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Apophylia kaoi sp. nov. from Taiwan
(Coleoptera: Chrysomelidae: Galerucinae)

¹JAN BEZDĚK & ²CHI-FENG LEE

¹Mendel University of Agriculture and Forestry, Department of Zoology, Zemědělská 1, 613 00 Brno, Czech Republic, e-mail: bezdek@mendelu.cz

²Applied Zoology Division, Taiwan Agricultural Research Institute, 189 Chung-Cheng Rd., Wufeng, Taichung 41362, Taiwan, e-mail: cflee@gate.sinica.edu.tw

ABSTRACT. *Apophylia kaoi* sp. nov. from Taiwan is described, illustrated and compared with related species. The host plants are given for most of Taiwanese *Apophylia* species for the first time. The key to identification of Taiwanese *Apophylia* species is presented.

Key words: entomology, taxonomy, new species, Coleoptera, Chrysomelidae, Galerucinae, *Apophylia*, Taiwan

The genus *Apophylia* THOMSON, 1858, is distributed in the Afrotropical, Oriental and eastern Palaearctic regions. The Asian species were recently revised (BEZDĚK 2003a,b,c,d, 2004) and additional 16 species were described by BEZDĚK (2005, 2006a,b, 2007, 2008) and BEZDĚK & ZHANG (2006). Nowadays, the known Asian fauna comprises 83 species and subspecies of this genus.

The Taiwanese fauna includes 5 species: *Apophylia miyamotoi* KIMOTO, 1969; *A. velai* BEZDĚK, 2003; *A. beeneni* BEZDĚK, 2003 [previously reported from Taiwan under the name *A. flavovirens* (FAIRMAIRE, 1878)]; *A. asahinai* CHÛJÔ, 1962 and *A. taiwanica* BEZDĚK, 2003. All species are endemic to Taiwan except *A. beeneni*, which is widely distributed in South-East Asia.

Taiwan is an interesting island with high rate of endemism of organisms. KIMOTO & TAKIZAWA (1997) catalogued 607 species of Chrysomelidae in Taiwan. More than half of the Taiwanese species are endemic (329 species). This study indicates that more endemic species of Taiwanese chrysomelids await discovery.

In the material collected recently within research conducted by Taiwan Agricultural Research Institute we have found one new species described below.

Apophylia kaoi sp. nov.

TYPE MATERIAL

Holotype (male), labelled: „Taiwan: Taipei (1181) / Fushan / 05.IV.2007, leg. M.-H. Tsao [white printed label]“ (in Taiwan Agricultural Research Institute); 1 paratype (male), labelled: „Taiwan: Taipei (1182) / Fushan / 05.IV.2007, leg. M.-H. Tsao [white printed label]“ (in Jan Bezděk collection); 1 paratype (male), labelled: „Taiwan: Taipei / Chuwei ([Chinese letters]) / 2007, leg. H.-T. Cheng [white printed label]“ (in National Museum Prague, Czech Republic). The specimens of the newly described species are provided with one additional red printed label: “HOLOTYPUS [or PARATYPUS], / *Apophylia* / *kaoi* sp. nov., / Bezděk & Lee det. 2009”.

