

Occurrence of the Genus *Damnux* (Coleoptera, Nanophyidae) in Laos, with Descriptions of Two New Species

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Abstract *Damnux albidibolica* sp. nov. and *D. laosensis* sp. nov. are described from Laos. They are easily distinguishable from other congeners by having unique coloration. A number of adults of *D. laosensis* were captured on the inflorescences of *Dipterocarpus* sp.

The genus *Damnux* LYAL, 2003 currently contains nine species from Bengal (1 sp.), the Malay Peninsula (4 spp.), Borneo (7 spp.), and Java (1 sp.). They are known to be associated with Dipterocarpaceae, and the larvae are seed-feeder (LYAL & CURRAN, 2003). No species has ever been known from the Indochinese region. Two species of the genus were captured in the recent survey conducted in rice paddies and its adjacent areas in central to southern Laos. Vegetation of the area, the Mekong plains, is characterized by the semi-wet dipterocarp forest (GRESSIT, 1970). In this area, dipterocarp forest and rice paddy, both are habitats of nanophyid weevils, are adjoining and/or dipterocarp trees are commonly standing in many rice paddies. Thus, host association of nanophyid weevils with unrelated families Dipterocarpaceae and Lythraceae is convinced that is likely to have evolved in these situations.

Damnux has unique coloration of black and white pattern sharing with other Oriental seed predator weevils such as *Meregallia* ALONSO-ZARAZAGA, 1990 (Nanophyidae), and *Carponinus* HELLER, 1924 and *Curculio* LINNAEUS, 1758 (Curculionidae: Curculioninae) (LYAL & CURRAN, 2003). However, the Laotian species herein described have exceptional color patterns.

All the type specimens are deposited at the Laboratory of Entomology, Tokyo University of Agriculture, Atsugi, Kanagawa, Japan.

