

Description of a New Alticine Genus (Coleoptera, Chrysomelidae) from Japan

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Abstract *Yoshiakia iwatensis*, gen. et sp. nov. (Chrysomelidae, Alticinae) is described from north Honshu, Japan, feeding on *Spiraea betulifolia* (Rosaceae) and *Magnolia ovata* (Magnoliaceae). This new genus is related to the genera *Zipangia* HEIKERTINGER and *Trachyaphthona* HEIKERTINGER.

In the course of routine survey of fauna and flora of river-systems and dams conducted by the Ministry of Land, Infrastructure, Transport and Tourism in 2004, a peculiar alticine species was found at Tase dam, Towa-machi, Iwate Prefecture. This species somewhat resembles those of the genus *Trachyaphthona* HEIKERTINGER or *Zipangia* HEIKERTINGER, but is clearly separable from the both. To accept this species, a new genus is established in this paper, which is dedicated to the late Dr. Yoshiaki KOMIYA, an eminent researcher in neuroscience and also a well-known taxonomist on Chrysomelidae.

The routine survey above-mentioned is called “Census of waterside fauna and flora”, which covers some 127 river-systems and 94 dams all over Japan. Several points for each river-system and dam are surveyed once every 5 years for mammals, birds, reptiles, amphibians, fishes, insects, spiders and plants. The results were published for 1991–2001, and afterwards on webs (<http://www3.river.go.jp>). While those on dams are shown on <http://www4.river.go.jp/seibutu.htm> for 1998–2004.

The holotype will be deposited in the collection of the Laboratory of the Systematic Entomology, Hokkaido University, Sapporo (SEHU). The paratypes will be distributed to SEHU, Kitakyushu City Museum for Natural History and Human History, Kitakyushu, U. S. National Museum for Natural History, Washington, and to author’s private collection.

Yoshiakia gen. nov. (masculine)

Diagnosis. Body small and oblong-ovate; blackish brown with light brown legs. Head slightly narrower than pronotum at anterior margin; frontal tubercles narrow and obliquely situated, and delimited behind by a sharp furrow; fronto-clypeus almost regularly triangle, with a weak Y-shaped carina; antenna filiform and 11-segmented,

reaching middle of elytra; 2nd antennal segment shortest and robust; 3rd and 4th segments subequal in shape and length; 5th longer than 6th. Pronotum subquadrate, with the posterior margin gently produced posteriorly; anterior angle obliquely truncate; disc weakly convex, weakly depressed along posterior margin; not marginate at both anterior and posterior margins; prothoracic sternite distinctly separated procoxae, distinctly widened posteriorly and rounded at apex, but narrower than mesothoracic sternite. Elytra rather flat, distinctly wider than pronotum at base, slightly widened to apical 1/3, thence roundly narrowed to apex; elytral epipleuron continued to apical 1/6; mesothoracic sternite wide and weakly depressed medially; mesothoracic intercoxal process wide, but gradually narrowed to widely truncate apex. Male abdominal sternites with two rows of long, stiff and curved hairs medially; 5th visible abdominal sternite widely tri-lobed at apex, with a large, round depression. Hind legs with femora well expanded, with 1st tarsal segment longer than the following two combined.

Female: Abdominal sternites normal, without large fovea or rows of stiff hairs.

Type species: *Yoshiakia iwatensis* sp. nov.

Remarks. This new genus is uniquely characterized by the structure of male abdominal segments, with two rows of long, stiff and curved hairs and a large apical fovea. From the similarly shaped genus *Zipangia*, this new genus is distinguished by the narrow frontal tubercles which is obliquely situated and delimited behind by a sharp furrow with the anterior apex not extended into inter-antennal space. The key given below will help to distinguish related genera each other.

Key to the related Japanese alticine genera with 11-segmented antennae and opened anterior coxal cavities (after KIMOTO, 1994 modified).

