

The Buprestid Beetles of the Subfamily Agrilinae from Japan (Coleoptera, Buprestidae)

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Abstract A new species of the genus *Toxoscelus*, and fifteen new species and four subspecies of the genus *Agrilus* are described from Japan, and a species of the genus *Agrilus* is newly recorded. A new species of the genus *Agrilus* from Taiwan is also described.

The buprestid beetles belonging to the subfamily Agrilinae occurring in Japan have been studied by some previous authors. Although a number of species of this subfamily have already been recorded and described from this country, there are still many others that await descriptions.

Recently, I had opportunities to examine many Japanese species belonging to this subfamily. After a careful examination, it becomes apparent that more than fifty species must be newly described or recorded from Japan.

In this paper, seventeen new species and four new subspecies will be described, and a species will be newly recorded from Japan. All the holotypes designated in this paper are deposited in the National Science Museum (Nat. Hist.), Tokyo.

Before going further, I wish to express my sincere gratitude to Dr. Yoshihiko KUROSAWA of the National Science Museum (Nat. Hist.), Tokyo, for his constant guidance, and to Dr. Shun-Ichi UÉNO of the same museum for his critical reading the original manuscript. I am also indebted to Drs. Sadahiro OHMOMO and Keisuke TSUJI, and Mrssrs. Kôyô AKIYAMA, Kanoh DEGUCHI, Ken-Ichi EMOTO, Hiroshi FUJITA, Takeichiro HATAYAMA, Shoichi IMASAKA, Nobuyuki KOBAYASHI, Isao MATOBA, Akira NISHIYAMA, Koichi SUGINO, Yoshimasa SHIOZAKI, Minoru TAO, Ryoji TOYOSHIMA and Masamichi YAGI for their kind offers of the materials.

Toxoscelus matobai sp. nov.

(Fig. 18)

Body small, rather robust, somewhat deplanate above; above black with aeneous tinge; beneath black with slight violaceous tinge; antennae and legs concolorous with body beneath.

Head small, with the median groove deep and running from vertex to the centre of frons; vertex feebly gibbous on each side of median groove, longitudinally rugoso-

punctate; frons slightly convex, transversely rugoso-punctate; eyes distinctly converging below in frontal aspect, with the inferior rims arcuately emarginate; clypeal suture inconspicuous; clypeus strongly narrowed by antennal cavities, with the anterior margin arcuately emarginate; antennal cavities large, with the posterior margins strongly carinate; antennae short and compact, eleven-segmented, serrate from the fifth segment, with the first segment stout, subglobular, about 1.5 times as long as the second, which is equally stout and subglobular to the first, the third and fourth about equal in length and shape.

Pronotum transverse, about 1.4 times as wide as long, widest just before the middle; sides arcuately expanded in dorsal aspect, slightly but distinctly bisinuate in lateral aspect, very finely and inconspicuously crenulate; anterior margin bisinuate, with the median lobe broadly and arcuately produced; posterior margin strongly and angulately emarginate just before the elytral lobes, slightly and arcuately emarginate just before scutellum; anterior angles acute and produced in dorsal aspect, abased at the tips in lateral aspect; posterior angles obtuse and rounded; marginal carinae entire; disc uneven, with a small transverse depression behind the anterior lobe, another small shallow one just before scutellum, large and transverse lateral ones behind the middle; surface rugoso-punctate. Scutellum subtriangular, very finely rugose, with the anterior margin arcuately but slightly produced.

Elytra broader than pronotum, about 2.2 times as long as wide, about 3.7 times as long as pronotum, widest just behind the middle; sides rounded at humeri, slightly expanded behind them, slightly convergent to anterior third, expanded and swollen near the middle, then obliquely convergent to the tips, which are separately and narrowly rounded; basal margins sinuate, with the lobes subtriangularly produced; sutural margin slightly elevated in posterior two-thirds; lateral margins unarmed; disc convex, rather profoundly depressed along the basal margins, longitudinally deplanate along the suture in anterior half; surface evenly but inconspicuously imbricato-punctate, clothed with fine, recumbent, blackish hairs, ornamented with semirecumbent cinereous hairs arranged on each elytron as follows: a round marking just behind the basal depression; a round marking along the suture at the anterior fourth; a zigzag band just behind the middle; a wavy band at the apical fourth.

Prosternum transversely depressed along the anterior margin, which is bilobed; prosternal process flattened, gradually narrowed to just behind anterior coxal cavities, then strongly attenuate to the pointed tip. Abdomen beneath with anal segment broadly rounded at the tip. Legs short and robust; anterior tibiae curved; middle tibiae strongly curved; posterior tibiae rather straight, with the inferior ridge sinuate.

Length: 4.8–5.7 mm; width: 1.3–2.0 mm.

Holotype: ♂, Mt. Gomadan, Wakayama Pref., 27. VII. 1982, I. MATOBA lgt.
Allotype: ♀, Mt. Kenashi, Okayama Pref., 9. VII. 1983, O. YAMAJI lgt.

Remarks: This new species is allied to *T. yakushimensis* Y. KUROSAWA, 1957, but can be easily distinguished from it by the following characteristics: 1) body rather slender, instead of being robust; 2) transverse bands on elytra slightly waved, while

in *T. yakushimensis*, they are strongly waved.

Agrilus hirashimai Y. KUROSAWA, 1964

Agrilus hirashimai Y. KUROSAWA, 1964, Kontyû, Tokyo, 32: 329-331.

Agrilus hirashimai: Y. KUROSAWA, 1974, Coleopt. News, (21/22): 2.

Specimen examined: 1 ♂, Ie, Okinawa Is., 15. V. 1981, R. TOYOSHIMA lgt. (New to Okinawa Is.)

Host plant: *Castanopsis* sp. (confirmed by R. TOYOSHIMA).

Distribution: Amami-Oshima Is., Okinawa Is.

Agrilus hirashimai yaeyamaensis subsp. nov.

(Fig. 19)

Differs from the nominotypical race in the following points: 1) Body above black with aeneous tinge, while in ssp. *hirashimai*, it is entirely black without aeneous tinge; 2) elytra evenly covered with cinereous hairs, while in ssp. *hirashimai*, they are clothed with cinereous hairs only in posterior half.

Holotype: ♂, Mt. Omotodake, Ishigaki Is., 14. IV. 1973, H. IRIE lgt. Allotype: ♀, Mt. Omotodake, Ishigaki Is., 17. IV. 1973, H. IRIE lgt. Paratypes: 1 ♂, Mt. Bannadake, Ishigaki Is., 21. IV. 1965, H. YOKOYAMA lgt.; 1 ♂, Mt. Omotodake, Ishigaki Is., 10. IV. 1974, M. FUKAMACHI lgt.; 1 ♀, Mt. Bannadake, Ishigaki Is., 12. IV. 1976, N. NISHIKAWA lgt.

Distribution: Ishigakijima Is.

Agrilus mendax sachalinensis OBENBERGER, 1935

Agrilus sachalinensis OBENBERGER, 1935, Čas. Čs. Spol. ent., 32: 165.

Agrilus mendax sachalinensis: Y. KUROSAWA, 1974, Coleopt. News, (23/24): 3.

Specimen examined: 1 ♀, Rurua River, Shiretoko, Hokkaido, 18-19. VII. 1965, T. NAKAMURA lgt. (New to the fauna of Japan.)

Agrilus suginoi sp. nov.

(Figs. 1, 20)

Body subcylindrical; above entirely dark blue; beneath blackish blue, less shining than above; antennae and legs concolorous with body beneath.

Head arcuately produced in dorsal aspect; vertex longitudinally and very obsoletely impressed at the middle, longitudinally rugoso-punctate; frons convex, transverse-ly rugoso-punctate, clothed with semirecumbent, short, cinereous hairs, without median groove; eyes large, subparallel in frontal aspect, with the inferior rims distinctly sinuate; clypeal suture transverse, almost straight; clypeus slightly broader than long

between antennal cavities, with the anterior margin arcuately emarginate; antennal cavities large, with the posterior margins carinate, and small and transverse pores just above the cavities; antennae rather compact, eleven-segmented, serrate from the fourth segment, with the first segment stout, about 1.3 times as long as the second, which is stout and subglobular, the third shorter than the second, the fourth subtriangular, slightly shorter than the third.

Pronotum transverse, about 1.4 times as wide as long, widest behind anterior angles; sides slightly sinuate, roundly expanded behind anterior angles, then sinuously convergent to posterior angles; anterior margin bisinuate, with the median lobe arcuately produced; posterior margin trisinuate, with the median lobe obsoletely emarginate before scutellum; anterior angles acute and produced in dorsal aspect, acute and abased in lateral aspect; posterior angles subrectangular in dorsal aspect; prehumeral carinae arcuate, extending to posterior half, not conjoined with marginal carinae; marginal carinae sinuate, sharply defined; submarginal carinae subparallel to marginal ones in anterior fourth, then gradually approximate to the latter, and conjoined with them just before posterior angles; disc convex, with a small and shallow median depression just before scutellum, and lateral depressions along prehumeral carinae; surface transversely rugoso-punctate. Scutellum with a transverse carina, the area before the carina distinctly declivous in front, median projection sharply produced posteriorly.

Elytra about 2.7 times as long as wide, about 3.7 times as long as pronotum, and widest at the posterior two-fifths; sides obtuse at humeri, slightly sinuate from the base to behind the middle, where they are arcuately rounded, then convergent to the tips, which are separately rounded and very finely denticulate; basal margins carinate, with the lobes arcuately produced at the middle; sutural margin slightly elevated in posterior seven-tenths; lateral margins unarmed except for the part near apices, where they are very finely denticulate; humeri not prominent, without humeral carinae; disc longitudinally depressed just behind scutellum for a short distance, broadly depressed behind the elytral lobes; surface obsoletely rugoso-punctate, covered with semirecumbent, inconspicuous, short, dark hairs.

Body beneath evenly clothed with fine cinereous hairs. Prosternum convex; gular lobe with the anterior margin very obsoletely emarginate at the middle; prosternal process subparallel between anterior coxal cavities, then attenuate to the apex. Abdomen beneath with the last ventral segment rounded at the apex. Pygidium without median carina, and rounded at the apex. Posterior tarsi distinctly shorter than posterior tibiae; the first segment slightly shorter than the following three united. Claws simply cleft.

Length: 4.8–6.5 mm; width: 1.0–1.2 mm.

Holotype: ♀, Kanpira, Iriomote Is., 10. V. 1973 (host out), K. SUGINO lgt. Paratype: 1 ♀, same data as holotype.

Remarks: This new species is closely allied to *A. rotundicollis* E. SAUNDERS, 1873, from Siberia, N. China, Korea and Japan, but can be distinguished from it by the following characteristics: 1) frons narrower; 2) eyes subparallel in frontal aspect, while

in *A. rotundicollis*, they are distinctly convergent below; 3) pronotum slenderer.