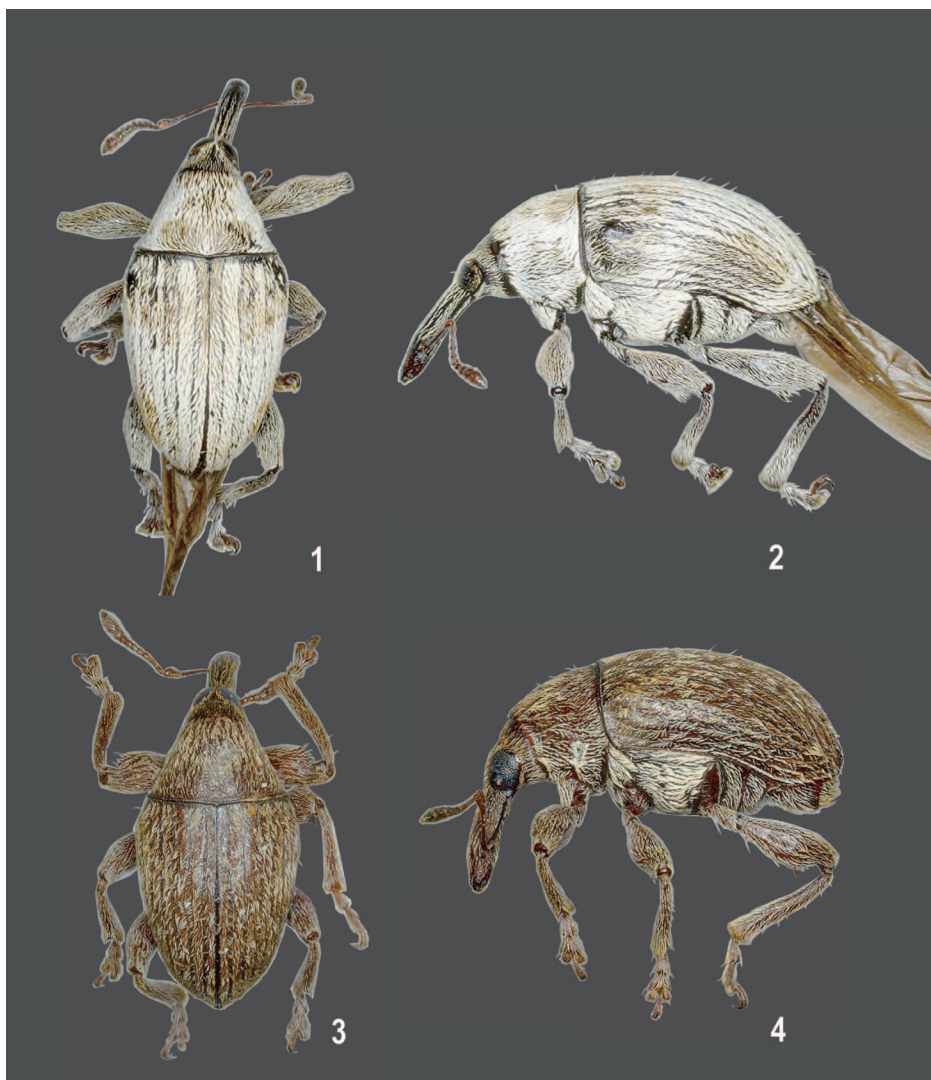
Genus *Damnux* LYAL

Damnux LYAL, 2003, 73 (type-species: *Nanophyes dipterocarpi* MARSHALL, 1932)

For synonymy and diagnosis, see LYAL and CURRAN (2003). Laotian materials agree well with the original description and figures of this genus.

Damnux is characterized by a combination of the following features among the genera in having the 5-segmented antennal funicle of the nanophyid genera: moderate to large species, more than 3.5 mm in size; rostrum with sexual dimorphism weak or absent; 2nd funicular segment of antennae the longest; elytra with 8th interstria minutely crenulate between base and humerus; tegminal plate of male terminalia trilobite at base; spiculum gastrale with large pouches attached to posterior arms; ovipositor with hemisternites long, and spermathecal duct long, convoluted almost through its length.

Distribution. Bengal, Laos, the Malay Peninsula, Borneo, and Java. New to Laos.



Figs. 1–4. Habitus photographs of *Damnux albidiaabolica* sp. nov. and *D. laosensis* sp. nov. (Figs. 1, 2, *D. albidiaabolica*; 3, 4, *D. laosensis*). — 1, Female dorsal; 2, ditto lateral; 3, male dorsal; 4, ditto lateral.

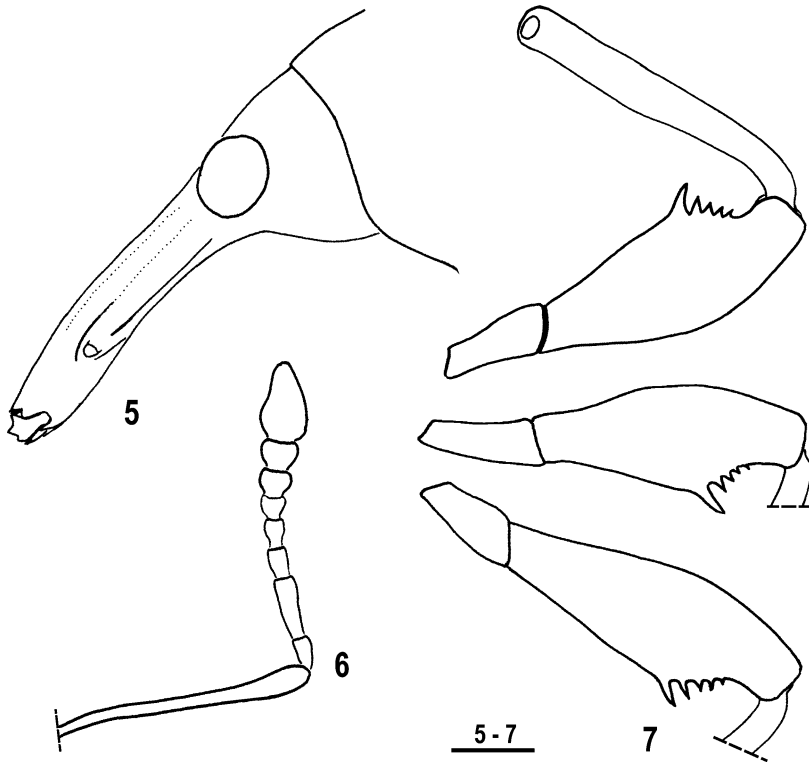
Damnux albidiaabolica sp. nov.

