, 0.25.

 $\it Female$: Fronto-clypeal ridge wide and strong; vertex with a sharp, erect, subrectangular lamina.

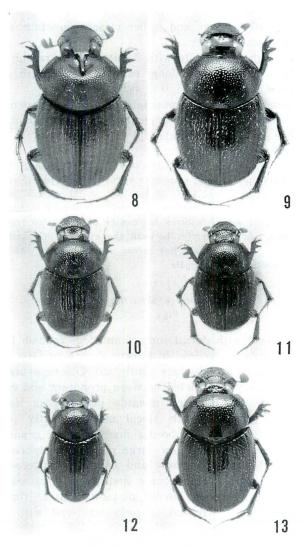
Holotype: &, Maesa Vill., Mai Pref., NW Thailand, 21. XI. 1994, K. MASUMOTO leg. Paratypes: 1 ex., Doi Suthep, Chiang Mai Pref., 6. IV. 1991, K. MASUMOTO leg.; 1 ex., Doi Suthep, 16. IX. 1988, K. MASUMOTO leg.; 1 ex., Maesa Vill., Mai Pref., 3. VI. 1995, Manit Y. leg.

Onthophagus (s. str.) pseudohystrix sp. nov. Figs. 10-11.

Chestut brown, with humeral portions vaguely reddish, antennae, mouth parts, gula, etc., pale brown; each surface rather strongly shining and fairly densely clothed with long hairs. Body broadly oval, thickened though gently flattened posteriorly.

Male. Head rather large, slightly elevated in middle and also in posterior portions, rather closely punctate, with outer margin reflexed; clypeus rugoso-punctate, slightly truncate at apex, fronto-clypeal ridge fine but clear, gently arcuate forwards; genae rounded; frons slightly micro-shagreened and feebly concave; eyes large, diatone about 2.5 times the width of an eye; vertex often with low transverse swell.

Pronotum about 1.5 times as wide as long, strongly and rather closely punctate; apical margin widely emarginate; base rounded and margined by a row of small punctures; lateral margins roundly produced laterad; front angles rectangular; hind angles obliquely truncate.



Figs. 8–13. Habitus of *Onthophagus* spp. 8–9, *Onthophagus* (s. str.) *grandivigilans* sp. nov., 8, holotype, \Im , 9, paratype, \Im ; 10–11, O. (s. str.) *pseudohystrix* sp. nov., 10, holotype, \Im , 11, paratype, \Im ; 12–13, O. (s. str.) *taayai* sp. nov., 12, holotype, \Im , 13, paratype, \Im .

Elytra finely punctato-striate; intervals gently elevated, 1st interval with a row and the others with two rows of small punctures, which are

finely asperate.

Pygidium gently convex and rather closely punctate, the punctures often fused with one another.

Fore tibia slightly elongate with 3 outer teeth rather large. Hind tarsus with 1st segment rather long, ratio of the length of each segment from basal to apical: 1.35, 0.35, 0.25, 0.25, 0.35.

Female. Head more closely punctate than male; clypeus with outer margin more distinctly reflexed, truncate and slightly bilobed in front; fore tibia more strongly tridentate.

Body length: 4.3-5.2 mm.

Holotype: &, Maesa Vill., Chiang Mai Pref., NW Thailand, 21. XI. 1994, K. Masumoto leg. Paratypes: 3 exs., same data as for the holotype; 5 exs., Maesa Vill., 3-6. V. 1994, K. Masumoto leg; 1 ex., Maesa Vill., 31. III. 1995, K. Masumoto leg.

Notes. This new species resembles O. hystrix BOUCOMONT in having large eyes and lacking in obvious sexual features, but can be discriminated from the latter by the head without a pair of tubercles between the eyes. In O. hystrix, a pair of small tubercles are provided on the line across a little before the mid-eye level, though the type specimen is a female.

Onthophagus (s. str.) taayai sp. nov. Figs. 12-13.

Blackish brown, with dorsal surface and legs reddish brown, antennae, mouth parts, etc., yellowish brown, dorsal surface strongly and vitreously shining, ventral surface gently so. Oblong-ovate, moderately convex above, weakly constricted between pronotum and elytra.