Agrilus imasakai sp. nov.

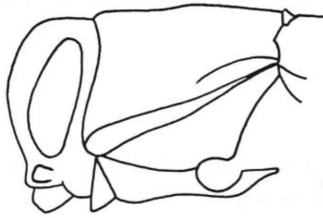
(Figs. 2, 21)

Body moderate, rather robust; above aeneous; beneath black with aeneous tinge; antennae and legs concolorous with body beneath.

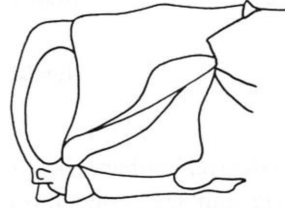
Head slightly narrower than the base of pronotum; vertex transversely rugoso-punctate, with a median impression shallow and distinct; frons broader than long, about 1.2 times as wide as long between eyes, distinctly impressed medially below vertex, slightly depressed just above clypeus, transversely grooved along the posterior margins of antennal cavities, transversely rugoso-punctate, and clothed with semirecumbent, inconspicuous, short, cinereous hairs; eyes not so large, slightly converging below in frontal aspect, with the inferior rims almost straight; clypeal suture transverse; clypeus transverse, about 1.4 times as wide as long between antennal cavities, with the anterior margin arcuately emarginate; antennal cavities large; antennae rather lax, eleven-segmented, serrate from the fourth segment, with the first segment stout, slightly longer than the second, which is equally stout to the first, and about 1.3 times as long as the third, the third shortest, the fourth subtriangular.

Pronotum transverse, about 1.6 times as wide as long, widest at the middle; sides slightly sinuate; anterior margin bisinuate, with the median lobe broadly produced; posterior margin slightly narrower than the anterior, trisinate, with the median lobe arcuately emarginate before scutellum; anterior angles acute and sharply produced in dorsal aspect, sharply abased in lateral aspect; posterior angles subrectangular in dorsal aspect; prehumeral carinae arcuate and feeble, extending to the middle, and not conjoined with marginal ones; marginal carinae slightly sinuate; submarginal carinae extending to anterior two-thirds, moderately distant from marginal carinae in anterior half, then approximate to them posteriorly; disc convex, transversely depressed in posterior third; surface transversely rugoso-punctate, evenly clothed with inconspicuous, cinereous hairs. Scutellum with a V-shaped carina, the part before the carina subhexagonal, median projection sharply produced posteriorly.

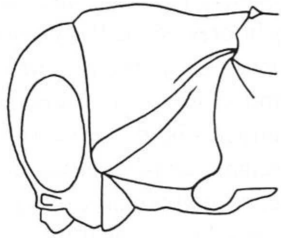
Elytra about 2.7 times as long as wide, about 4.1 times as long as pronotum, and widest just behind the middle; sides rounded at humeri, slightly convergent to anterior third, expanded and swollen near the middle, then convergent to the tips, which are separately subtruncate and very obsoletely dentate; basal margins carinate, with the lobes subtriangularly produced at the middle; sutural margin slightly elevated in posterior two-thirds; lateral margins unarmed except for the apical parts, where they are obsoletely and finely dentate; humeri slightly prominent, without humeral carinae; disc with the basal depressions large though ill-defined posteriorly; surface evenly and densely rugoso-punctate, evenly clothed with semirecumbent, short, cinereous hairs except for the part just behind the middle, where they are clothed with inconspicuous dark hairs.



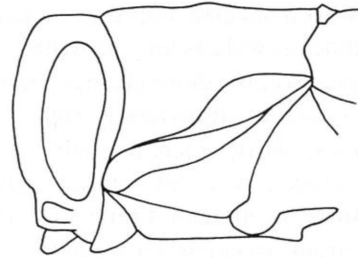
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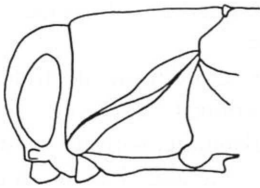
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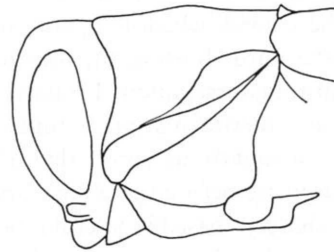
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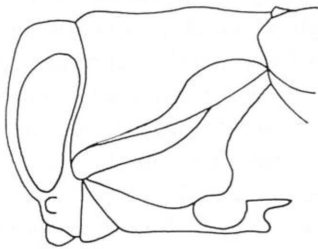
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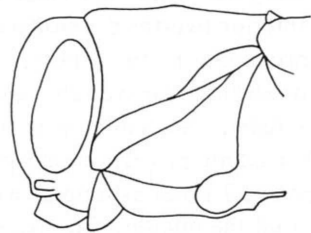
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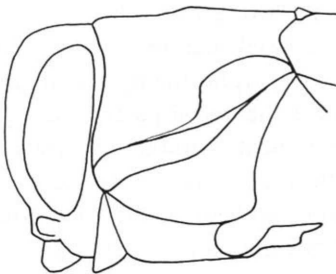
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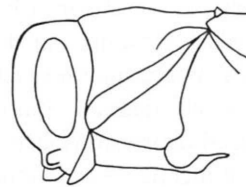
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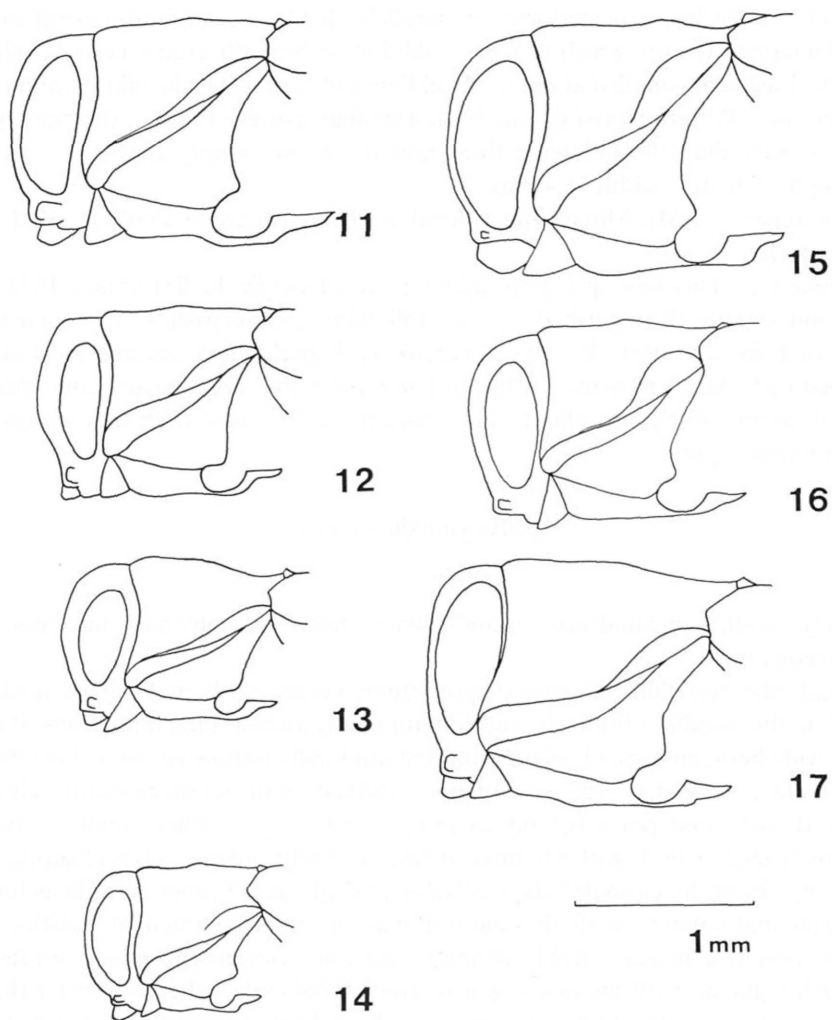
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5



10



Figs. 1-17. *Agrilus* spp., head and thorax in lateral aspect.—1, *A. suginoi* sp. nov.; 2, *A. imasakai* sp. nov.; 3, *A. yamajii* sp. nov.; 4, *A. nakanei* Y. KUROSAWA; 5, *A. euonymi* sp. nov.; 6, *A. yagii* sp. nov.; 7, *A. nishiyamai* sp. nov.; 8, *A. ohmomoii* sp. nov.; 9, *A. yakushimensis* sp. nov.; 10, *A. watanabei* sp. nov.; 11, *A. deguchii* sp. nov.; 12, *A. yonahaensis* sp. nov.; 13, *A. samuelsoni* sp. nov.; 14, *A. iriei* sp. nov.; 15, *A. aritai* sp. nov.; 16, *A. semivittatus* sp. nov.; 17, *A. hokkaidoensis* sp. nov.

Body beneath sparsely clothed with short, recumbent, cinereous hairs. Proster-num convex; gular lobe bilobed, with the anterior margin arcuately emarginate; pro-sternal process declivous posteriorly, subparallel-sided between anterior coxal cavities, then attenuate to the tip, which is acute. Abdomen beneath evenly convex, with the last ventral segment rounded at apex. Pygidium not carinate at the middle, and rounded at the tip. Posterior tarsi distinctly shorter than posterior tibiae; the first segment slightly shorter than the following three united. Claws simply cleft.

Length: 5.6 mm; width: 1.4 mm.

Holotype: ♀, Mt. Mayuyama, Shimabara City, Nagasaki Pref., 16. VIII. 1975, S. IMASAKA lgt.

Remarks: This new species is allied to *A. maculifer* E. SAUNDERS, 1873, from Japan, but can be distinguished by the following characteristics: 1) antennae lax, instead of being compact; 2) clypeus narrower; 3) prehumeral carinae short and not conjoined with marginal carinae, while in *A. maculifer*, they are long and conjoined with marginal carinae; 4) elytra without white spots, while in *A. maculifer*, they are provided with four white spots.

Agrilus yamajii sp. nov.

(Figs. 3, 22)

Body small, subcylindrical, entirely black, lustrous; antennae and legs black with aeneous tinge.

Head narrower than the base of pronotum; vertex feebly and longitudinally im-pressed at the middle, obsoletely and longitudinally rugoso-punctate; frons about as long as wide between eyes, obsoletely and longitudinally impressed for a short distance below vertex, obsoletely rugoso-punctate, clothed with semirecumbent, cinereous hairs, with profound pores behind antennal cavities; eyes rather small, converging below in frontal aspect, with the inferior rims distinctly sinuate; clypeal suture trans-verse, very obsoletely carinate; clypeus transverse, about 1.3 times as wide as long be-tween antennal cavities, with the anterior margin sinuate; antennal cavities large, with the posterior margins feebly carinate; antennae eleven-segmented, serrate from the fourth segment, with the first segment stout, subglobular, slightly shorter than the second, which is equally stout to the first, the third shortest, about 0.8 times as long as the second, the fourth subtriangular, about as long as the second.

