Occurrence of the Genus *Shiva* (Coleoptera, Nanophyidae) in Taiwan, with Description of a New Species

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**Abstract** A new species of the genus *Shiva* in the family Nanophyidae is described from Taiwan as the first and easternmost species of the genus other than India under the name *Shiva taiwanus* sp. nov. This new species is characterized by their maculation and coloration as well as the asymmetrical pedon of aedeagus at apex among the congeners. It may be confused with *Nanophyes formosensis* KÔNO by their superficial resemblance and coexistence on the flower buds of *Lagerstroemia subcostata* of the family Lythraceae.

A number of adult nanophyid weevils were collected on the flower buds of a crape myrtle, *Lagerstroemia subcostata* in Taiwan. They are easily recognized to be a mixture of several species by their different coloration from fulvous to fuscous, sizes and outlines. Among them, the fulvous coloured species were initially identified with a single species, *Nanophyes formosensis* KÔNO, 1930 (Figs. 5, 6) by their coloration and maculation. Later, it became clear that the mixtures of the two species belonging to different genera. The other species represents a new species belonging to the genus *Shiva* PAJNI et BHATEJA, 1982. The genus *Shiva* is defined by the following characters: antennae with funicle 6-segmented, club formed of three loose segments, eyes approximated, separated linearly, 8th elytral interval shortly crenulate distad of humeral callus, which is well developed, and intermesocoxal distance subequval to intermetacoxal one. Occurrence of the genus in Taiwan is interesting as the first record other than India and the easternmost one in the range.

All the specimens examined are deposited at the Laboratory of Entomology, Tokyo University of Agriculture unless otherwise mentioned.

*Shiva taiwanus* sp. nov.
(Figs. 1-4, 7-17)

**Male.** Length: 2.0–2.3 mm; pronotal width: 1.0–1.2 mm; elytral width: 1.2–1.4 mm.

Derm yellowish to reddish brown; head, rostrum at least behind antennal insertion, sides of pronotum, and basal keels of pronotum and elytra more or less fuscous; elytra
often fuscous along suture and lateral margin, with dark brown to fuscous basal triangular band and irregularly small patches behind middle; venter with meso- and metathoraces more or less darkened, ventrite sometimes darkened partly; legs pale brown except fuscous apices of tibiae, tarsi and denticles of femora, tibiae and femora each often with dark fascia. Vestiture of white to yellowish white elongate scales slightly condensed on base of 2nd elytral interval and sides of pro- to metathoraces and procoxae; elytra with fuscous hairs in dark areas. Specialized erect setae present on pronotum, odd intervals of elytra, femora and tibiae.

Head: — Forehead between eyes narrow, with row of scales on each side along inner margin of eye. Rostrum nearly as long as pronotum. Antennae (Fig. 9) inserted a little beyond middle of rostrum; scape nearly as long as funicle plus 1st segment of club; funicle with 1st segment twice as long as wide, 2nd 3/5 times as long as 1st, 3rd to
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6th subequal in length, a little shorter than 2nd, 5th slightly asymmetrical; club nearly as long as funicle, 3rd segment slightly longer than 1st and 2nd segments combined.

Thorax: — Prothorax 0.5–0.6 times as long as wide. Elytra 1.1–1.2 times as long as wide. Legs (Fig. 10) with femora each with long proximal and two, sometimes three smaller distal denticles; all tibiae mucronate, although mucro difficult to see on hind tibia.

Male terminalia: — Tegmen as in Figures 11, 12; tegminal plate nearly as long as apodeme plus ring; parameloid lobes short, separated by median notch, each lobe with single marginal row of 10–13 long setae. Aedeagus (Figs. 13 & 14) with pedon asymmetrical, curved rightwards distally and downturned at tip; tectum approximately half width of pedon. Apodemes and aedeagal body subequal in length. Internal sac with curved sclerite; flagellum very long, nearly twice as long as aedeagal body; lateral lobe

Figs. 7–10. Shiva taiwanus sp. nov. — 7, Head, male; 8, ditto, female; 9, antenna; 10, legs (trochanters, femora and tibiae) and variation of femoral denticles, male. Scale=0.2 mm.
(Fig. 15) found when distended. Spiculum gastrale (Fig. 16) with a pair of lobes anteriorly on the plate and apodeme asymmetrically curved.

**Female.** Length: 2.2–2.5 mm; pronotal width: 1.1–1.3 mm; elytral width: 1.4–1.5 mm.
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Similar to male except rostrum slender and thinner before antennal insertion, which is just beyond middle of rostrum, and tibiae not mucronate. Spermatheca (Fig. 17) simply C-sharped.

**Etymology.** This species was named after the locality.


**Distribution.** Taiwan (Taipei, Nantou, Kaohsiung Taitung, and Pingtung Hsiens).

**Biological note.** Weevils were captured on the flower buds of *Lagerstroemia subcostata* (Lythraceae) with several other nanophyid species.

**Discussion**

Six *Shiva* species have been known only from India to date. Occurrence of the genus in Taiwan becomes the most easterly record in the range. With regard to the interspecific classification of the genus, **ALONSO-ZARAZAGA** (1990) tentatively divided it into three species groups based on the male genital structure. The present new species seemingly belongs to the *variabilis* group in having the tegmen notched apically and the long flagellum. However, this species is unique in having the asymmetrical apex of the pedon of the aedeagus and very long flagellum nearly twice as long as the aedeagal body. The maculation and coloration also differ from those of the other species of the *variabilis* group.

This species is also easily confused with *Nanophyes formosensis* sometimes coexisting on the same plant. Examination of the type series of *N. formosensis* revealed to be a mixture of two species and the paratype kept in the National Museum of Nature and Science, Tokyo is identified with *Shiva taiwanus*. In parenthesis, the species treated and figured by **MORIMOTO** (1964) as *N. formosensis* and **ALONSO-ZARAZAGA** (1989) as the type species of the genus *Psix*, which was renamed *Zherikhinia* (ALONSO-ZARAZAGA & **LYAL**, 1999) is based on misidentification (**KANTOH**, in prep.).

Though no biological information has ever been known for the genus, *Lagerstroemia* species will become a good place to look for the biology of this species as well as the other species possibly occurring in the intervening area of the range.
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要約

関東准之助・小島弘昭: Shiva 属チビソウムシの台湾からの発見と1新種の記載（コウチュウ目チビソウムシ科）。——チビソウムシ科の Shiva 属は、これまでにインドから6種が知られていたが、今回、台湾から1新種を見出し、Shiva taiwanus sp. nov. と命名し記載した。本属の寄主植物は未知であったが、本新種はミソハギ科のシマサルスベリ Lagerstroemia subcostata から複数種のチビソウムシ、特にオオチビソウムシ Nanophyes formosensis と混じって採集された。また、興味深いことに本種とオオチビソウムシは、所属が異なるにもかかわらず色彩、模様などが非常によく似て混同しやすいか、触角中間節の数が異なることから容易に区別可能である。

References