Male. Head feebly elevated towards posterior portion of frons; clypeus coarsely punctate, with apical margin gently produced and slightly reflexed, fronto-clypeal border finely ridged; genae weakly depressed and scattered with a few large punctures, clypeo-genal border finely ridged; frons rather narrow and coarsely scattered with punctures, with posterior margin arcuate and slightly raised; eyes large though not strongly projected laterad, diatone about 2.3 times the width of an eye; vertex flattened and sparsely scattered with a few large punctures.

Pronotum about 1.5 times as wide as long, gently convex above, not closely, strongly punctate and somewhat umbilicate, each puncture with a short hair; apical margin widely emarginate; base rounded; side with a small swell in middle, lateral margin rounded; front angles roundly produced apicad; hind angles obliquely truncate and slightly reflexed.

Elytra rather clearly punctato-striate, each stria with a row of small haired punctures on both sides; intervals gently convex, almost

impunctate and feebly undulate.

Pygidium gently convex, strongly though not closely punctate, each puncture with a short fine hair.

Fore tibia gently elongate with 3 outer and a minute additional teeth.

Female. Body larger than male, head more coarsely rugoso-punctate except on vertex, fronto-clypeal ridge more distinct, fore tibia widened apicad with 4 larger outer teeth.

Body length: 4.5-6.3 mm.

Holotype: ♂, Doi Suthep, Chiang Mai Pref., NW Thailand, 3-4. I. 1991, K. MASUMOTO leg. Paratypes:1 ex., same locality of the holotype, 28. I. 1991, MANIT Y. leg.; 1 ex., same locality, 9. II. 1989, K. MASUMOTO leg.

Notes. This new species resembles, in the large-eyed Onthophagus, O. cavia BOUCOMONT in having short-haired surface and inerm head, but can be distinguished from the latter by the larger eyes (the diatone as described above, 4.5 times in O. cavia) and the posterior margin of frons gently elevated.

Onthophagus (Parascatonomus) quaestus Sharp, stat. nov.

Onthophagus quaestus Sharp, 1875, Coleopt. Hefte, 14:55; Arrow, 1931, Fauna Brit. Ind. Ceyl. Bur. Coleopt. Lamell. III (Coprinae): 260.

Onthophagus (Micronthophagus) quaestus: Balthasar, 1963, Monograph. Scarab. Aphod. palaeark. orient. Region II. 495.

Notes. In the course of this study, I have had the opportunity of examining the type of this species, which is distributed in India and Sri Lanka. Arrow (1931) pointed out that this species is distinct in having the metasternum with an angular process in front, and included it in the group 16, which contains only the single species. Later, Balthasar (1963) included it in the subgenus Micronthophagus.

The eyes of this species are not so large, and the diatone is about 4.5 times the width of an eye. Furthermore, the antennal club is compact with the 1st large and crescent-shaped in dorsal view, the last small, and the labial palpi small. These characteristics are nothing but those of the subgenus *Parascatonomus*.

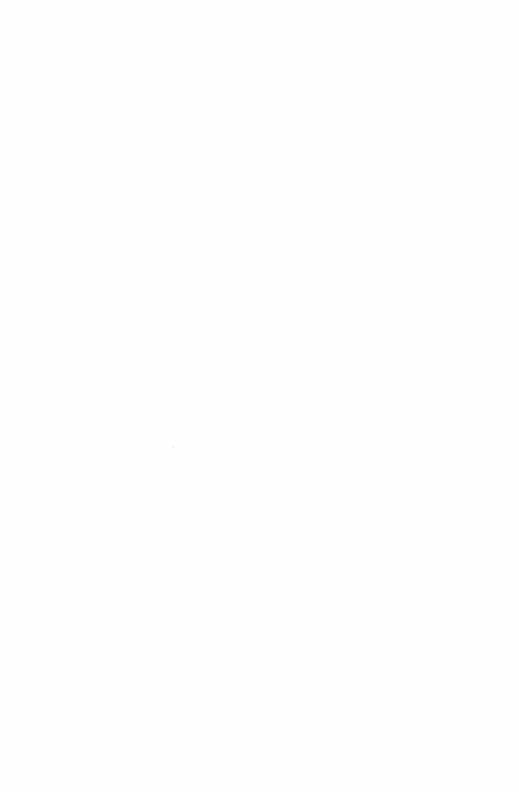
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キシイミズギワコメツキの形態について

大 平 仁 夫

Notes on the Morphological Structure of *Fleutiauxellus curatus kishiii* (Coleoprera, Elateridae) from Amami-Ôshima Is., Japan