Pronotum transverse, about 1.4 times as wide as long, widest at the middle; sides subparallel in anterior half, then sinuously convergent to posterior angles; anterior margin bisinuate, with the median lobe arcuately but feebly produced; posterior margin trisinuate, with the median lobe arcuately emarginate before scutellum; anterior angles acute and produced in dorsal aspect, abased and pointed in lateral aspect; pos-terior angles subrectangular in dorsal aspect; prehumeral carinae sinuate, extending to behind anterior angles, where they are conjoined with marginal carinae; marginal carinae slightly sinuate, but they are distinctly, arcuately abased just behind anterior

angles; submarginal carinae subparallel to marginal carinae in anterior two-fifths, then approximate to them, and conjoined with them before posterior angles; disc convex, longitudinally depressed along prehumeral carinae, with two median depressions, which are situated behind the anterior lobe and just before scutellum; surface transversely rugoso-punctate, sparsely clothed with inconspicuous, cinereous hairs along prehumeral carinae. Scutellum with a transverse carina, the part before the carina subpentagonal, median projection sharply produced posteriorly.

Elytra about 2.6 times as long as wide, about 4.8 times as long as pronotum, and widest just behind the middle; sides rounded at humeri, slightly convergent to anterior three-tenths, expanded and swollen near the middle, then convergent to the tips, which are separately rounded and inconspicuously dentate; basal margins sinuate, with the lobes subtriangularly produced at the middle; sutural margin slightly elevated in posterior two-thirds; lateral margins unarmed; humeri slightly prominent, without humeral carinae; disc with large basal depressions; surface evenly and densely rugoso-punctate, evenly and sparsely covered with inconspicuous, short, blackish hairs.

Body beneath evenly and sparsely clothed with short, fine, cinereous hairs. Prosternum convex; gular lobe bilobed, with the anterior margin arcuately and rather strongly emarginate at the middle; prosternal process distinctly constricted between anterior coxal cavities, broadly tricuspidate at the apex, with the lateral projections produced latero-posteriorly. Abdomen beneath with the first visible ventral segment rather deplanate at the middle, and with the last ventral segment rounded at the apex. Pygidium neither carinate nor pointed at the tip. Posterior tarsi shorter than posterior tibiae, with the first segment slightly shorter than the following three united. Claws simply cleft.

Length: 4.2–4.6 mm; width: 0.9–1.0 mm.

Host plant: *Celtis jessoensis* KOIDZ. (confirmed by O. YAMAJI).

Holotype: ♂, Mt. Takahachi, Tottori Pref., 10. V. 1979 (host out), O. YAMAJI lgt. Allotype: ♀, same data as holotype. Paratypes: 2 ♂♂, 1 ♀, same data as holotype.

Remarks: This new species is closely allied to *A. ronino* OBENBERGER, 1935, from Japan, but can be distinguished by the following characteristics: 1) body smaller; 2) body above entirely black, while in *A. ronino*, it is black with distinctly greenish tinge; 3) pronotum widest just behind anterior angles, while in *A. ronino*, it is widest just behind the middle; 4) prosternal process tricuspidate, instead of monocuspidate.

Agrilus nakanei Y. KUROSAWA, 1963

(Figs. 4, 23)

Agrilus acastus nakanei Y. KUROSAWA, 1963, Bull. natn. Sci. Mus., Tokyo, 6: 106.

Agrilus nakanei: Y. KUROSAWA, 1974, Coleopt. News, (23/24): 3–4.

Specimens examined: 1 ♂, Mt. Odai, 23. VII. 1953, T. NAKANE lgt. (holotype); 1 ♀, Tokyo, 2. VII. 1949, A. YOSHIDA lgt. (paratype); 1 ♀, Mt. Kunimi, Imari

City, Saga Pref., 25. VI. 1978, S. IMASAKA lgt.; 1 ♂, Jinmuji, Kanagawa Pref., 8. VII. 1979, K. SHIOZAKI lgt.; 1 ♀, Koganesawa, Yamanashi Pref., 3. VIII. 1979, S. OHMOMO lgt.; 1 ♀, Akasai, Hyôgo Pref., 26. VII. 1982, M. YAGI lgt.

Remarks: Recently I had an opportunity to examine the type series of *A. nakanei* Y. KUROSAWA. After my close examination, it became apparent that two different species were included in this series. One of them, which is rather common in Tokyo, is new to science. I will describe it below.

Agrilus euonymi sp. nov.

(Figs. 5, 24)

Body small but robust; pronotum black with greenish tinge; elytra dark brassy green in anterior half, and black with slight aeneous tinge in posterior half; body beneath black with slight greenish tinge; antennae and legs concolorous with body beneath.

Head slightly narrower than the base of pronotum; vertex longitudinally and obsoletely rugoso-punctate, with the median impression obsoletely impressed; frons distinctly longer than wide between eyes, with a median groove strongly concave below vertex; eyes large, slightly converging below in frontal aspect, with the inferior rims distinctly sinuate; clypeal suture transversely carinate; clypeus slightly broader between antennal cavities, with the anterior margin distinctly emarginate at middle; antennal cavities large, with the posterior margins carinate, the pores just above posterior carinae transverse, small and profound; antennae eleven-segmented, serrate from the fourth segment, with the first segment stoutest, subglobular, slightly longer than the second, which is equally stout to the first, the third less stout, shorter than the second, the fourth subtriangular, about as long as the second.

Pronotum transverse, about 1.5 times as wide as long, widest just behind the middle; sides evenly arcuate; anterior margin bisinuate, with the median lobe arcuately produced at the middle; posterior margin trisinuate, with the median lobe arcuately emarginate before scutellum; anterior angles acute and produced in dorsal aspect, acute and abased in lateral aspect; posterior angles obtuse in dorsal aspect; prehumeral carinae strongly sinuate, arcuately rounded in posterior half, very strongly sinuate near the middle, then almost straight and closely approximate to marginal carinae anteriorly; marginal carinae slightly sinuate; submarginal carinae subparallel and moderately distant from marginal ones in anterior half, then gradually approximate to them, and connected with them at the posterior fifth; disc convex, transversely but obsoletely depressed behind the median lobe of anterior margin, obsoletely and longitudinally depressed along prehumeral carinae; surface transversely rugoso-punctate. Scutellum transversely carinate; the part before the carina strongly declivous in front, subquadrate; the part behind the carina with the median projection triangularly produced.

Elytra about 2.9 times as long as wide, about 4.0 times as long as pronotum, and

widest just behind the humeri; sides rounded at humeri, slightly convergent to the anterior two-fifths, expanded and swollen near the middle, then convergent to the tips, which are conjoined and slightly produced at the sutural parts, and finely dentate; basal margins arcuately carinate, with the lobes subtriangularly produced at the middle; sutural margin slightly elevated in posterior two-fifths; lateral margins unarmed except for the parts near apices, where they are finely dentate; humeri without humeral carinae; disc strongly depressed behind the basal margin, longitudinally deplanate along suture; surface evenly and densely imbricato-punctate, evenly covered with semirecumbent, dark cinereous hairs in anterior half except for the sides, transversely ornamented with whitish hairs behind the middle, and also covered with dark cinereous hairs in apical parts.

Body beneath clothed with short, fine, cinereous hairs. Prosternum convex, obsoletely rugoso-punctate; gular lobe bilobed, with the anterior margin arcuately and distinctly emarginate at the middle; prosternal process distinctly constricted between anterior coxal cavities, broadly tricuspidate at the apex, with the lateral projections rounded at the tips. Abdomen beneath with the last ventral segment broadly rounded at the apex. Pygidium distinctly carinate at the middle, and rounded at the apex. Posterior tarsi shorter than posterior tibiae, with the first segment about as long as the following three united. Claws simply cleft.

Length: 4.8–6.8 mm; width: 1.3–1.8 mm.

Host plant: *Euonymus japonicus* THUNBERG (confirmed by H. ISHIZUKA and Y. KUROSAWA); *Prunus yedoensis* MATSUM. (confirmed by N. KOBAYASHI).

Holotype: ♂, Kinuta, Setagaya, Tokyo, 18. VI. 1978, Y. KUROSAWA lgt. Allotype: ♀, same data as holotype. Paratypes: 1 ♀, Inogashira, Tokyo, 8. VII. 1954, S. HIRAYAMA lgt. (paratype of *Agrilus acastus nakanei* Y. KUROSAWA, 1963); 1 ♂, Morioka, Iwate Pref., 18. VII. 1958, Y. HIRANO lgt.; 1 ♂, 1 ♀, Suginami, Tokyo, 9. VI. 1965, M. KAWAKAMI lgt.; 2 ♂♂, 2 ♀♀, Shinjuku, Tokyo, 8. VI. 1967, K. TSUJI lgt.; 1 ♀, Shinjuku, Tokyo, 21. VI. 1968, K. TSUJI lgt.; 1 ♂, Shinjuku, Tokyo, 22. VI. 1968, K. TSUJI lgt.; 1 ♂, Shakujii, Tokyo, 31. V. 1968, H. KOBAYASHI lgt.; 2 ♂♂, Shinjuku, Tokyo, 12. VI. 1969, K. TSUJI lgt.; 1 ♂, Kinuta, Setagaya, Tokyo, 28. VI. 1970, Y. KUROSAWA lgt.; 34 ♂♂, 2 ♀♀, Kinuta, Setagaya, Tokyo, 2. VI. 1974, Y. KUROSAWA lgt.; 1 ♂, 1 ♀, Otsuka, Bunkyo, Tokyo, 14. VI. 1977, S. OHMOMO lgt.; 20 ♂♂, 2 ♀♀, Kinuta, Setagaya, Tokyo, 11. VI. 1978, Y. KUROSAWA lgt.; 13 ♂♂, 3 ♀♀, same data as holotype; 1 ♂, Nishi-Agano, Saitama Pref., 18. VI. 1978, K. EMOTO lgt.

Remarks: This new species is closely allied to *A. nakanei* Y. KUROSAWA, 1963, but can be distinguished by the following characteristics: 1) body robuster; 2) pre-humeral carinae more strongly sinuate; 3) elytra bicolorous, while in *A. nakanei*, they are unicolorous; 4) elytra each with a transverse band ornamented with whitish hairs, while in *A. nakanei*, they do not bear any whitish bands.

I also examined the following specimens collected in Kyushu. There are small variations between these and the nominotypical race.

1 ♀, Mt. Fukuchiyama, Fukuoka Pref., 16. VII. 1949, Y. YAMAWAKI lgt. (paratype of *Agrilus acastus nakanei* Y. KUROSAWA, 1963); 2 ♂♂, 1 ♀♀, Okinoshima Is., Fukuoka Pref., 28. VII. 1962, M. SHIGA lgt.