(Figs. 1, 2, 5–7)

Description. Female. Length: 5.5 mm; pronotal width: 2.3 mm; elytral width: 2.7 mm.

Derm black; rostrum dorso-laterally extending beyond antennal insertion, antennae and tarsi reddish brown; trochanters, femora and tibiae dark brown. Vestiture of white lancet-shaped scales condensed on entire body except for ochreous scales on pronotum, elytra and legs; humeral callus lacking scales; pronotal fasciae, elytral patches and median transverse fascia blend in with white vestiture.

Rostrum 1.3 times as long as pronotum. Antennae inserted at apical third of rostrum; funicle



Figs. 5–7. *Damnux albidiabolica* sp. nov., female. — 5, Head; 6, antenna; 7, legs (trochanters, femora and tibiae). Scale=0.5 mm.

with 1st segment 1.8 times as long as broad, 2nd approximately twice as long as 1st, 3rd and 4th subequal in length, 0.4 times as long as 2nd, 5th 0.7 times as long as 4th; club 0.8 times as long as funicle, apical segment 1.6 times as long as other two segments combined.

Prothorax 0.6 times as long as wide. Elytra approximately 1.4 times as long as wide, widest at humeri; interstriae with covering of fine nodules, generally largely obscured by scales. Femora with one large proximal and four small distal teeth; tibiae not mucronate. Metasternum depressed medially.

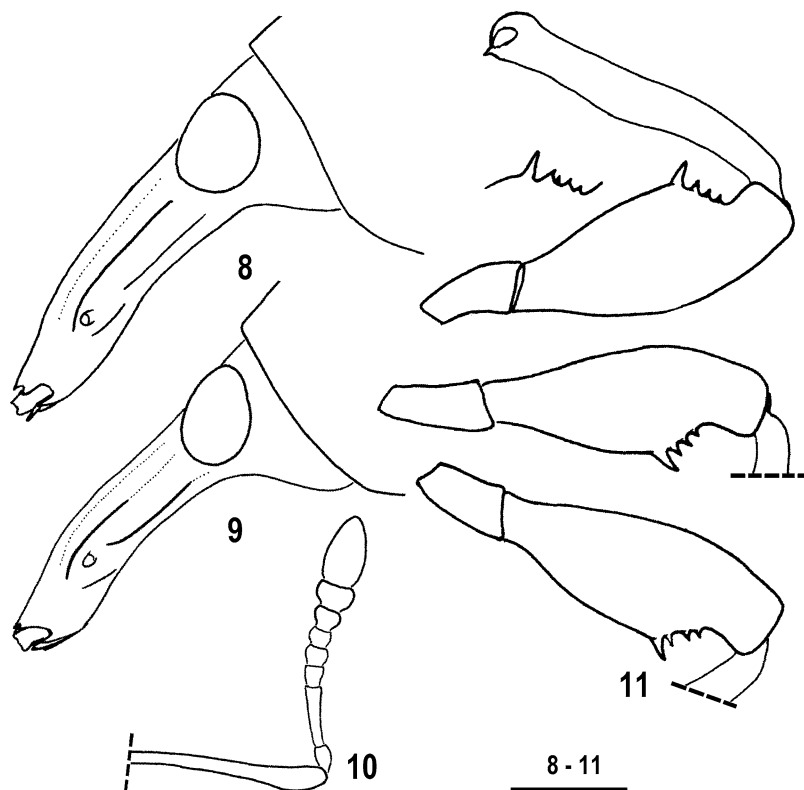
Male. Unknown.

Type material. Holotype: female, 17 km north from Paksong, Champasak Prov., N15° 15' / E106° 19', alt. 1232 m, 15–II–2010, H. WAKAHARA leg.