- 1 Elytra with punctuation in more or less regular rows; pronotum with anti-basal transverse impression; mesothoracic sternite excavated in middle. *Ogloblinia* CSIKI
- Elytra with punctuation wholly confused; pronotum with/without anti-basal transverse impression; mesosternum flat or weakly depressed. 2
- 2 Frontal tubercles with anterior angle extending toward inter-antennal space. 5
- Frontal tubercles not as above. 3
- 3 Mesothorax with intercoxal process much narrower, as wide as prothoracic one; pronotum without ante-basal transverse impression. *Parazipangia* OHNO (based on the original description)
- Mesothorax with intercoxal process wider than prothoracic one; pronotum with ante-basal transverse impression. 4
- 4 Pronotum with ante-basal transverse impression not extending to sides; generally small in size. *Aphthonaltica* HEIKERTINGER
- Pronotum with ante-basal transverse impression extending to sides where it is curved upward to a short distance below middle of lateral margin; generally large in size. *Altica* GEOFFROY
- 5 Prothorax with intercoxal process subparallel-sided and truncate at apex, with/without ante-basal transverse impression. 6



Fig. 1. *Yoshiakia iwatensis* gen. et sp. nov. (holotype).

- Prothorax with intercoxal process distinctly widened and round at apex, with ante-basal transverse impression.7
- 6 Prothorax with distinct ante-basal transverse impression.*Zipanginia* OHNO
- Prothorax without ante-basal transverse impression.*Trachyaphthona* HEIKERTINGER
- 7 Frontal tubercles oblique and narrow, with the anterior angle slightly extending toward inter-antennal space; male with two rows of long, stiff and curved hairs medially on abdominal sternites; last abdominal sternite with a deep and large fovea.*Yoshiakia* gen. nov.
- Frontal tubercles longitudinally triangle, with the anterior angle deeply extending toward inter-antennal space; male without such hairs or deep fovea on abdominal sternites.*Zipangia* HEIKERTINGER

Yoshiakia iwatensis sp. nov.

(Figs. 1 & 2)

Male. Body oblong-ovate and small, 2.2–2.5 mm in length; rather flat dorso-ventrally; dark chocolate brown with head and pronotum lighter; head below eyes, legs and antennae yellowish brown. Vertex impunctate and lustrous; frontal tubercles narrow and obliquely situated, widely separated from each other, distinctly delimited

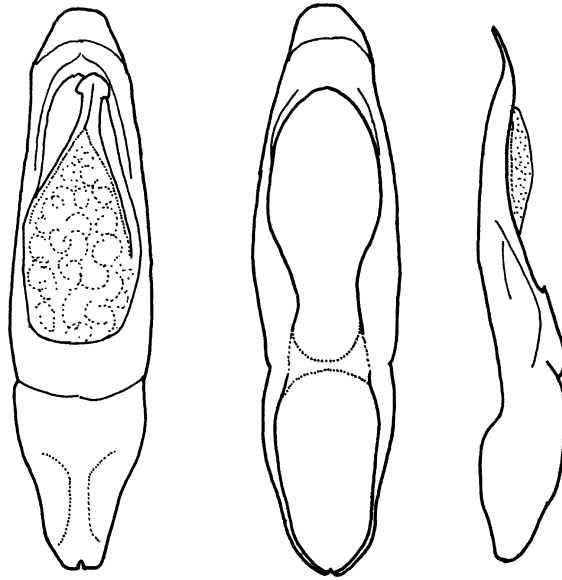


Fig. 2. Aedeagus of *Yoshiakia iwatensis* gen. et sp. nov. (left, dorsal view; middle, ventral view; right, lateral view).

behind by a sharp furrow; fronto-clypeus broadly triangular with a weak Y-shaped ridge, broadly emarginate at anterior margin; distance between eyes fully twice as wide as a transverse diameter of an eye; antenna filiform reaching the middle of elytron, beyond 4th segment thickly pubescent; 1st and 2nd segments robust; the 2nd shortest, almost half as long as 11th; relative length of each segment as: $11\text{th} > 5\text{th} = 6\text{th} = 7\text{th} = 8\text{th} = 9\text{th} > 1\text{st} > 10\text{th} > 3\text{rd} = 4\text{th} > 2\text{nd}$. Pronotum subquadrate, 1.6 times as wide as long; almost straight at anterior margin, weakly and archedly produced at posterior margin; slightly arched on lateral margins, slightly curved behind anterior angle and before posterior angle; anterior angle obliquely truncate, posterior angle obtuse; disc rather flat, finely punctate and shining, very narrowly depressed along lateral margins, with obscure transverse impression before posterior margin; the impression curved forward on side, not reaching lateral margins. Scutellum ovate, as long as wide; surface impunctate and shining, narrowly shagreened along all margins. Elytron 3 times as long as wide; disc weakly depressed posteriorly to scutellum and interiorly to humerus, densely covered with distinct punctures; slightly curved anteriorly at sutural angle; epipleuron slightly concave and punctulate, rather wide on basal 1/3, thence narrowed and subparallel-sided till apical 1/3, narrowed to and disappeared at apical 1/6 of elytron. Procoxal cavities widely open; procoxal process wide, as wide as the length of 2nd antennal segment, roundly widened to apex on posterior half; mesothroacic sternites wide and inverted trapezoid, rough surfaced between coxae; before intercoxal area



