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Description of a New Species of the Genus *Zilora* (Coleoptera, Melandryidae) from Central Honshu, Japan, with a Provisional Key to Species of the World

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Abstract A new species of the genus *Zilora*, *Zilora akitai* Nikitsky et M. Saitô, is described from central Honshu, Japan. An revised provisional key to the species of the genus of the world and comments on those species are also provided.

Introduction

The genus *Zilora* Mulsant, 1856 (Coleoptera, Melandryidae) is composed of eight (including four Paleactic Regional) species from the world (Mank, 1938; Nikitsky & Pollock, 2008). Mizuno (1987, 1992 a, b, 1997, 2011) and Sawai and Mizuno (1988) have recorded *Zilora* sp. collected from mountainous area of central Honshu and Kyushu, Japan, and should be recognized as a new species. We had an opportunity to examine a number of specimens of this genus collected from central Honshu, Japan, and describe it as a new species in this paper. We also provide an updated provisional key to the species of the genus *Zilora* of the world with comments on some species.

Materials and Methods

The entomological collection codens for each specimen depository are noted below and elsewhere in the text:

National Museum of Nature and Science, Tsukuba (NSMT)
Zoological Museum of Moscow Lomonosov State University (ZMMU)
Ehime University Museum, Matsuyama (EUM)
Collection of Mr. K. Akita (KAC)
Collection of Mr. M. Saitô (MSC)

Morphological abbreviations used herein are as follows: L—body length (=length from apical margin of clypeus to apices of elytra); W—body width; FW—width across frons (=distance between eyes); ED—compound eye diameter; CL—clypeal length; CW—clypeal width; PL—pronotal length; PW—pronotal width; HW—head width; EL—elytral length; EW—elytral width; MtiL—metatibial length; Mta1stL—length of 1st metatarsal segment; AL—length of aedeagus; BpL—length of basal piece; BpW—width of basal piece; PmL—fused parameral length; PmW—fused parameral width. The average values in measurements are given in parenthesis after the range.

Genus ***Zilora*** Mulsant, 1856

Zilora Mulsant, 1856, 84 (Type species: *Xylita ferruginea* Paykull, 1798).

Diagnosis. Body entirely brown or reddish brown to black; pubescent. Length 4.0–9.5 mm. Head short, visible in dorsal view. Terminal segment of maxillary palpi securiform. Antennae thick, more or less filiform. Pronotum with deep basal fovea on each side. Base of pronotum narrower than elytra, with lateral sides margined or almost margined (except anterior 1/5–1/6 of lateral sides) and depressed. Elytra parallel-sided, with shoulder bumps well developed; disc usually with more or less erect hairs (except *Z. nuda*). Mesocoxae clearly separated. The 1st and 2nd abdominal ventrites (= 1st and 2nd visible sternites) together as long as or shorter than the 3rd to 5th together.

This genus is closely related to the genus *Euryzilora* Lewis, 1895 known from the Palearctic Region, but it distinguished from the latter by the mesocoxae clearly separated and terminal segment of maxillary palpi securiform (Fig. 2), but not cultriform as in *Euryzilora*.

Zilora akitai Nikitsky et M. Saitô, sp. nov.

(Figs. 1–9)