Agrilus yagii sp. nov.

(Figs. 6, 25)

Similar to *A. euonymi* sp. nov., but differing from it in the following characteristics: 1) body smaller; 2) prehumeral carinae sinuate, arcuately rounded in posterior two-thirds, then very closely approximate to the marginal ones, while in *A. euonymi*, they are more strongly sinuate; 3) elytra conjointly subtruncate at the tips, while in *A. euonymi*, they are conjoined and slightly produced at the sutural parts; 4) gular lobe with the anterior margin very obsoletely emarginate at the middle, while in *A. euonymi*, it is distinctly and roundly emarginate at the middle.

Length: 4.1 mm; width: 1.0–1.2 mm.

Host plant: Unknown.

Holotype: ♀, Mt. Takahachi, Tottori Pref., 15. VII. 1979, M. TÔYAMA lgt. (on dead branch of *Quercus mongolica* FISCH. var. *grosseserrata* RAHD. et WILS.). Allotype: ♂, Mt. Kurodake, Oita Pref., 28. VII. 1980, S. IMASAKA lgt.

Remarks: The allotype is somewhat damaged.

Agrilus nishiyamai sp. nov.

(Figs. 7, 26)

Similar to *A. euonymi* sp. nov., but differing from it in the following characteristics: 1) prehumeral carinae subtriangularly arcuate in posterior two-thirds, while in *A. euonymi*, they are roundly arcuate in posterior half; 2) pubescence on elytra unicolorous, while in *A. euonymi*, it is bicolorous; 3) elytra separately rounded at the tips, while in *A. euonymi*, they are conjoined and produced at the sutural parts; 4) gular lobe with the anterior margin subtruncate at the middle, while in *A. euonymi*, it is roundly emarginate at the middle.

Length: 5.6 mm; width: 1.2–1.4 mm.

Host plant: Unknown.

Holotype: ♀, Pulu, Hualien Hsien, Taiwan, 31. V. 1980, A. NISHIYAMA lgt. Paratype: 1 ♀, same data as holotype.

Remarks: This new species is also allied to *A. acastus* KERREMANS, 1912, from Taiwan and Japan (Tsushima Is.), but can be distinguished from it by the following characteristics: 1) body larger; 2) pubescence on elytra unicolorous, while in *A. acastus*, it is bicolorous.

Agrilus uenoi Y. KUROSAWA, 1963

Agrilus uenoi Y. KUROSAWA, 1963, Bull. natn. Sci. Mus., Tokyo, 6: 102–103.

Agrilus uenoi: Y. KUROSAWA, 1975, Coleopt. News, (27/28): 2–3.

Specimens examined: 1 ♂, Mt. Inutabu, Tokunoshima Is., 28. V. 1972 (host out), M. TAKAKUWA lgt.; 1 ♂, 1 ♀, Yona, Okinawa Is., 19. X. 1963, S. MIYAMOTO lgt.; 1 ♀, Yona, Okinawa Is., 19. X. 1963, Y. HIRASHIMA lgt.; 1 ♀, Mt. Minami-meiji-yama, Okinawa Is., 20. X. 1963, K. MORIMOTO lgt.; 1 ♀, Oku, Okinawa Is., 30. IV. 1979, K. DEGUCHI lgt.; 1 ♀, Mt. Omotodake, Ishigaki Is., 12–16. VI. 1976, T. KOBAYASHI lgt.; 1 ♀, Mt. Omotodake, Ishigaki Is., 6. VII. 1975, T. TAKAHASHI lgt.; 1 ♂, Tonogusuku, Ishigaki City, Ishigakijima Is., 1. V. 1984, K. IHA lgt.; 1 ♂, Sonai, Iriomotejima Is., 2. IV. 1972, K. MATSUDA lgt.; 1 ♀, Iriomotejima Is., K. IKEDA lgt. (New to Tokunoshima Is., Okinawa Is., Ishigakijima Is. and Iriomotejima Is.)

Host plant: *Mallotus japonicus* (THUNBERG) (confirmed by K. IKEDA on Iriomotejima Is.).

Agrilus ohmomoi sp. nov.

(Figs. 8. 27)

Body somewhat robust; above black with slight aeneo-greenish tinge; beneath entirely black; antennae and legs black with slight aeneous tinge.

Head narrower than the base of pronotum; vertex longitudinally impressed at the middle, feebly but distinctly prominent on each side of median impression, longitudinally and obsoletely rugoso-punctate; frons slightly longer than wide, about 1.1 times as long as wide between eyes, slightly depressed just below vertex, transversely and obsoletely rugoso-punctate, clothed with semirecumbent and cinereous hairs in frontal half, with the pores just above antennal cavities transverse and profound; eyes subparallel in frontal aspect, with the inferior rims slightly but distinctly sinuate; clypeal suture transverse, slightly carinate; clypeus transverse, about 1.5 times as wide as long between antennal cavities, with the anterior margin slightly and arcuately emarginate at the middle; antennal cavities large, with the posterior margin carinate; antennae eleven-segmented, serrate from the fourth segment, with the first segment stout, subglobular, about 1.2 times as long as the second, which is equally stout to the first, about 1.2 times as long as the third, the fourth subtriangular, about as long as the second.

Pronotum transverse, about 1.4 times as wide as long, widest at the middle; sides evenly arcuate, but they are slightly sinuate before posterior angles; anterior margin bisinuate, with the median lobe arcuately produced; posterior margin bisinuate, with the median lobe subtruncate before scutellum; anterior angles acute and produced in dorsal aspect, acute and abased in lateral aspect; posterior angles subrectangular in dorsal aspect; prehumeral carinae strongly sinuate, strongly arcuate in posterior half, then sinuously and closely approximate to marginal carinae, traceable to the posterior three-fourths; marginal carinae slightly sinuate; submarginal carinae subparallel to and moderately distant from marginal ones in anterior half, then gradually approximate, and connected with them before posterior angles; disc convex, slightly and transversely depressed behind the median lobe of the anterior margin, feebly depressed just

before scutellum, longitudinally depressed along prehumeral carinae; surface transversely rugoso-punctate, clothed with inconspicuous hairs, which become longer laterally and medially. Scutellum with a transverse carina; the part before the carina strongly declivous in front; the part behind the carina with a median projection triangularly produced posteriorly.

Elytra about 2.6 times as long as wide, about 3.6 times as long as pronotum, and widest at the anterior three-fifths; sides rounded at humeri, slightly convergent to anterior two-fifths, expanded and swollen near the middle, then convergent to the tips, which are conjointly and broadly rounded, and finely dentate; basal margins arcuately carinate, with the lobes subtriangularly produced; sutural margin slightly elevated except for anterior fifth; lateral margins unarmed except for the part near the apices, where they are finely dentate; humeri without humeral carinae; disc transversely and rather strongly depressed along basal margins, longitudinally deplanate along suture in anterior half; surface evenly and obsoletely imbricato-punctate, evenly clothed with semirecumbent, cinereous hairs, but the hairs sometimes become sparser at the middle.

Body beneath clothed with fine, cinereous hairs. Prosternum convex, very obsoletely rugoso-punctate; gular lobe with the anterior margin arcuately but very slightly emarginate; prosternal process constricted between anterior coxal cavities, tricuspidate at the apex, with the lateral projections short and rounded at the tips, the median one long and sharply produced posteriorly, but it is rounded at the tip. Abdomen beneath finely punctured; last ventral segment broadly rounded at the apex. Pygidium distinctly and longitudinally carinate at the middle, and rounded at the apex. Posterior tarsi shorter than posterior tibiae, with the first segment about as long as the following three united. Claws simply cleft.

Length: 4.5 mm; width: 1.2–1.5 mm.

Host plant: Unknown.

Holotype: ♂, Akane Rindô, Haranomachi, Fukushima Pref., 17. VI. 1979, S. OHMOMO lgt. Allotype: ♀, Akasai, Hyôgo Pref., 24. VI. 1979, M. TÔYAMA lgt. Paratypes: 1 ♂, Eda, Iwaki City, Fukushima Pref., 15. VII. 1978, S. OHMOMO lgt.; 1 ♂, Yokokawa-Akane Rindô, Haranomachi City, Fukushima Pref., 16. VII. 1978, S. OHMOMO lgt.; 1 ♂, Eda, Iwaki City, Fukushima Pref., 24. VII. 1982, S. OHMOMO lgt.; 1 ♀, Eda, Iwaki City, Fukushima Pref., 6. VIII. 1982, S. OHMOMO lgt.; 1 ♂, Okuhanazono, Ibaraki Pref., 8. VII. 1979, A. NISHIYAMA lgt.; 1 ♀, Kowakidani, Hakone, Kanagawa Pref., 22. VII. 1982, S. SAITOH lgt.; 1 ♀, Rokkoku Pass, Kanagawa Pref., 16. VII. 1979, M. TAO lgt.; 1 ♂, Akasai, Hyôgo Pref., 24. VI. 1979, M. TÔYAMA lgt.; 1 ♀, Mt. Ohboshi, Tsushima Is., 8–9. VI. 1974, T. AKASHI lgt.; 3 ♀♀, Mt. Ohboshi, Tsushima Is., 5–9. VII. 1983, H. MAKIHARA lgt.

Remarks: This new species is closely allied to *A. nakanei* Y. KUROSAWA, 1963, but can be distinguished from it by the following characteristics: 1) prehumeral carinae traceable to posterior three-fifths, while in *A. nakanei*, they are traceable to the anterior angles; 2) elytron without dark band in the middle, while in *A. nakanei*, it bears a dark band in the middle.

Agrilus okinawensis MIWA, 1933

Agrilus okinawensis MIWA, 1933, Trans. nat. Hist. Soc. Formosa, 23: 7.

Specimen examined: 1 ♀, Tomori, Miyakojima Is., 2. V. 1976 (host out), R. TOYOSHIMA lgt. (New to Miyakojima Is.)

Host plant: *Pongamia pinnata* (L.) MERRILL.

Distribution: Miyakojima Is., Ishigakijima Is., Iriomotejima Is. and Haterumajima Is.

Agrilus okinawensis shiozaki subsp. nov.

(Fig. 28)

Distinguished from subsp. *okinawensis* MIWA by the following characteristics: 1) pronotum dark wine-red and mat, while in subsp. *okinawensis*, it is bright copper-red and lustrous; 2) elytra evenly covered with fine, cinereous hairs, while in subsp. *okinawensis*, they are covered with fine, cinereous hairs except for the sutural parts in the middle.

Host plant: *Hibiscus* sp. (confirmed by Y. & K. SHIOZAKI on Ikeijima Is.).