Etymology. The specific name is derived from the hoary coloration and probable predatory habit of dipterocarp seed as is known in other congeners.

Distribution. Laos (Champasak Prov.).

Comments. *Damnux albidiabolica* is similar in size to the large species of *Damnux*, such as *D. grandis* LYAL, 2003 and *D. wagneri* LYAL, 2003. However, the whitish vestiture covering almost entire body is peculiar among congeners, which have patches and fasciae on the pronotum and elytra.



Figs. 8–11. *Damnux laosensis* sp. nov. — 8, Head, male; 9, ditto, female; 10, antenna, male; 11, legs (trochanters, femora and tibiae) and variation of femoral teeth, male. Scale=0.5 mm.

Damnux laosensis sp. nov.

(Figs. 3, 4, 8–18)

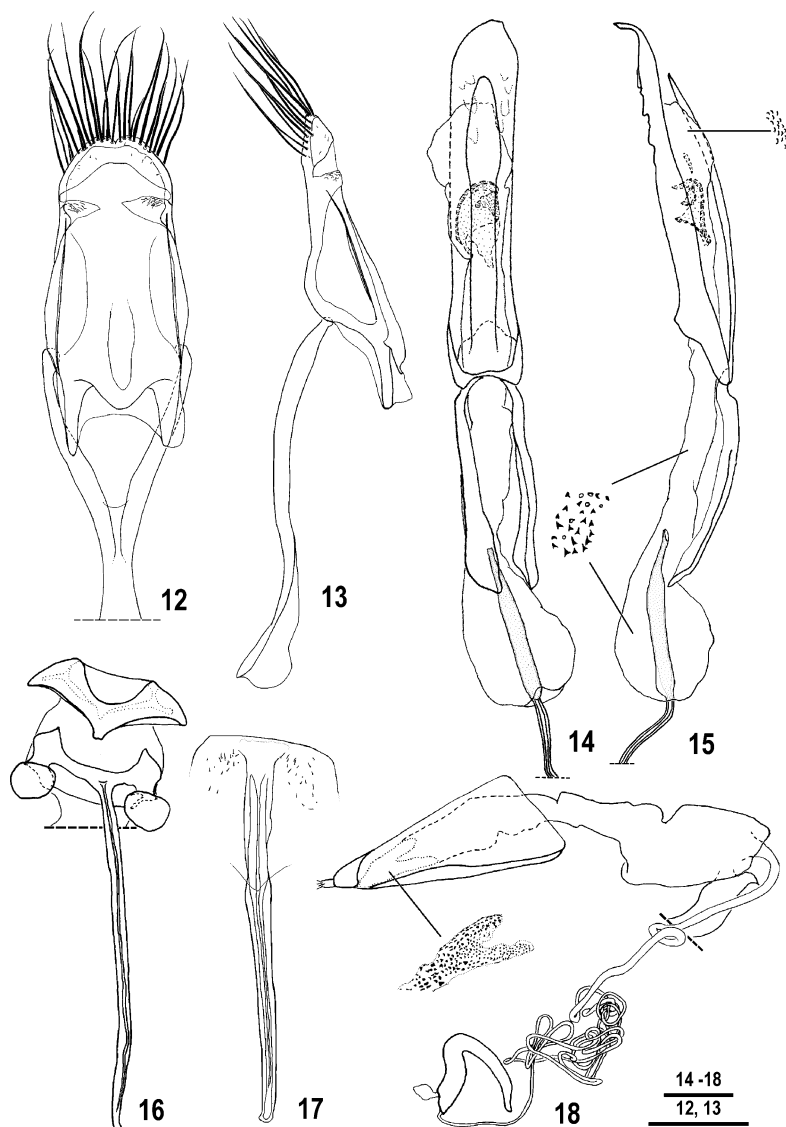
Description. Male. Length: 3.7–4.0 mm; pronotal width: 1.6–1.7 mm; elytral width: 1.8–2.0 mm.