By Hitoo Ôhira

筆者は1994年7月に、奄美大島においてコメツキムシ類の分布調査をしたが、この間に新村でキシイミズギワコメツキを採集することができ、その形態について詳しい調査をしたのでここに報告する。本文を草するにあたり、調査について支援を頂いた三河昆虫研究会の浅岡孝知氏、永井貞氏に心からお礼を申し上げる。

1. 亜種の概要

本亜種は奄美大島の八津野 (Hatsuno) において採集 (4-IV-1996) された 3 個体の標本にもとづいて \hat{O} HIRA (1967) が本州産の基亜種から区別して新亜種 ($Migiwa\ curatus\ kishiii$) として記載を行ったものである。その後、大平 (1974) は同島の新村 (Shin-mura) で採集された 1 雄個体を検し、成虫の図を示しているし、KISHII (1983) は八津野で採集 (7-V-1982, 11-V-1982) された 5 頭の標本を検している。また、岸井 (1989) は徳之島で得られた 4 雄 1 雌 個体を記録し、「基本産地である 奄美大島産のものと 変わる点は 見出されなかった」としている。

奄美大島とその周辺地域からの記録は,筆者が知る範囲では上記のようで,この亜種は現在では奄美大島と徳之島に分布することになっている。また,原記載時の属名は Migiwa 属であるが,現在では Fleutiauxellus 属が用いられている。

奄美大島では、河川敷に砂礫がある良好な川が少なく、生息場所はかなり限定されているようで、個体数も多くないようである。往時は八津野は奄美大島の好採集地と知られていたが、その後の開発が進んで昔の面影はなくなっており、現在では本種をこの場所で見出すことは困難と思われる。筆者は新村近くの河川敷にトラップを設置して、形態調査に必要な個体数を得ることができた。

2. 形態概要

体長は 4.5 mm 内外, 体は黒色で光沢を有しやや扁平状である. 触角は黒褐色で第2節は 黄褐色, 肢は黄褐色で腿節は暗褐色である. 前頭横隆線の基部は顕著に縁取られ, 前縁部は

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弱く切断状である (Pl. 6, G). 触角は細長く、末端は前胸背板の後角より末端 1 節ほど後方に伸長する (Pl. 6, B). 第 2 節は短小で幅よりやや長く、第 3 節から鋸歯状で、一般に第 3 節は第 4 節よりやや長い (Pl. 6, E).

前胸背板は弱い台形状で、両則は基部において最も幅広い、背板は膨隆し、正中部には平 滑縦隆線を生じ、周辺部の表面は密に顆粒状を呈する (Pl. 6, B). 後角は後方に短く突出し、 背面には1隆起線を有する (Pl. 6, I). 前胸腹板突起は前肢基節腔を越えて弱く内方へ湾曲 し、末端近くで顕著に細まってとがり、断刻は生じない (Pl. 6, C).

小盾板は扁平状で幅と長さはほぼ等しく、末端は湾曲する. 上翅の条線は深い点刻を規則 正しく生じ、間室部は隆起し、不規則なしわ状である. 腰板の内方部は幅広く、両側は平行 状で、外縁は湾曲して外方に細まる. 肢の跗節と爪は簡単である.

交尾器の外形は図示したようである (Pl. 6, J, K). 中央突起は細長く、 両側は末端に漸次 細まって弱くとがる. 側突起は細長いへら状で、末端は湾曲して細まり弱くとがる. また、 側突起の外側縁部には、各3本内外の長毛を生ずる (Pl. 6, H).

雌は体長 5.5 mm 内外. 一般に雄より大形である. 触角はより短く, 末端は前胸背板の後角に達するかわずかに長い程度である (Pl. 6, A). 第2節は短小で円筒形状, 第3節も円筒形状で, 第4節から弱く鋸歯状を呈する (Pl. 6, F). Burusa copulatrix の袋内にある角質化した板状物はよく発達しており, 2枚の板の内, 袋の上端部にある板の外形は図示したようである (Pl. 6, D). しかし, この2枚の板の形は個体間で若干の変異がみられる.

3. 調 查 標 本

7 ♂ ♂, 12 ♀ ♀, 新村 (奄美大島), 26-VII-1994, 大平採集.