Holotype: ♂, Tamagusuku, Okinawa Is., 17. XI. 1963, H. HASEGAWA lgt. Allotype: ♀, Ikeijima Is., Okinawa Pref., 23. VII. 1982, Y. & K. SHIOZAKI lgt. Paratypes: 1 ♂, Okinawa, Ryukyu, H. KINJO lgt.; 5 ♂♂, 2 ♀♀, same data as allotype; 1 ♀, Chinen, Okinawa Is., 25. V. 1980, K. DEGUCHI lgt.; 1 ♀, Chinen, Okinawa Is., 15. V. 1981, K. DEGUCHI lgt.

Remarks: I examined two specimens of this species from Lan-Hsu Is. off Taiwan. They could not be separated from this new subspecies.

Specimens examined: 1 ♂, 1 ♀, Kotosho, Taiwan, IV. 1936 (T. KANO collection).

Agrilus yamawakii Y. KUROSAWA, 1957

Agrilus yamawakii Y. KUROSAWA, 1957, Bull. natn. Sci. Mus., Tokyo, 3: 193-194.

Specimens examined: 1 ♂, 1 ♀, Mt. Yuwandake, Amami-Oshima Is., 21. VI. 1978, T. OGASAWARA lgt. (New to Amami-Oshima Is.)

Agrilus auroapicalis ishigakianus subsp. nov.

(Fig. 29)

Agrilus auroapicalis: Y. KUROSAWA, 1974, Coleopt. News, (17/18): 3-4.

Distinguished from the nominotypical race from Taiwan by the following characteristics: 1) body above dark aeneous with violaceous tinge, while in subsp. *auroapicalis*, it is entirely black with slight violaceous tinge; 2) elytra with slight aeneous tinge near apices, while in subsp. *auroapicalis*, they have distinctly aeneous tinge near apices.

Holotype: ♂, Mt. Omotodake, Ishigakijima Is., IV. 1972, S. MIKAGE lgt. Allotype: ♀, Mt. Omotodake, Ishigakijima Is., 9-25. VI. 1972, M. KUBOKI lgt. Paratype: 1 ♀, Mt. Omotodake, Ishigakijima Is., 14. V. 1973, K. SUGINO lgt.

Agrilus yakushimensis sp. nov.

(Figs. 9, 30)

Body small, subcylindrical; above dark aeneous; body beneath black with slight aeneous tinge; antennae and legs slightly darker than body above.

Head slightly narrower than the base of pronotum; vertex longitudinally impressed at the middle, slightly convex on each side of the median impression; frons about as long as wide between eyes, slightly prominent in dorsal aspect, longitudinally and distinctly impressed for a short distance below vertex at the middle, transversely grooved along posterior margins of antennal cavities, transversely rugoso-punctate, evenly clothed with semirecumbent, cinereous hairs; eyes slightly converging below in frontal aspect, with the inferior rims distinctly sinuate; clypeal suture transverse, not carinate; clypeus about as long as wide between antennal cavities, with the anterior margin arcuately emarginate at the middle; antennal cavities large, with the posterior margins carinate; antennae rather lax, eleven-segmented, serrate from the fourth segment, with the first segment stout, subglobular, about 1.2 times as long as the second, which is equally stout and subglobular to the first, the third rather slender, slightly shorter than the second, the fourth subtriangular, about as long as the second.

Pronotum transverse, about 1.4 times as wide as long, widest just behind the middle; sides somewhat arcuate, slightly expanded near the middle, then convergent to and slightly sinuate just before posterior angles; anterior margin bisinuate, with the median lobe arcuately produced; posterior margin trisinuate, with the median lobe arcuately but slightly emarginate before scutellum; anterior angles acute and produced in dorsal aspect, abased in lateral aspect; posterior angles subrectangular in dorsal aspect; prehumeral carinae arcuate, extending to the middle, where they are connected with the marginal ones; marginal carinae sharply defined throughout, slightly sinuate though arcuately abased just behind anterior angles; submarginal carinae moderately distant from marginal ones in anterior half, then approximate, and connected with them at the posterior fifth; disc convex, with a median depression just before scutellum; surface transversely rugoso-punctate, clothed with inconspicuous and cinereous hairs along all the margins. Scutellum with a transverse carina, the part before the carina subpentagonal, the median projection sharply produced posteriorly.

Elytra about 2.9 times as long as wide, about 3.9 times as long as pronotum, and widest just behind the middle; sides obtuse at humeri, slightly convergent to the anterior three-eighths, expanded and swollen near the middle, and then convergent to the tips, which are separately rounded and finely dentate; basal margins carinate, with the lobes subtriangularly produced; sutural margin slightly elevated in posterior third; lateral margins unarmed except for the parts near apices, where they are finely dentate; humeri

not prominent, without humeral carinae; disc rather strongly depressed basally, longitudinally deplanate along the suture; surface evenly and densely rugoso-punctate, covered with semirecumbent, silver hairs except for the areas along the sides, which are clothed with very inconspicuous, short, blackish hairs.

Body beneath clothed with fine, cinereous hairs, those on the median part of prosternum being slightly longer. Prosternum convex, densely but obsoletely rugoso-punctate; gular lobe bilobed, with the anterior margin arcuately emarginate; prosternal process subpentagonal, slightly constricted between anterior coxal cavities, then attenuate to the tip. Abdomen beneath very finely punctured; last ventral segment rounded at the apex. Pygidium longitudinally and distinctly carinate at the middle, longitudinally depressed at both sides of the carina, and rounded at the apex. Posterior tarsi distinctly shorter than posterior tibiae, with the first segment longest, about as long as the following three united. Claws simply cleft.

Length: 4.0–5.8 mm; width: 1.2–1.7 mm.

Host plant: Unknown.

Holotype: ♂, Miyanoura, Yakushima Is., 30. VII. 1982, T. HATAYAMA lgt. Allotype: ♀, same data as holotype. Paratypes: 1 ♀, Miyanoura, Yakushima Is., 15. VII. 1971, J. KOMIYA lgt.; 5 exs., Kuromi, Yakushima Is., 3. VIII. 1972, O. TAMURA lgt.; 3 exs., Okawa, Yakushima Is., 13–14. VII. 1973, A. WATANABE lgt.; 10 exs., Miyanoura, Yakushima Is., 28. VII. 1974, T. MIKAGE lgt.; 1 ♀, Miyanoura, Yakushima Is., 29. VII. 1974, T. MIKAGE lgt.; 2 exs., Okawa, Yakushima Is., 21. VII. 1974, T. KOBAYASHI lgt.; 3 exs., Okawa, Yakushima Is., 14. VII. 1978, Y. ODA lgt.; 2 exs., Miyanoura, Yakushima Is., 22. VII. 1969, H. AKIYAMA lgt.; 1 ♂, Shiratani, Yakushima Is., 26. VII. 1973, T. KOBAYASHI lgt.; 1 ♀, Miyanoura, Yakushima Is., 21. VII. 1973, T. KOBAYASHI lgt.; 1 ♀, Okawa, Yakushima Is., 28. VII. 1978, H. MAKIHARA lgt.; 1 ♂, same data as holotype; 1 ♀, Cape Nagata, Yakushima Is., 3. VIII. 1982, T. HATAYAMA lgt.; 1 ♀, Teuchi, Shimo-koshiki-jima Is., 5. VIII. 1975, H. MAKIHARA lgt.

Remarks: This new species is allied to *A. amamioshimanus* Y. KUROSAWA, 1964, but differs from it in the following characteristics: 1) body slightly larger; 2) head longitudinally and distinctly impressed medially below vertex, while in *A. amamioshimanus*, it is not impressed; 3) elytra distinctly deplanate along suture in anterior half, while in *A. amamioshimanus*, they are slightly deplanate.

Agrilus watanabei sp. nov.

(Figs. 10, 31)

Closely similar to *A. yakushimensis* sp. nov., but differs from it in the following characteristics: 1) body smaller, entirely black with slight violaceous tinge, while in *A. yakushimensis*, it is dark aeneous; 2) head rather strongly produced in dorsal aspect, while in *A. yakushimensis*, it is slightly produced; 3) antennae compact, instead of lax; 4) pronotum with the anterior margin distinctly narrower than the posterior, while in *A. yakushimensis*, it is about as wide as the posterior; 5) prosternum with a

gular lobe strongly and roundly emarginate, while in *A. yakushimensis*, it is slightly and arcuately emarginate.

Length: 4.0 mm; width: 1.0 mm.

Host plant: Unknown.

Holotype: ♂, Okawa, Yakushima Is., 12. VII. 1973, A. WATANABE lgt.

Agrilus deguchii sp. nov.

(Figs. 11, 32)

Body somewhat robust, entirely aeneous, slightly lustrous; body beneath brighter than above; antennae and legs darker.

Head slightly narrower than the base of pronotum; vertex longitudinally but obsoletely impressed at the middle, longitudinally rugoso-punctate; frons slightly broader than long between eyes, evenly rugoso-punctate, impressed medially for a short distance below vertex, transversely grooved along the posterior margins of antennal cavities, evenly and sparsely covered with semirecumbent, cinereous hairs; eyes converging below in frontal aspect, with the inferior rims distinctly sinuate; clypeal suture transversely and obsoletely carinate; clypeus distinctly broader than long between antennal cavities, about 1.5 times as wide as long, with the anterior margin arcuately emarginate at the middle; antennal cavities large, with the posterior margins obsoletely carinate; antennae rather lax, each eleven-segmented, serrate from the fourth segment, with the first segment stout, about 1.3 times as long as the second, which is stout and subglobular, the third less stout, slightly shorter than the second, the fourth subtriangular, about as long as second.

Pronotum transverse, about 1.3 times as wide as long, widest just before the middle; sides arcuately produced though slightly sinuate before posterior angles; anterior margin bisinuate, with the median lobe arcuately produced; posterior margin trisinuate, narrower than the anterior, with the median lobe arcuately emarginate before scutellum; anterior angles acute and rather strongly produced in dorsal aspect, abased in lateral aspect; posterior angles obtuse in dorsal aspect; prehumeral carinae sinuate, broadly rounded in posterior half, then closely approximate to marginal carinae, and connected with them just behind anterior angles; marginal carinae subparallel to and moderately distant from marginal carinae in anterior third, then gradually approximate posteriorly, and connected with them at the posterior fourth; disc convex, with the median depression before scutellum, with lateral depressions along prehumeral carinae; surface evenly but sparsely covered with short, cinereous hairs.

Elytra about 2.7 times as long as wide, about 4.0 times as long as pronotum, and widest just behind the middle; sides rounded at humeri, slightly convergent to the anterior three-tenths, expanded and swollen near the middle, then convergent to the tips, which are separately rounded and finely dentate; humeri not prominent, without humeral carinae; basal margins carinate, with the lobes subtriangularly produced; sutural margin slightly elevated in posterior three-fifths; lateral margins unarmed

except for the apical parts, which are finely dentate; disc with the basal depressions rather large, the sutural area longitudinally depressed for a short distance behind scutellum; surface evenly rugoso-punctate, and evenly and entirely covered with semirecumbent, cinereous hairs.