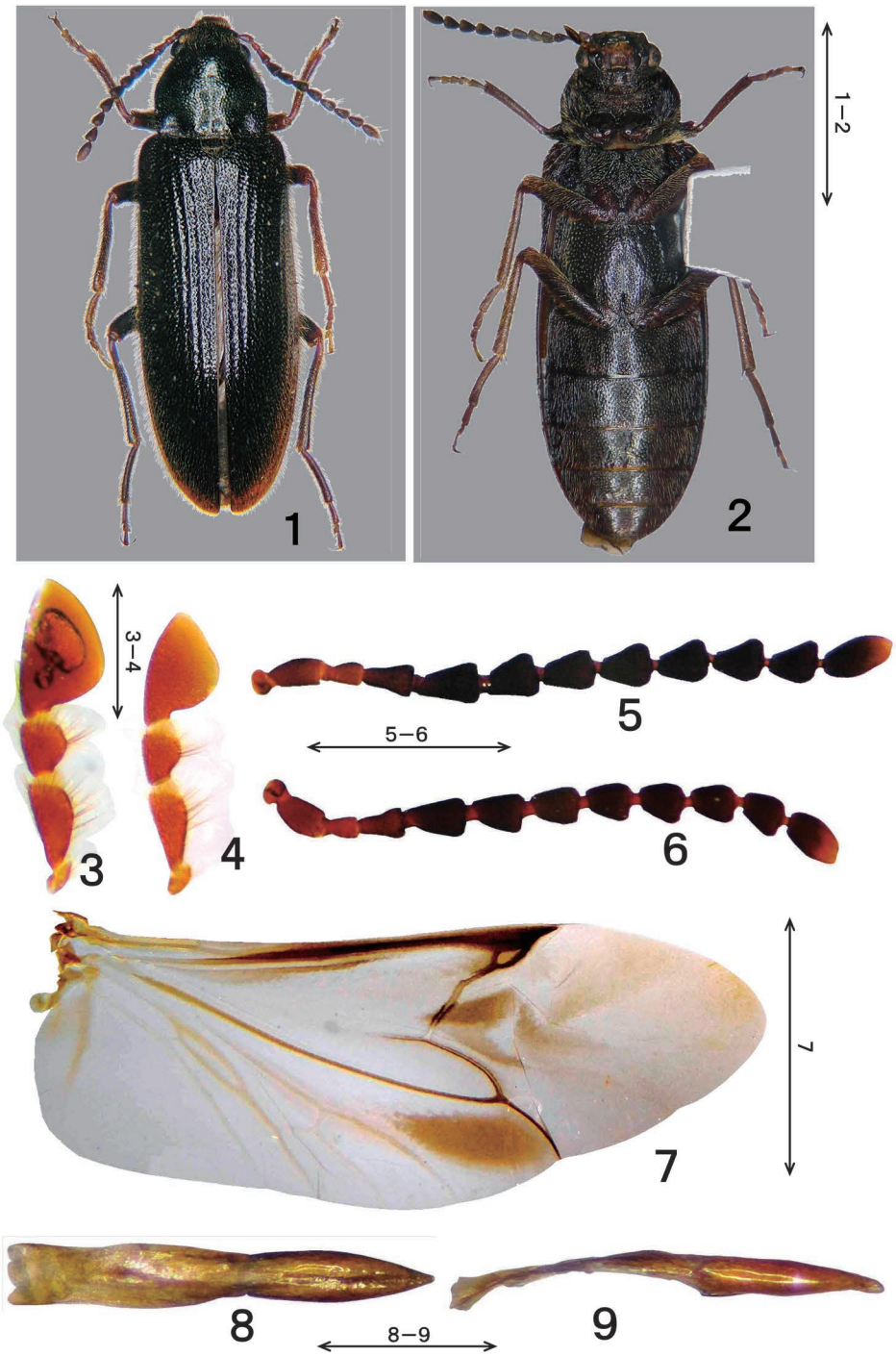
M a l e. Body elongate, L/W 2.90–3.24 (3.06, n=5), subparallel sided, moderately convex dorsally, rather shining, covered with yellowish brown lustered pubescence, thin and suberect; legs and antennae densely covered with fine pubescence. Dorsal surface (Fig. 1) entirely brownish black, with obscurely dark reddish brown longitudinal area on humeri; mouth parts and legs dark reddish brown except for darker parts of femora; antennae brownish black, usually darker than legs, with basal two segments, basal halves of 3rd and apical halves of terminal segments paler. Ventral surface (Fig. 2) entirely brownish black; abdomen densely covered with fine yellowish brown pubescence.