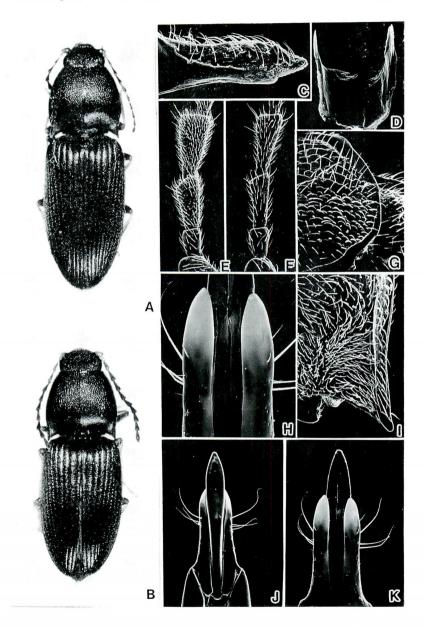
4. そ の 他

前述のように、ÔHIRA (1967) が本州産の亜種として記載してから今日まで、亜種としての位置は踏襲されてきたが、この度 SEM を用いて詳しい形態を調査した結果では、本亜種は独立種としての可能性が強いように思われる。本州に分布する原名亜種に比して、奄美大島産は体がより大形で扁平状、前頭横隆線の前縁部は緩い切断状で、触角はより細長くて第2節はより短小である。また、前胸背板上の顆粒物もより密に生じ、両側は後角前で顕著に内方に湾曲しない。雄交尾器の中央突起や側突起はより細長い。

現在,本種は沖縄本島には Subsp. okinawanus ÔHIRA, 1967 オキナワミズギワコメツキが知られており、対馬産の Subsp. tsushimensis KISHII, 1986 ツシマミズギワコメツキについては大平 (1992) が形態を示した。本種の亜種としての分類上の位置は、沖縄本島や奄美大島と九州を結ぶトカラ諸島産の分布の可能性も含めて総合的に調査して処理したいと考えている。

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(H. ÔHIRA photo.)

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Summary

Morphological structures of *Fleutiauxellus curatus kishii* (\hat{O}_{HIRA} , 1967) are examined on the material from the type locality by SEM and compared with those of the nominate subspecies from Honshu as the basic data for the further study.

Explanation of Plate 6

Pl. 6. Fleutiauxellus curatus kishiii, male (B C, E, G, H, I, J, K) and female (A, D, F), Shim-mura in Amami-Ôshima Is.

A, Length $5.5\,\mathrm{mm}$; B, length $4.5\,\mathrm{mm}$; C, prosternal process, lateral aspect; D, one of a pair of sclerotized plates in bursa cupulatrix; E, F, 2nd to 4th segments of antenna; G, clypeal margin, dorso-lateral aspect; H, K (ventral aspect) and J (dorsal aspect) of aedeagus; I, right posterior angle of pronotum.

第46回 (平成6年度) 大会記録

平成6年度の第46回大会は、大阪市立自然史博物館において同年12月11日午前10時30分から開催された。午前中は例年どおり自由懇談及び甲虫の同定が隨所で行われ、各所で虫談の花が咲いた。

午後1時から野村幹事の司会により、まず大倉幹事から会務会計報告が行われ、のち引続き記念講演に入り、安藤清志氏から"欧州の博物館を訪ねて"と題し話しがあり、訪ずれる前にその博物館の研究者とコンタクトを取っておくことが必要であるとのことであった。ついで林 匡夫氏からニューカレドニアに分布する2種の天牛の特殊な分布報況について報告があった。最後に遠山雅夫氏から昆虫の発達は各部位の分節により行なわれる旨の話があり盛会裡に閉会した。

大会終了後, 例年どおり有志による懇談会を開催した.

当日の出席者は下記のとおり、(敬称略・*は懇親会出席者)

*安藤清志・藤田國雄・*春木 實・*春沢圭太郎・畑山武一郎・*林 匡夫・*林 靖彦・平田信夫・*穂積俊文・*生谷義一・伊藤 昇・*伊藤建夫・*岩田隆太郎・蟹江 昇・岸井尚・黒田祐一・正木 清・的場 績・*水野弘造・*森田誠司・*奈良 一・生川展行・*野村英世・*大石久志・*大川親雄・*大倉正文・奥田則雄・奥田好秀・斉藤昌弘・*佐々治寛之・初宿成彦・高羽正治・田村 周・*田中昭太郎・谷角素彦・*遠山雅夫・和田園子・*八木正道・山地 治・*吉田正隆・吉田元重. (大倉)

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