Body beneath clothed with semirecumbent, cinereous hairs. Prosternum convex, obsoletely rugoso-punctate; gular lobe bilobed, with the anterior margin arcuately emarginate at the middle; prosternal process distinctly declivous posteriorly, subparallel between anterior coxal cavities, then attenuate to the tip, which is narrowly rounded. Abdomen beneath with the last ventral segment broadly rounded at the apex. Pygidium with the median part obsoletely carinate. Posterior tarsi shorter than posterior tibiae; first segment slightly longer than the following three united. Claws simply cleft.

Length: 4.8–6.0 mm; width: 1.2–1.7 mm.

Host plant: Unknown.

Holotype : ♂, Kominato, Amamioshima Is., 21. V. 1981, T. NOGAMI lgt. Allotype: ♀, Yanma, Amamioshima Is., 28. VI. 1978, A. WATANABE lgt. Paratypes: 2 ♂♂, 1 ♀, same data as holotype; 1 ♀, Sueyoshi, Naha City, Okinawa Is., 17. V. 1977, K. DEGUCHI lgt.; 1 ♂, 1 ♀, Sueyoshi, Okinawa Is., 11. V. 1981, K. DEGUCHI lgt.; 1 ♀, Mt. Ohyama, Kumejima Is., 25. VI. 1977, T. TSUTSUMI lgt.; 2 ♂♂, 2 ♀♀, Tonogusuku, Ishigaki City, Ishigakijima Is., 5. V. 1984, K. IHA lgt.

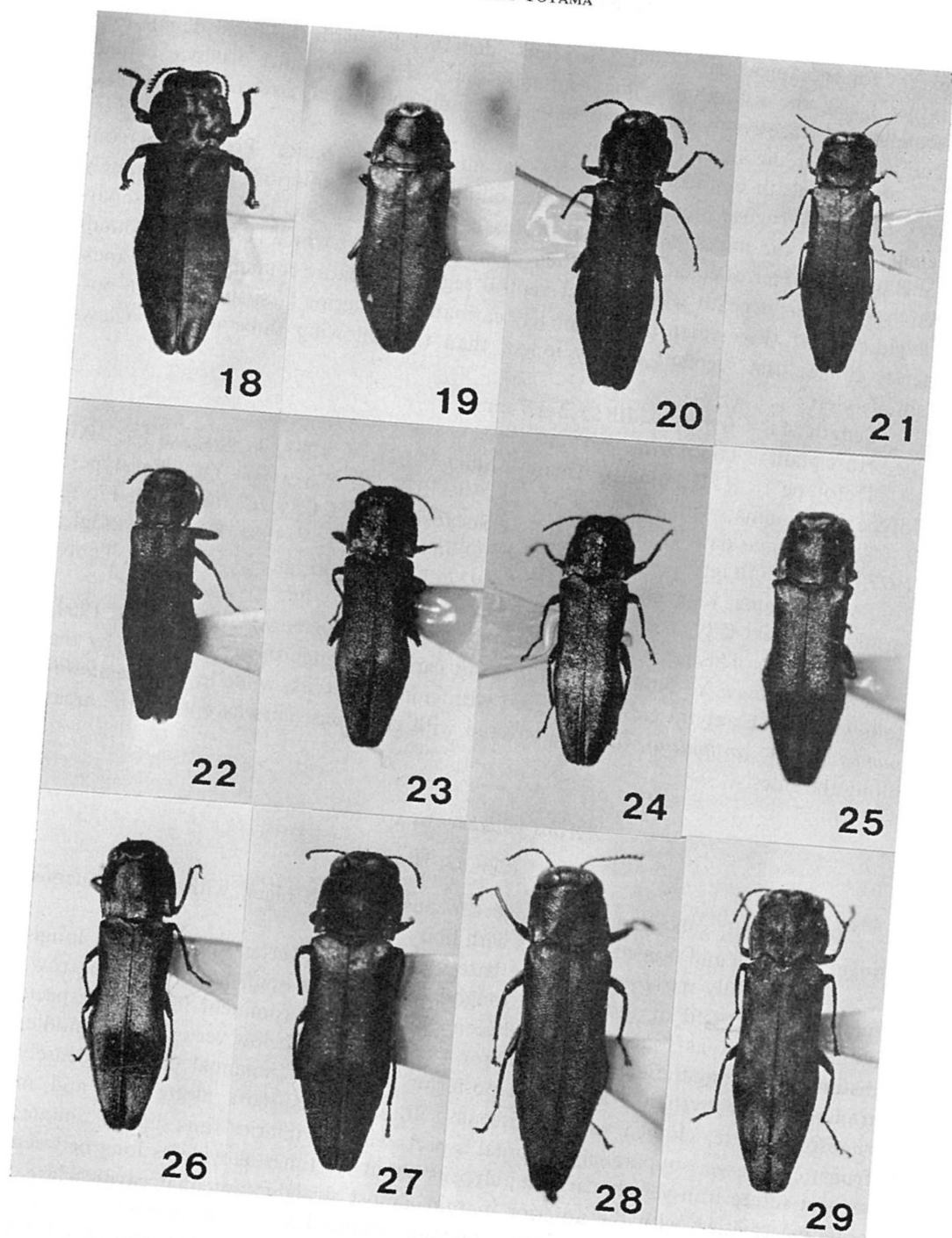
Remarks: This new species is allied to *A. amamioshimanus* Y. KUROSAWA, 1964, and *A. yasumatsui* Y. KUROSAWA, 1964, but can be distinguished from them by the following points: elytra entirely covered with cinereous hairs, while in *A. amamioshimanus* and *A. yasumatsui*, they are covered with cinereous hairs except for the areas along the sides.

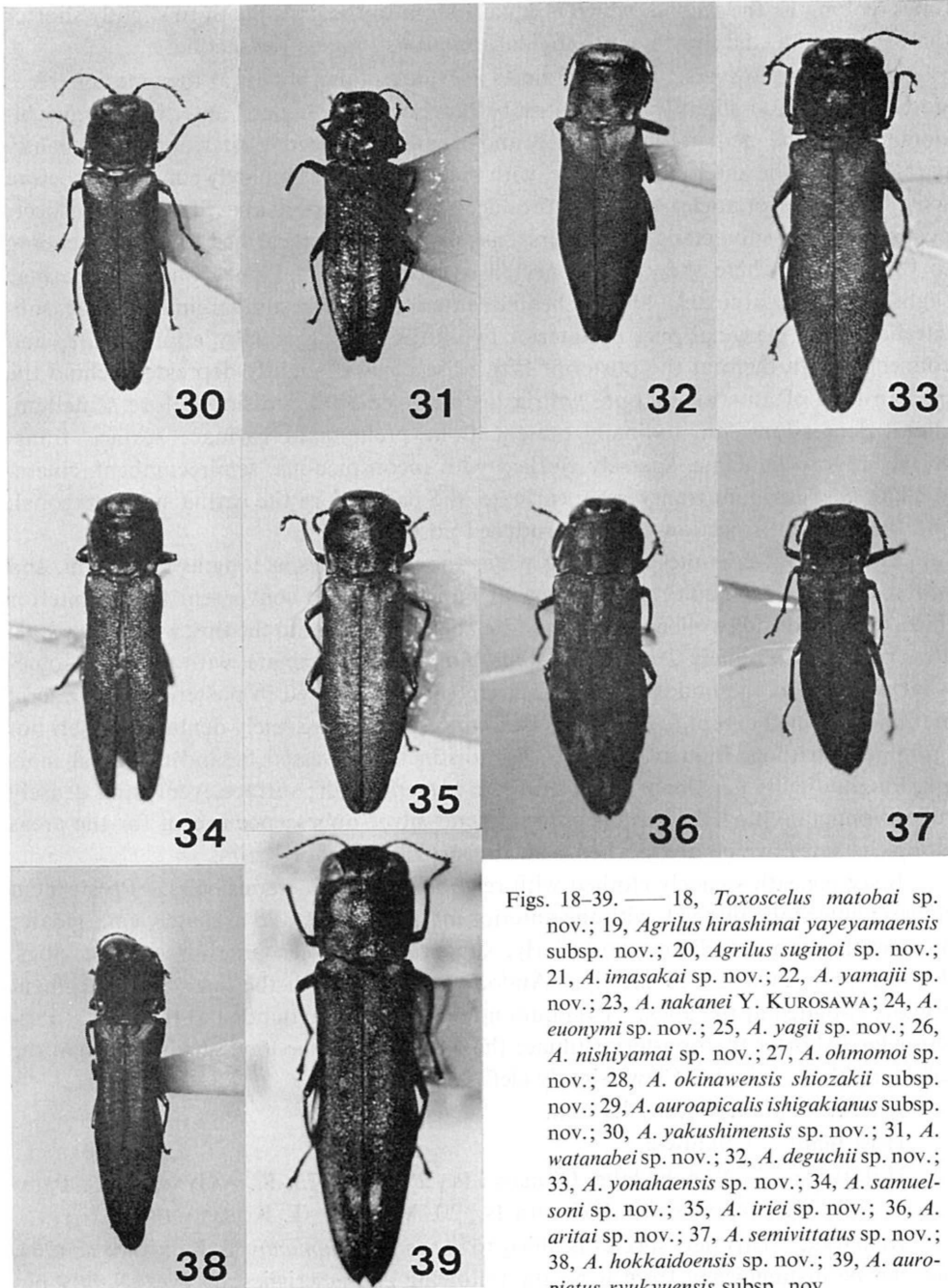
Agrilus yonahaensis sp. nov.

(Figs. 12, 33)

Body small, subcylindrical; above aeneous; beneath black with slight aeneous tinge; antennae and legs concolorous with body beneath.

Head slightly narrower than the base of pronotum; vertex distinctly and longitudinally impressed at the middle, longitudinally rugoso-punctate; frons narrow, about 1.2 times as long as wide between eyes, slightly prominent in dorsal aspect, distinctly and longitudinally impressed for a short distance below vertex at the middle, transversely grooved just above the posterior margins of antennal cavities, densely rugoso-punctate, clothed with semirecumbent, cinereous hairs along eyes and in front; eyes large, subparallel in frontal aspect, with the inferior rims slightly sinuate; clypeal suture transversely carinate; clypeus about 1.3 times as wide as long between antennal cavities, with the anterior margin almost straight; antennal cavities large, with the posterior margins carinate; antennae rather lax, eleven-segmented, serrate from the fourth segment, with the first segment stout, subglobular, and about 1.3





Figs. 18–39. — 18, *Toxoscelus matobai* sp. nov.; 19, *Agrilus hirashimai yayeyamaensis* subsp. nov.; 20, *Agrilus suginoi* sp. nov.; 21, *A. imasakai* sp. nov.; 22, *A. yamajii* sp. nov.; 23, *A. nakanei* Y. KUROSAWA; 24, *A. euonymi* sp. nov.; 25, *A. yagii* sp. nov.; 26, *A. nishiyamai* sp. nov.; 27, *A. ohmomoi* sp. nov.; 28, *A. okinawensis shiozakii* subsp. nov.; 29, *A. auroapicalis ishigakianus* subsp. nov.; 30, *A. yakushimensis* sp. nov.; 31, *A. watanabei* sp. nov.; 32, *A. deguchii* sp. nov.; 33, *A. yonahaensis* sp. nov.; 34, *A. samuelsoni* sp. nov.; 35, *A. iriei* sp. nov.; 36, *A. aritai* sp. nov.; 37, *A. semivittatus* sp. nov.; 38, *A. hokkaidoensis* sp. nov.; 39, *A. auro-pictus ryukyuensis* subsp. nov.

times as long as the second, which is equally stout to the first, the third slightly shorter than the second, the fourth subtriangular, about as long as the second.