Head pentagonal, densely and rather coarsely punctate. Frons flat and wide, FW/ED 3.60–4.11 (3.86, n=5); frontclypeal furrow unclear. Vertex to occiput weakly convex, unbulged above of eyes. Temple roughly sculptured at posterior area of eyes. Eyes transverse. Clypeus transversal semicircular, CW/CL 3.60–4.50 (4.00, n=5), densely and coarsely punctate; front margin weakly incurved. Terminal segment of maxillary palpi (Fig. 3) securiform; outer margin longer than inner one; apical margin somewhat longer than outer one and outcurved; inner angle slightly rounded. Antennae (Fig. 5) thick filiform, reaching hind angles of pronotum and overpassing half of apical 3rd segment; terminal segment spindle-shaped with rounded tip; length of antennal 0.38 times as long as L (n=1); relative lengths of each segments (n=1) as 1.00, 0.58, 1.00, 1.13, 0.98, 1.00, 0.98, 0.94, 0.94, 0.90, 1.42; relative length to width of each antennal segments (n=1) as 1.82, 1.29, 1.55, 1.35, 1.11, 1.29, 1.11, 1.12, 1.07, 1.04, 1.91.

Pronotum hexagonal, PW/PL 1.08–1.19 (1.15, n=5), PW/HW 1.31–1.41 (1.37, n=5), PW/EW 0.67–0.74 (0.69, n=5), widest at before middle, distinctly and roundedly narrower towards apex, and usually almost straightly narrowing or almost parallel towards the base from widest point; lateral and basal margins indistinctly and very narrowly bordered; postero-lateral areas depressed; front angles widely rounded; hind angles obtuse or more sharp; basal margin slanted at both sides; disc densely and irregularly punctate, interspace of punctures covered with microscopic wrinkle, with deep basal fovea on each side opened outward, and weakly flattened at center of disc and basal area. Scutellum trapezoid, weakly outcurved or almost straight at apex, roughly punctate.

Elytra elongate and parallel-sided in basal half, slightly widened in the middle and gradually and roundedly narrowed toward apex; EL/EW 2.19–2.50 (2.32, n=5), base distinctly wider than pronotal base, elytral breadth in humeral parts 1.33–1.42 (1.37, n=5) times as wide as pronotal base; whole disc with erect hairs; interstices roughly punctate which is larger than those on costae.

Hind wing (Fig. 7) macropterous, about the same as L (n=1), about 1.0 times as long as EL (n=1), about 2.6 times as long as wide (n=1); length from folding line (at widest, contacting point of



Figs. 1–9. *Zilora akitai* NIKITSKY et M. SAITÔ, sp. nov. (1, holotype; 2–9, paratypes) —— 1, Habitus, dorsal view, male; 2, ditto, ventral view, male; 3, left maxillary palpus, male; 4, ditto, female; 5, left antenna, male; 6, ditto, female; 7, right hind wing, male; 8–9 (8, aedeagus, dorsal view; 9, lateral view). Scale: 1–2, 3.0 mm; 3–4, 0.4 mm; 5–6, 1.0 mm; 7, 3.0 mm; 8–9, 0.5 mm.

RP and r3) to apex 47.22% (n=1) of whole length, extent of apical field 38.21% (n=1) of whole extent. Venation nearly identical with that of the genus *Phryganophilus*, Melandryini in Nikitsky (1992), having RC, 1AC and WC (cf. Lawrence *et al*., 2011, p. 114).

Ventral surface of thorax closely punctate, with microscopic wrinkle interspace of punctures. Abdominal ventrites closely punctate, rather coarsely in 3rd and 4th ventrites, margined in entire length of 3rd to 6th ventrites; 7th ventrite widely rounded and minutely curved at center.

Legs slender. Meso- and metafemora showing sexual dimorphism: with patches of densely pubescence at inferior edge; meso- and metatibiae weakly sinuate, MtiL 1.35–1.90 mm (1.74, n=5), MtiL/EL 0.28–0.30 (0.29, n=5) and MtiL/EW 0.64–0.76 (0.68, n=5). Metatarsi simple, Mta1stL/MtiL 0.48–0.51 (0.50 n=5), relative lengths of each metatarsal segments (n=5) as 1.00, 0.41, 0.24, 0.44.