DESCRIPTION

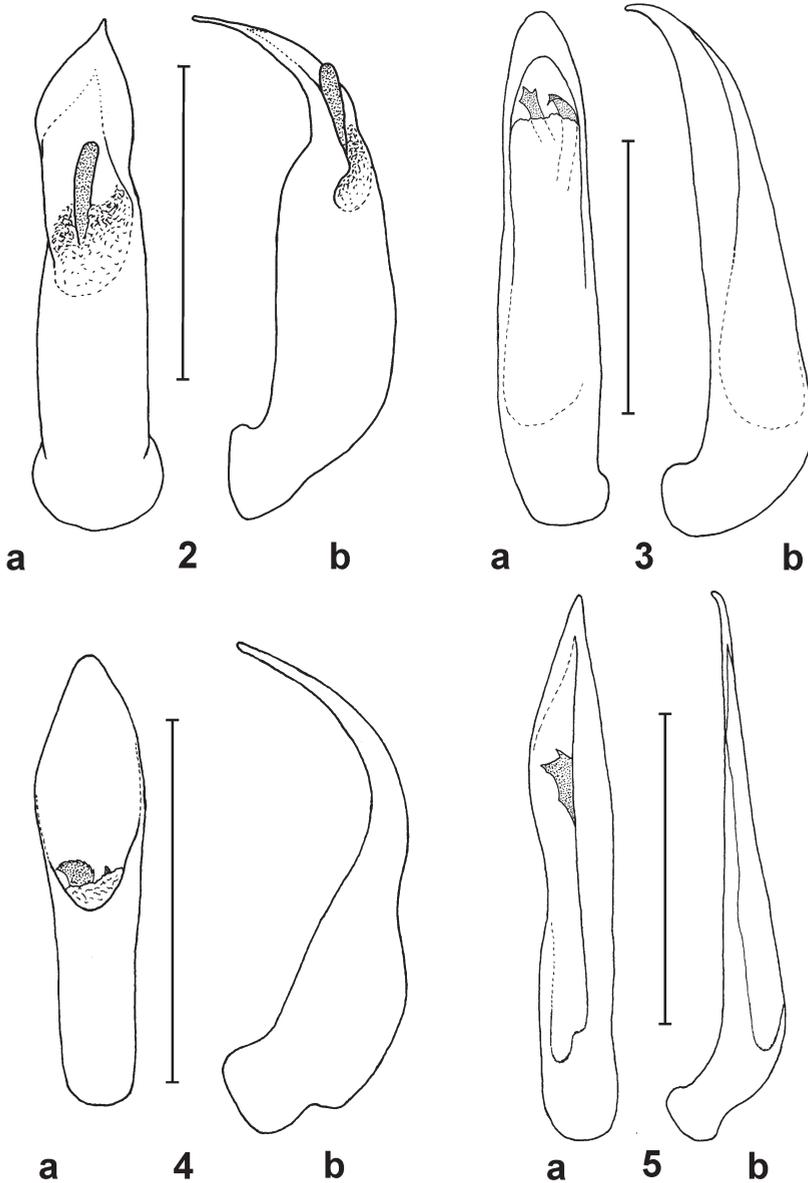
Body length of males 5.60-5.80 mm (holotype 5.60 mm).

Male (Fig. 1). Body flattened, parallel, densely pubescent, semiopaque. Head, pronotum, scutellum and underside black. Lateral angles of clypeus with an indistinct brown spot. Elytra metallic green. Legs yellow, with infuscate bases of femora and distinctly darkened apices of tibiae, tarsi black. Antennae black, antennomeres 1 to 3 brown, darkened from above.



1. Holotype of *Apophylia kaoi* sp. nov. (male, 5.60 mm)

Labrum transverse, covered with several pale setae in transverse row, anterior margin widely and shallowly incised. Anterior part of head semiopaque, sparsely covered with longer pale hairs. Interantennal space with small shallow groove. Frontal



2-5. Aedeagus (a - dorsal view, b - lateral view): 2 - *Apophyllia kaoi* sp. nov., 3 - *A. asahinai*, 4 - *A. beenei*, 5 - *A. miyamotoi*. Scale: 1 mm

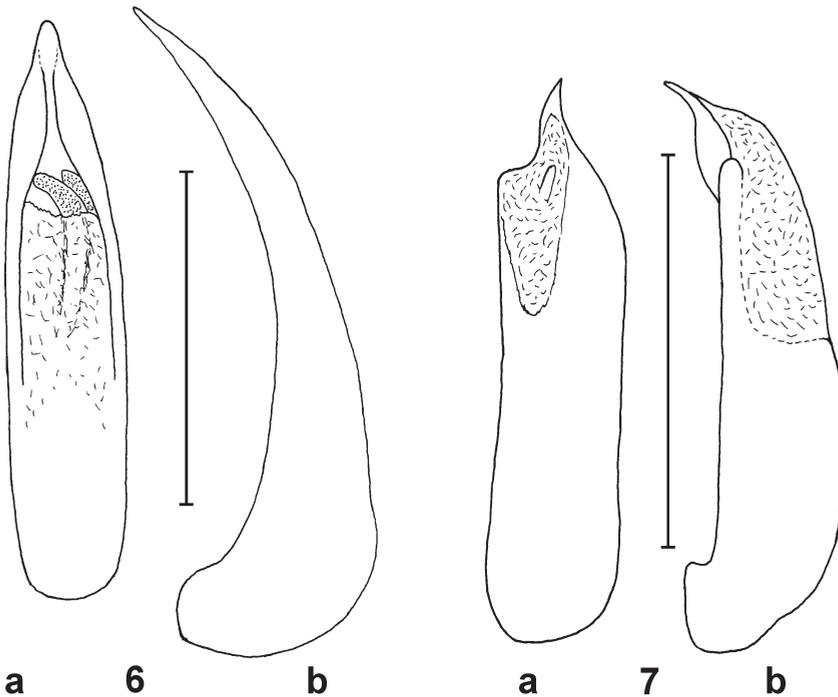
tubercles small, subtriangular, covered with very fine microsculpture, lustrous. Vertex dull, densely covered with confused punctures and short pale hairs. Antennae slender, 0.80 times as long as the body, length ratio of antennomeres 1 to 11: 20-10-16-25-22-22-20-20-18-16-17.