Pronotum transverse, about 1.3 times as wide as long, widest at the anterior third; sides arcuate, and slightly sinuate just before posterior angles; anterior margin bisinuate, with the median lobe arcuately and broadly produced; posterior margin slightly narrower than the anterior, trisinuate, with the median lobe arcuately emarginate before scutellum; anterior angles acute and produced in dorsal aspect, abased in lateral aspect; posterior angles subrectangular in dorsal aspect; prehumeral carinae arcuate, extending to the middle, where they are connected with the marginal ones; marginal carinae slightly sinuate, arcuately abased behind anterior angles; submarginal carinae subparallel to the marginal ones in anterior two-fifths, then gradually approximate, and connected with them at the posterior fifth; disc convex, slightly depressed behind the median lobe of anterior margin, with a distinct median depression before scutellum, lateral depressions longitudinally present along prehumeral carinae; surface transversely rugoso-punctate, sparsely clothed with inconspicuous, semirecumbent, cinereous hairs. Scutellum transversely carinate, the part before the carina subpentagonal, and the median projection sharply produced posteriorly.

Elytra about 2.7 times as long as wide, about 4.0 times as long as pronotum, and widest behind the middle; sides obtuse at humeri, slightly convergent to the anterior third, expanded and swollen near the middle, then convergent to the tips, which are separately rounded and finely dentate; basal margin arcuately carinate, with the lobes somewhat angulate at the middle; sutural margin slightly elevated in posterior half; lateral margins unarmed except for the parts near apices, which are finely dentate; humeri not prominent, without humeral carinae; disc distinctly depressed behind the basal margin, longitudinally deplanate along suture in posterior half; surface evenly and densely rugoso-punctate, covered with semirecumbent, silver pubescence except for the areas along the sides, which are clothed with inconspicuous, short hairs.

Body beneath sparsely clothed with recumbent and cinereous hairs. Prosternum convex; gular lobe bilobed, with the anterior margin slightly and arcuately emarginate; prosternal process declivous posteriorly, subparallel between anterior coxal cavities, then strongly attenuate to the tip. Abdomen beneath with the last ventral segment broadly rounded at the apex. Pygidium not carinate, and rounded at the apex. Posterior tarsi shorter than posterior tibiae; the first segment the longest, shorter than the following three united. Claws simply cleft.

Length: 4.6 mm; width: 1.1 mm.

Host plant: Unknown.

Holotype: ♂, Yonahadake, Okinawa Is., 25. VI. 1973, K. AKIYAMA lgt. Paratype: 1 ♂, Mt. Yonahadake, Okinawa Is., 30. VI. 1973, T. KOBAYASHI lgt.

Remarks: This new species is allied to *A. amamioshimanus* Y. KUROSAWA, 1964, but can be distinguished from it by the following characteristics: 1) eyes slightly but distinctly sinuate at the inferior rims, while in *A. amamioshimanus*, they are very slightly sinuate; 2) prehumeral carinae more strongly arcuate than in *A. amamioshimanus*; 3)

gular lobe distinctly emarginate at the middle, while in *A. amamioshimanus*, it is only slightly emarginate.

Agrilus samuelsoni sp. nov.

(Figs. 13, 34)

Body small, subcylindrical, black with a slight aeneous tinge; antennae and legs black.

Head slightly narrower than the base of pronotum; vertex longitudinally impressed at the middle, longitudinally rugoso-punctate; frons slightly prominent in dorsal aspect, slightly narrower than long between eyes, longitudinally but obsoletely impressed for a short distance below vertex at the middle, transversely grooved along the posterior margins of antennal cavities, transversely rugoso-punctate, and clothed with semirecumbent, inconspicuous, cinereous hairs; eyes slightly converging below in frontal aspect, with the inferior rims slightly sinuate; clypeal suture transverse, distinctly carinate; clypeus about as long as wide between antennal cavities, with the anterior margin arcuately emarginate; antennal cavities large, with the posterior margins carinate; antennae rather lax, eleven-segmented, serrate from the fourth segment, with the first segment stout, subglobular, about 1.1 times as long as the second, which is equally stout to the first, the third about 0.7 times as long as the second, and the fourth subtriangular, about as long as the third.

Pronotum transverse, about 1.3 times as wide as long, widest just before the middle; sides arcuate throughout; anterior margin bisinuate, with the median lobe broadly and arcuately produced; posterior margin slightly narrower than the anterior, trisinuate, with the median lobe slightly sinuate before scutellum; anterior angles acute and produced in dorsal aspect, sharply abased in lateral aspect; posterior angles subrectangular in dorsal aspect; prehumeral carinae sinuate, traceable to near anterior angles, where they are connected with marginal ones; marginal carinae sinuate; submarginal carinae extending to the anterior two-thirds, moderately distant from marginal ones in anterior half, then approximate to them posteriorly; disc convex, with a median depression posteriorly and lateral longitudinal depressions along prehumeral carinae; surface transversely rugoso-punctate, clothed with semirecumbent, inconspicuous, cinereous hairs medially and along all the margins. Scutellum transversely carinate, the part before the carina subquadrate, median projection sharply produced posteriorly.

Elytra about 3.1 times as long as wide, about 4.0 times as long as pronotum, and widest behind the middle; sides obtuse at humeri, slightly convergent to anterior three-tenths, expanded and swollen near the middle, then convergent to the tips, which are separately rounded and obsoletely dentate; basal margins carinate, with the lobes arcuately produced at the middle; sutural margin slightly elevated in posterior two-thirds; lateral margins unarmed except for apical parts, which are finely and obsoletely dentate; humeri not prominent, without humeral carinae; disc depressed behind the

basal margin; surface coarsely and transversely rugoso-punctate, evenly and rather sparsely covered with semirecumbent, cinereous hairs.

Body beneath sparsely and evenly clothed with short, fine, cinereous hairs. Prosternum convex; gular lobe with the anterior margin arcuately but obsoletely emarginate at the middle; prosternal process slightly constricted between anterior coxal cavities, then strongly attenuate to the apex. Abdomen beneath with the first visible segment weakly depressed at the middle; the last one broadly rounded at the apex. Pygidium with an obsolete median carina, obsoletely and longitudinally depressed along the carina, rounded at the apex. Posterior tarsi distinctly shorter than posterior tibiae, with the first segment the longest, though shorter than the following three united. Claws simply cleft.

Length: 4.0–4.8 mm; width: 0.7–1.0 mm.

Host plant: Unknown.

Holotype: ♂, Mt. Ushikumori, Iriomote Is., 3–7. XI. 1963, G. A. SAMUELSON lgt. Allotype: ♀, Arakawa, Ishigakijima Is., 7. V. 1977, H. HIRAMATSU lgt.

Agrilus iriei sp. nov.

(Figs. 14, 35)

Closely allied to *A. samuelsoni* sp. nov., but differing from it in the following characteristics: 1) body slightly robuster; 2) body above black with a slight greenish tinge, while in *A. samuelsoni*, it is black with a faint aeneous tinge; 3) clypeus distinctly narrower than in *A. samuelsoni*; 4) prehumeral carinae short, arcuate, and not conjoined with the marginal carinae, while in *A. samuelsoni*, they are long, sinuate, and connected with the marginal ones; 5) elytra separately and broadly rounded at the tips, while in *A. samuelsoni*, they are separately and narrowly rounded; 6) elytra deplanate along the suture, while in *A. samuelsoni*, they are very obsoletely deplanate along the suture.

Length: 3.8–4.2 mm; width: 0.9–1.1 mm.

Host plant: Unknown.

Holotype: ♂, Mt. Omotodake, Ishigakijima Is., 17. IV. 1973, H. IRIE lgt. Paratype: 1 ♂, Mt. Omotodake, Ishigakijima Is., 16. IV. 1973, H. IRIE lgt.

Agrilus aritai sp. nov.

(Figs. 15, 36)

Body rather robust; above aeneous; beneath black with slight violaceous tinge; antennae and legs black with aeneous tinge.

Head slightly narrower than the base of pronotum; vertex longitudinally and obsoletely impressed at the middle, distinctly rugoso-punctate; frons slightly broader than long between eyes, longitudinally impressed at the middle, slightly gibbose on each side of the impression, transversely and profoundly grooved along the posterior

margins of antennal cavities, longitudinally rugoso-punctate just below vertex, transversely rugoso-punctate on the other parts, clothed with semirecumbent, cinereous hairs on frontal half; eyes slightly converging below in frontal aspect, with the inferior rims feebly sinuate; clypeal suture transverse; clypeus broad, about 1.8 times as wide as long between antennal cavities, with the anterior margin arcuately emarginate; antennal cavities large, with the posterior margins carinate; antennae rather lax, eleven-segmented, serrate from the fourth segment, with the first segment stout, subglobular, and about 1.2 times as long as the second, which is equally stout and subglobular to the first, the third the shortest, the fourth subtriangular, about 1.2 times as long as the third.

Pronotum transverse, about 1.4 times as wide as long, widest just behind the middle; sides slightly sinuate; anterior margin bisinuate, with the median lobe broadly and arcuately produced; posterior margin slightly narrower than the anterior, somewhat bisinuate, with the median lobe subtruncate before scutellum; anterior angles acute and produced in dorsal aspect, sharply abased in lateral aspect; prehumeral carinae arcuate, extending to the middle, not connected with the marginal ones, which are distinctly sinuate; submarginal carinae subparallel and moderately distant to the marginal ones in anterior third, then gradually approximate posteriorly, and connected with them just before posterior angles; disc convex, with two median depressions behind the anterior lobe and before scutellum respectively, lateral depressions present along prehumeral carinae; surface transversely rugoso-punctate, evenly but sparsely covered with fine, short, cinereous hairs, rather densely clothed with semirecumbent, silver-whitish hairs in median depressions. Scutellum with a transverse carina, the part before the carina being subpentagonal, and the median projection sharply produced posteriorly.