Aedeagus (Figs. 8–9) small, AL/EL about 0.2 (n=1), elongate, pencil-like, pointed at apex, AL/AW about 6.6 (n=1). Basal piece subparallel-sided and weekly incurved before base, narrowed toward base of fused parameres in dorsal view, flat and thin in lateral view; BpL/BpW about 3.8 (n=1). Fused parameres boat-shaped in dorsal view, narrowed apically, PmL/PmW about 3.6 (n=1); PmL/BpL about 0.8 (n=1).

F e m a l e. Similar to male; L/W 3.03–3.15 (3.02, n=5); EL/EW 2.30–2.58 (2.39, n=5); FW/ED 3.57–4.15 (3.76, n=5); PW/HW 1.33–1.44 (1.39, n=5); PW/EW 0.65–0.71 (0.68, n=5). Antennae 0.32 times as long as L (n=1); relative lengths of each antennal segments (n=1) as 1.00, 0.58, 1.00, 1.13, 0.97, 0.97, 0.87, 0.90, 0.90, 0.87, 1.35; relative length to width of each antennal segments (n=1) as 1.41, 1.29, 1.55, 1.35, 1.11, 1.20, 1.04, 1.04, 1.08, 1.00, 1.68. Fifth abdominal ventrite (=5th visible sternite) widely rounded and weakly depressed at center. Mta1stL/MtiL 0.46–0.49 (0.48 n=5), relative lengths of each metatarsal segments (n=5) as 1.00, 0.41, 0.21, 0.41. Meso- and metafemora without patches of dense pubescence at inferior edge.

Measurement (n=9 ♂♂, 18 ♀♀, in mm). L: ♂ 6.30–8.40 (7.67), ♀ 7.58–9.46 (8.40); W: ♂ 1.85–2.58 (2.29), ♀ 2.25–2.80 (2.50).

Type series (kac—K. Akita collection number). Holotype (Fig. 1): ♂, "JAPAN, Nagano-ken/ Mt. Yatsugatake/nr. Shirakoma-ike, 2000–/2300 m, 22. VII. 2005/Katsumi Akita leg." (kac 64360: NSMT). Paratypes (same locality and collector as the holotype except for last one): 5 ♂♂ (kac 12627–12628 (Figs. 2–3, 5, 8–9), 12632–12633 (Fig. 7): KAC; kac 12637: ZMMU), 10 ♀♀ (kac 12629, EUM: kac 12620, 12623–12626, 12630–12631, 12634, 12639: KAC), alt. 2,000–2,200 m, 21–VII–2002; 1 ♂ (kac 12603: KAC), 7 ♀♀ (kac 12596, 12598 (Figs. 4, 6), 12602, 12604, 12607–12608, 12610: KAC), alt. 2,000–2,200 m, 23–VII–2002; 2 ♂ (kac 12601: KAC; kac 72935: ZMMU), alt. 2,000–2,200 m, 27–VII–2003; 1 ♂, alt. 2,100–2,300 m, 22–VII–2004 (MSC); 1 ♀, same date as the holotype (kac 12639: KAC); 1 ♂, "Inakoyu (2100 m) Koumi–/cho, Nagano-Pref./29–Jun–2006/S. Kanno leg." (MSC).

Notes. The new species is closely similar to *Z. elongata* J. R. Sahlberg, 1881 known from the Palaeactic Region, but can be distinguished from the latter in having the following characteristics: 1) lateral sides of pronotum usually almost straight narrowing or almost parallel towards the base from the widest point (the sides distinctly narrowing toward the base from the widest point and usually sinuate before hind angles in *Z. elongata*); 2) pronotum distinctly finely microreticulation (pronotum absent or almost absent microreticulation in *Z. elongata*); 3) brownish black body color with obscure dark reddish brown maculation at the longitudinal area on humeri (obscurely dark reddish brown body color without maculation in *Z. elongata*); 4) brownish black antennae (reddish brown antennae in *Z. elongata*). This species is collected from linger bark of standing dead *Tsuga* trees (Pinaceae).