Pronotum transverse, twice broader than longer, widest at the first third, slightly narrowed anteriorly and posteriorly, with distinct anterior marginal ridge, interrupted in the middle. Surface semiopaque, densely covered with small punctures and pale hairs, with two deep oblique depressions laterally and longitudinal furrow running from the middle of anterior margin to the middle of posterior margin, indistinct on the disc. Anterior margin slightly concave, posterior margin nearly straight with shallow incision in the middle, lateral margins slightly rounded. All margins thinly bordered. Anterior angles widely rounded, posterior ones obtusangulate, all angles with a distinct tooth bearing long pale seta.

Scutellum short, subtriangular with rounded tip, covered with small dense punctures and short pale hairs, dull.

Elytra parallel, dull. Humeral calli well developed. Elytral surface very densely covered with small confused punctures and short pale hairs. Epipleura distinct, gradually narrowed to apex.

Macropterous.



6-7. Aedeagus (a - dorsal view, b - lateral view): 6 - *Apophyllia taiwanica*, 7 - *A. velai*. Scale: 1 mm

Ventral surface semiopaque, finely punctured and covered with pale hairs. Last ventrite with large and deep semicircular incision. Basimetatarsomere 1.35 times as long as the two following metatarsomeres combined. Claws bifid.

The shape of aedeagus as in Fig. 2.

Variability. The paratype from Chuwei is paler (mainly legs and antennae) than the other two males. Mouthparts are orange-brown.

Female unknown.

DISTRIBUTION

China: Taiwan.

DIAGNOSIS

Due to the coloration of head and pronotum *Apophyllia kaoi* sp. nov. is very similar to *A. velai*. Both species can be separated only by the structure of aedeagi (Figs. 2, 7).

HOST PLANTS

The adults of the new species were found gathered and feeding on leaves of *Ehretia acuminata* R. BROWN (Boraginaceae). Actually, Taiwan Chrysomelid Research Team observed that most Taiwanese *Apophyllia* prefer Boraginaceae: *A. asahinai* also feeds on the leaves the same plant as the new species; the leaves of *Ehretia longiflora* CHAMP. ex BENTH. are attractive for *A. taiwanaica*; *Ehretia dicksonii* HANCE for *A. velai* and *Trichodesma calycosum* COLLETT & HEMSL. for *A. beeneni*.

ETYMOLOGY

Dedicated to Shu-Jung KAO who financially supported the Taiwan Chrysomelid Research Team.

An identification key to *Apophyllia* species from Taiwan (predominantly for males)

1. Pronotum yellow, yellow with three black spots or dark brown with yellow margins 2
- . Pronotum completely black 4.
2. Male metasternum modified to large symmetrical protuberance. Pronotum yellow or, frequently in Taiwanese population, with an indistinct brown spot often covering almost the whole surface except thin yellow margins. Aedeagus as in Fig. 4. Body length: 4.30-6.00 mm. South-East Asia (China, Korean Peninsula, Vietnam) *A. beeneni*
- . Male metasternum not modified. Pronotum yellow with three black spots (median and two lateral) 3.
3. Aedeagus as in Fig. 3. Body length: 4.90-6.50 mm. Taiwan *A. asahinai*
- . Aedeagus as in Fig. 6. Body length: 5.20-7.70 mm. Taiwan *A. taiwanaica*
4. Legs black, knees more or less paler. Aedeagus as in Fig. 5. Body length: 4.80-5.50 mm. Taiwan *A. miyamotoi*

- . Legs yellow or yellow with darkened apices of tibiae 5.
 5. Aedeagus as in Fig. 7. Body length: 4.30-6.00 mm. Taiwan *A. velai*
 –. Aedeagus as in Fig. 2. Body length: 5.60-5.80 mm (males only). Taiwan
 *A. kaoi* sp. nov.

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