Elytra about 2.6 times as long as wide, about 4.2 times as long as pronotum, and widest just behind the middle; sides rounded at humeri, slightly convergent to the anterior fifth, expanded and swollen near the middle, then gradually convergent to the tips, which are separately rounded and distinctly dentate; basal margins sinuate, with the lobes arcuately produced at the middle; sutural margin slightly elevated in posterior three-fifths; lateral margins unarmed except for apical parts, which are finely but distinctly dentate; humeri slightly prominent, without humeral carinae; disc distinctly depressed along the basal margin; surface evenly imbricato-punctate, ornamented with markings or bands consisting of semirecumbent silver-whitish hairs, arranged as follows: some irregular bands or markings in basal half; a strongly zigzagged band at the apical third; a slightly zigzagged band just before the apex.

Body beneath rather uniformly clothed with fine, semirecumbent, cinereous hairs. Prosternum convex; gular lobe broadly produced, with the anterior margin evenly arcuate; prosternal process slightly expanded just behind anterior coxal cavities, then arcuately attenuate to the tip, which is pointed posteriorly. Abdomen beneath finely and sparsely punctate, with the last ventral segment rounded at the apex. Pygidium longitudinally carinate, the carina projecting at the apex. Posterior tarsi with the

first segment about as long as the following three united. Claws simply cleft.

Length: 7.0 mm; width: 2.0 mm.

Host plant: Unknown.

Holotype: ♀, Hirano, Ishigakijima Is., 30. VIII. 1965, Y. ARITA lgt.

This new species is closely allied to *A. alesi* OBENBERGER, 1935, but can be distinguished by the following characteristics: 1) body smaller than in *A. alesi*; 2) elytral markings different from those of *A. alesi*.

Agrilus semivittatus sp. nov.

(Figs. 16, 37)

Body small, subcylindrical, entirely black with slight greenish tinge.

Head slightly narrower than the base of pronotum; vertex longitudinally but slightly impressed at the middle; frons longer than wide between eyes, longitudinally impressed below vertex at the middle, longitudinally rugoso-punctate below vertex, transversely rugoso-punctate anteriorly, clothed with fine, cinereous hairs; eyes slightly converging below in frontal aspect, with the inferior rims slightly sinuate; clypeal suture transversely carinate; clypeus broader than long between antennal cavities, with the anterior margin arcuately and rather strongly emarginate; antennal cavities large, with the posterior margins carinate, the pores just above posterior carinae profound and transverse; antennae eleven-segmented, serrate from the fourth segment, with the first segment stout, subglobular, and about 1.1 times as long as the second, which is equally stout and subglobular to the first, the third the shortest, the fourth subtriangular, about as long as the second.

Pronotum transverse, about 1.3 times as wide as long, widest just behind the middle; sides rounded just behind anterior angles, subparallel in anterior third, slightly expanded near the middle, then convergent to posterior angles; anterior margin bisinuate, with the median lobe broadly and arcuately produced; posterior margin slightly narrower than the anterior, somewhat trisinate, with the median lobe slightly emarginate before scutellum; anterior angles acute and produced in dorsal aspect, sharply abased in lateral aspect; posterior angles obtuse in dorsal aspect; prehumeral carinae rather strongly sinuate, arcuately rounded in posterior third, sinuously approximate to the marginal ones near the middle, then closely approximate anteriorly, and traceable to near anterior angles, where they are connected with them; marginal carinae sinuate; submarginal carinae subparallel to and moderately distant from marginal ones in anterior third, then gradually approximate posteriorly, and connected with them at the posterior fifth; disc convex, with two large depressions behind the anterior lobe and just before scutellum respectively, lateral longitudinal depressions present along prehumeral carinae; surface transversely imbricato-rugose, clothed with very inconspicuous, blackish hairs. Scutellum with a transverse carina, the part before the carina subpentagonal, median projection sharply produced posteriorly.

Elytra about 2.7 times as long as wide, about 4.0 times as long as pronotum, and

widest just behind the middle; sides rounded at humeri, slightly convergent to the anterior two-fifths, expanded and swollen near the middle, then convergent again to the tips, which are separately rounded and finely dentate; basal margins sinuate, with the lobes arcuately produced at the middle; sutural margin slightly elevated in posterior two-fifths; lateral margins unarmed except near apices, where they are finely dentate; humeri without humeral carinae; disc with basal depressions along basal margins; surface densely imbricato-punctate, ornamented with semirecumbent, golden hairs in anterior half except for the areas along the sides, clothed with very inconspicuous, black hairs posteriorly and laterally.

Body beneath rather uniformly clothed with short, recumbent, cinereous hairs. Prosternum convex; gular lobe bilobed, with the anterior margin arcuately and slightly emarginate at the middle; prosternal process feebly expanded behind anterior coxal cavities, then roundly attenuate to the tip. Abdomen beneath with the last ventral segment rounded at the apex. Pygidium longitudinally carinate at the middle, and rounded at the apex. Posterior tarsi distinctly shorter than posterior tibiae, with the first segment slightly longer than the following three united. Claws simply cleft.

Length: 4.0–5.0 mm; width: 0.9–1.1 mm.

Host plant: Unknown.

Holotype: ♂, Mt. Konpira, Nagasaki City, Nagasaki Pref., 1. VII. 1954, S. IKUSHIMA lgt. Allotype: ♀, Uoaraigawa, Kunimi Town, Nagasaki Pref., 14. VII. 1979, S. IMASAKA lgt. Paratypes: 3 ♂♂, 1 ♀, same data as holotype.

Remarks: This new species is somewhat allied to *A. pilosovittatus* E. SAUNDERS, 1873, but can be distinguished from it by the difference in elytral ornamentation by pubescence.

Agrilus hokkaidoensis sp. nov.

(Figs. 17, 38)

Body slender, subcylindrical; above black with slight violaceous or greenish tinge; beneath black with slight violaceous tinge; antennae and legs concolorous with body beneath.

Head slightly narrower than the base of pronotum; vertex longitudinally rugoso-punctate; frons distinctly narrower than long between eyes, without median impression, transversely and profoundly grooved along the posterior margins of antennal cavities, transversely rugoso-punctate, uniformly clothed with semirecumbent, cinereous hairs; eyes large, converging below in frontal aspect, with the inferior rims slightly sinuate; clypeal suture transversely carinate; clypeus about as long as wide between antennal cavities, with the anterior margin arcuately but very slightly emarginate at the middle; antennal cavities large, with the posterior margins strongly carinate; antennae lax, eleven-segmented, serrate from the fourth segment, with the first segment stout, subglobular, and about 1.1 times as long as the second, which is equally stout and subglobular to the first, the third the shortest, the fourth subtriangular, about as long as the

first.

Pronotum somewhat transverse, about 1.2 times as wide as long, widest just before the middle; sides sinuate, slightly expanded near the middle, then sinuously attenuate to posterior angles; anterior margin bisinuate, with the median lobe broadly and arcuately produced; posterior margin narrower than the anterior, trisinuate, with the median lobe slightly and arcuately emarginate before scutellum; anterior angles acute and produced in dorsal aspect, acute and sharply abased in lateral aspect; posterior angles subrectangular in dorsal aspect; prehumeral carinae arcuate, extending to the middle, where they are connected with the marginal ones; marginal carinae sharply defined, broadly sinuate; submarginal carinae subparallel to the marginal ones in anterior fourth, then gradually approximate posteriorly, and connected with them before posterior angles; disc convex, transversely depressed behind the anterior lobe, rather strongly depressed before scutellum, and longitudinally depressed along prehumeral carinae; surface transversely imbricato-rugose, clothed with very inconspicuous, short, blackish hairs. Scutellum transversely carinate; the part before the carina strongly declivous in front, and subpentagonal; the part behind the carina with a median projection sharply produced posteriorly.

Elytra about 3.3 times as long as wide, about 3.6 times as long as pronotum, and widest behind the humeri; sides slightly expanded behind the humeri, then sinuously convergent to the tips, though slightly expanded near the middle; tips separately rounded, finely dentate; basal margins arcuately carinate, with the lobes arcuately produced at the middle; sutural margin slightly elevated except for the portion behind scutellum; lateral margins unarmed except for the apical parts, which are finely dentate; humeri without humeral carinae; disc rather strongly depressed along the basal margin, longitudinally and rather strongly deplanate along the suture; surface transversely and densely imbricato-punctate, longitudinally ornamented with semirecumbent, fine, golden hairs along the suture from the basal depressions to the anterior two-thirds, also ornamented with semirecumbent, fine, golden hairs near apices, clothed with very inconspicuous, blackish hairs on the blackish parts.

Body beneath rather uniformly covered with short, recumbent, cinereous hairs. Prosternum convex; gular lobe bilobed, with the anterior margin arcuately emarginate at the middle; prosternal process distinctly expanded to behind anterior coxal cavities, distinctly bi-emarginate at the apex, distinctly and sharply pointed between the emarginations. Abdomen beneath with the last ventral segment rounded at the apex. Pygidium longitudinally carinate at the middle, and rounded at the apex. Posterior tarsi distinctly shorter than posterior tibiae, with the first segment about as long as the following three united. Claws simply cleft.

Length: 7.0 mm; width: 1.5 mm.

Holotype: ♂, Horoka, Hokkaido, 25. VII. 1969.

Remarks: This new species is allied to *A. marginicollis* E. SAUNDERS, 1873, but can be distinguished from it by the following characteristics: 1) body larger; 2) clypeus about as long as wide between antennal cavities, while in *A. marginicollis*, it is narrower

than long; 3) pronotum broader than in *A. marginicollis*; 4) elytra separately rounded at the tips, while in *A. marginicollis*, they are conjointly and broadly rounded.

Agrilus auropictus ryukyuensis subsp. nov.

(Fig. 39)

Distinguished from the nominotypical race from Taiwan and the Japanese race, subsp. *kanohi* Y. KUROSAWA, 1954, by the following characteristics: elytra distinctly bluish tinged, while in the other races, they are not tinged blue.

Holotype: ♂, Shirahama, Iriomote Is., 29. III. 1965, H. YOKOYAMA lgt. Paratypes: 1 ♂, Shirahama, Iriomote Is., 4. IV. 1962, Y. ARITA lgt.; 1 ♂, Mt. Ushikumori, Iriomote Is., 7-10. XI. 1963, G. A. SAMUELSON lgt.; 1 ♂, Shirahama, Iriomote Is., 9. VI. 1972, H. IRIE lgt.; 1 ♂, Mt. Omotodake, Ishigaki Is., 24. VI. 1972, S. OKAJIMA lgt.

摘 要

日本産クリタマムシ属 (*Toxoscelus*) の1新種, ナガタマムシ属 (*Agrilus*) の15新種4新亜種を記載し, あわせて台湾産ナガタマムシ属の1新種を記載した。また, 日本よりナガタマムシ属の1種を新たに記録し, 既知の数種について分布上の新知見を与えた。