Provisional Key to Species of the Genus *Zilora* of the World

1. Pubescence of elytra considerably long and erect. Lateral margins of abdominal sternites with complete beading. Elytra often with rib-like raised intervals. ····· 2

— Pubescence of elytra short and recumbent. Lateral margins of abdominal sternites without complete beading. Elytra without traces of longitudinal ribs. Eyes with rather clearly visible notch on anterior margin. Punctation of pronotum dense, relatively even and rather medium-sized. Sides of pronotum clearly narrowing towards posterior angles, but usually without sinuations in front of those angles. Coloration of dorsum usually from brown to black. 6.5–7.5 mm. North America ····· *Z. nuda* PROVANCHER, 1877

2. Eyes with small, but clearly visible, not gentle notch on anterior margin. Punctation of pronotum somewhat larger, and most importantly uneven especially in center of disc. ····· 3

— Eyes without notch, or with very weak, gentle notch on anterior margin. Punctation of pronotum more or less fine, and most importantly dense and rather even. ····· 5

3. Head without reticulation or with very weakly reticulation. Elytral punctation without combination of file-like raised relief and grain-like tubercles at anterior margins. ····· 4

— Head with pronounced transverse microreticulation. Elytral punctation in places protruding file-like (=rasp-like) raised relief, and bearing grain-like raised tubercles at anterior margins. Medial impressed line of pronotum more strongly marked than those of two following species, that is running entire length along pronotal axis except for anterior interruption. Pubescence of elytra rather weakly semierect, with setae forming angles less than 45° to elytral surface, and in this respect similar to *Z. obscura*. Pronotal punctation sparser and more uneven than in *Z. obscura*. Base of pronotum straight, without sinuation medially. Sides of pronotum also straight in front of posterior angles, without sinuations. Elytra rather dark reddish brown; head except paler clypeus and labrum, and disc of pronotum blackish brown; antennae and legs reddish brown. Dorsum mostly more or less shiny. 7.5 mm. Asia Minor (Anatolia, bor., Ilgaz-Dag, 1,900 m, 9–VI–1968, leg. H. KORGE, holotype, male). ····· *Z. anatolica* KORGE, 1971

4. Pronotum with rather sparse (especially in center of disc) and very uneven punctation. Angles between setae and elytral surface around 45° (in well peresrved specimens). Dorsum lighter, reddish. Usually sides of pronotum evenly and more or less straightly narrowing posterior angles. Body average length smaller; 4.5–6.5 mm. Mostly Northern and Northeastern Europe. ····· *Z. ferruginea* (PAYKULL, 1798)

— Pronotum with denser and more even punctation. Angles between setae and elytral surface as rule less than 45°. Dorsum somewhat darker, brown or even black. Sides of pronotum usually more or less straightly narrowing towards posterior angles, as rule, without sinuation. Body average length larger; 5.0–9.0 mm. Mainly Middle Europe. ····· *Z. obscura* (FABRICIUS, 1794) (= *Z. eugeniae*;=*Z. sericea*)

5. Sides of pronotum rather strongly narrowing towards posterior angles, often with sinuations in front of those angles. Intervals between pronotal punctures usually without distinct microreticulation. ····· 6

— Sides of pronotum more or less gradually narrowing towards posterior angles, often without distinct sinuations in front of those angles. Intervals between pronotal punctures finely microreticulate. Body often somewhat bicolor, blackish or blackish brown elytra and pronotum with lighter anterior margin of pronotum and shoulders of elytra. 6.3–9.5 mm. Japan. ····· *Z. akitai* NIKITSKY et M. SAITÔ, sp. nov.