Derm reddish to dark reddish brown. Vestiture pale yellow to white, mixed with pale brown elongate scales; pronotal fasciae incomplete; elytra with faint patch of yellowish scales at base of interstria 2; median transverse fascia obscure; apical patch of yellowish scales very small, not reaching costal margin.

Rostrum nearly as long as pronotum, antennae inserted at about apical third; funicle with 1st segment 1.6 times as long as broad, 2nd 2.2 times as long as 1st, 3rd and 4th subequal in length, 0.4 times as long as 2nd, 5th 0.9 times as long as 4th; club 0.9 times as long as funicle, apical segment 1.5 times as long as the other two segments combined.

Prothorax 0.6 times as long as wide. Elytra 1.2–1.3 times as long as wide, widest at humeri, interstriae with covering of fine nodules. Femora with one large proximal and three, sometimes four small distal teeth; tibiae weakly mucronate, mucro hardly seen on hind tibia. Metasternum depressed medially.

Terminalia as illustrated (Figs. 12–16). Spiculum gastrale with large pouches attached to



Figs. 12–18. *Damnux laosensis* sp. nov. — 12, Tegmen, dorsal; 13, ditto, lateral; 14, aedeagus, dorsal; 15 ditto, lateral; 16, sternite 8 and spiculum gastrale; 17, spiculum ventrale, ventral; 18, female genitalia, lateral. Scale=0.2 mm.

posterior arms. Tegmen with parameroid lobes rounded, separated by a small notch; each lobe with marginal row of 11 or more long setae; tegminal plate shorter than apodeme plus ring. Aedeagus with pedon weakly deflected right apically, narrowly projecting and truncate at apex, with five to eight tooth-like projections directed ventrally near apex. Tectum approximately half width of pedon distally. Aedeagal apodemes about 0.6 times as long as aedeagal body. Internal sac with two curved frena, flagellum 0.9 times as long as aedeagal apodeme.

F e m a l e. Length: 3.8–4.2 mm; pronotal width: 1.6–1.7 mm; elytral width: 1.9–2.1 mm.

Resembles to male except for rostrum slightly smoother and narrower at apex, tibiae not mucronate, and metasternal depression less deep than in male. Terminalia as illustrated (Figs. 17, 18); vaginal orifice of ovipositor granulate.

Type material. Holotype: male. 36 km northeast from Vientiane, N18° 16' / E102° 53', alt. 168 m, 11-II-2010, J. KANTOH leg. Paratypes: 4 males and 4 females, same date as for the holotype, J. KANTOH & H. KOJIMA leg.

Etymology. This species was named after the locality.

Distribution. Laos (Vientiane Prov.).

Comments. This species is similar to *Damnux seminivorax* LYAL, 2003 from Borneo (Sarawak, Kalimantan) in such structure of male terminalia (LYAL & CURRAN, 2003; fig. 124 of the smallest specimen) as pedon with tooth-like projections ventrally near apex, aedeagal apodemes about 0.6 times as long as its body, and internal sac with two curved frena. However, it can be distinguished by the coloration and vestiture: in *D. laosensis* they are reddish to dark reddish brown in color and transverse fasciae of prothorax and elytra are indefinite, whereas in *D. seminivorax* color is black and transverse fasciae of prothorax and elytra are evident.

Biological note. Weevils were captured on the inflorescences of *Dipterocarpus* sp.

Acknowledgments

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要 約

関東準之助・小島弘昭: *Damnux* 属のラオスからの発見と2新種の記載 (コウチュウ目チビゾウムシ科)。—— チビゾウムシ科 *Damnux* 属の分布空白地域であったラオスから2新種を発見し、それぞれ *D. albidia-bolica* sp. nov. および *D. laosensis* sp. nov. と命名記載した。本属の既知種は、東洋区の他の種子食ゾウムシの一部に見られる白黒の色彩パターンを共有することが知られるが、今回発見されたラオス産の新種は例外的な色彩パターンを示し、同属他種から容易に識別できる。本属の寄主植物としてフタバガキ科植物が知られており、今回記載した *D. laosensis* も同様にフタバガキ属の一種の花序からまとまった数の成虫が採集された。

References

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