Fig. 3. Leaves of *Spiraea betulifolia* damaged by *Yoshiakia iwatensis* sp. nov.

broadly depressed and smooth. Hind femora expanded, but not so strongly as in *Zipangia obscura*; 1st–4th abdominal sternites with a paired rows of long, stiff and inwardly curved hairs medially; 5th sternite broadly tri-lobed, median lobe deeply and roundly excavate, this fovea reaching near the anterior margin of the sternite; aedeagus rather broad and flat as in Fig. 2.

F e m a l e. Abdomen without rows of long and stiff hairs; last visible abdominal sternite simply produced at apex.

Type series. Holotype ♂, Tase dam, Towa-machi, Iwate Pref., Honshu, 19–VII–2006, H. TAKIZAWA leg. (SEHU in Sapporo). Paratypes. 79 ♂♂, 56 ♀♀, same data as the holotype (feeding on *Spiraea betulifolia* PALL., Rosaceae and *Magnolia ovata* (A. ST.-HIL.) SPRENG., Magnoliaceae); 8 ♂♂, 3 ♀♀, same locality, 21–VII–2004, H. TAKIZAWA leg.; 1 ♂, Mt. Myozin-dake, Hakone, Kanagawa Pref., Honshu, 20–VIII–2006, H. TAKIZAWA leg. (on *Magnolia* sp.).

Remarks. This new species is somewhat resembles to *Zipangia obscura* (JACOBY), but is clearly distinguished from the latter by the slender antennae, finely punctuate pronotum, structures of male abdomen, etc. It is distinguished from *Trachyapthona sordida* (BALY), by the pronotum with ante-basal transverse impression. This species was collected by sweeping on sunny road-side along deciduous forests. A lot of adults

were found feeding on leaves of *Spiraea betulifolia* (Rosaceae) (Fig. 3), and at one place also feeding on young shoots of *Magnolia ovata* (Magnoliaceae). Family Magnoliaceae is seldom selected as food plants among Chrysomelidae. JOLIVET and HAWKESWOOD (1995) mentioned to an accidental case of the genus *Aspidomorpha* (Cassidinae) on *Michelia* sp. *Lanka magnoliae* (CHUJO et OHNO) feeds on *Magnolia ovata* on both adult and larval stages in Japan. Feeding on both *Spiraea* and *Magnolia* seems exceptional. While two individuals were collected on the leaves of *Magnolia* sp. at Hakone, Kanagawa Pref., which lies some 500 km south of Tase Dam. These facts suggest some biological relations at least, between this flea-beetle and *Magnolia*. Beetles collected in July, 2006, were somewhat immature, suggesting their recent emergence. The specific name was based on the locality collected.

Acknowledgements

I wish to express my sincere gratitude to the authorities of offices of the Ministry of Land, Infrastructure, Transport and Tourism concerned for permitting to publish this interesting finding from their "Census of waterside fauna and flora".

要 約

滝沢春雄：トビハムシ亜科（鞘翅目ハムシ科）の日本産新属新種の記載。—— 本州からトビハムシ亜科の新属新種、*Yoshiakia iwatensis* を記載した。本属は *Zipangia* 属および *Trachyapthona* 属に近似するが、雄の腹部に2列の顕著な長毛を装い、第5腹節の中央部に大きな凹みを持つ点などで区別される。成虫は夏季に低山地のマルバシモツケやホオノキを食害している。なお、このトビハムシ亜科の顕著な新種は、国土交通省が2004年に実施した岩手県田瀬ダムの陸上昆虫類調査（河川水辺の国勢調査）の際に発見されたものである。

References

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