6. Sides of pronotum at least with weak sinuations in front of posterior angles. Elytra even if brown, not bicolor; pubescence grayish yellow. Angles between setae and elytral surface approximately 45–60°. Body smaller; 4.0–7.0 mm. Mostly northern and northeastern Europe, Siberia, Russian Far East. ····· *Z. elongata* J. SAHLBERG, 1881[1, 2)]

— Sides of pronotum without distinct sinuations or with very weak sinuations in front of posterior angles. Elytra brown or brownish red with paler humeral area; pubescence pale brown. Angles between setae and elytral surface at most 45°. 5.5–8.0 mm. North America. ····· ····· *Z. occidentalis* MANK, 1938

(1) *Zilora elongata* is very similar to *Z. hispida* LECONTE, 1866 described from North America, and may be a junior subjective synonym of that species. But we were, unfortunately, unable to study the type of *Z. hispida*.

(2) *Zilora hispida* is similar to *Z. alabamensis* MANK, 1938 (also from North America) which, according to the description, differs from *Z. hispida* in the coarser punctation of pronotum, distinct rounded punctures on the scutellum and narrower body (MANK, 1938).

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要　　約

Nikolay B. NIKITSKY・斎藤昌弘：本州産カタビロナガクチキ属 *Zilora*（鞘翅目ナガクチキムシ科）1新種の記載．――*Zilora* 属は，世界から8種（旧北亜区からは4種）が知られており，日本からは1未記載種の存在が報告されてきた．この1未記載種について，本州中部の山地帯より採集された標本に基づき，*Zilora akitai* NIKITSKY et M. SAITÔ, sp. nov. と命名記載した．和名は，属名に MIZUNO (1987) が提唱した種名であるカタビロナガクチキを適用し，種名を改めてクロカタビロナガクチキを提唱する．また，本属の世界の種の暫定的な検索表を示した．

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A New Record of *Ancyronyx yunju* (Coleoptera, Elmidae) from Vietnam, with Notes on the Wing Dimorphism

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Ancyronyx yunju was described from southern China (BIAN *et al*., 2012), and YOSHITOMI (2014) recorded this species from northern Laos. In the present paper, we record this species from northern Vietnam for the first time.

Specimens examined. 15 males (3 macropterous, 12 apterous) and 25 females (7 macropterous, 18 apterous), 14 possible larvae, [VN39] Tay Yen Tu, Bac Giang Prov., Vietnam, 21°11′3.65″N 106°44′42.44″E, ca 120 m, 10–VII–2014, H. YOSHITOMI leg.

All the specimens were collected from the surface of one immersed broad leaf wood (Figs. 1 & 2; 400 cm in length and across in diameter 7 cm) situated on a small stream (flow velocity: 8 m/min; river width: 3 m; depth: 10–50 cm; water temperature: 26.3°C). The other elmid species could not be collected from this wood. The

Figs. 1 & 2. *Ancyronyx yunju* from Vietnam. — 1, Adult; 2, habitat.

specimens are preserved in Ehime University Museum, the National Museum of Nature and Science, Tsukuba, the Naturhistorisches Museum, Wien, and Vietnam National Museum of Nature.

Notes. Two *Ancyronyx* species, *Ancyronyx acaroides acaroides* GROUVELLE, 1896 and *Ancyronyx procerus* JÄCH, 1994, were recorded from South Vietnam, and this is the third species of the genus *Ancyronyx* from Vietnam. *Ancyronyx yunju* is easily distinguished from the other two species by the pronotal coloration fully black.

Ancyronyx yunju has been known only the apterous form (BIAN *et al*., 2012; YOSHITOMI, 2014), and we report the presence of hind wing dimorphism in this species. The percentage of occurrence of the macropterous form in *Ancyronyx yunju* is 25.0%. Two Japanese riffle beetles, *Stenelmis vulgaris* and *Leptelmis gracilis*, which live on the surface of immersed wood such as *Ancyronyx yunju*, show the hind wing dimorphism, and the percentages of occurrence of the macropterous form are 38.0 and 24.2 respectively (HAYASHI *et al*., 2013).

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