

Beldonea* Cameron (Hymenoptera, Tenthredinidae, Tenthredininae) new to Thailand, and the males of *B. okutanii* and *B. impunctata

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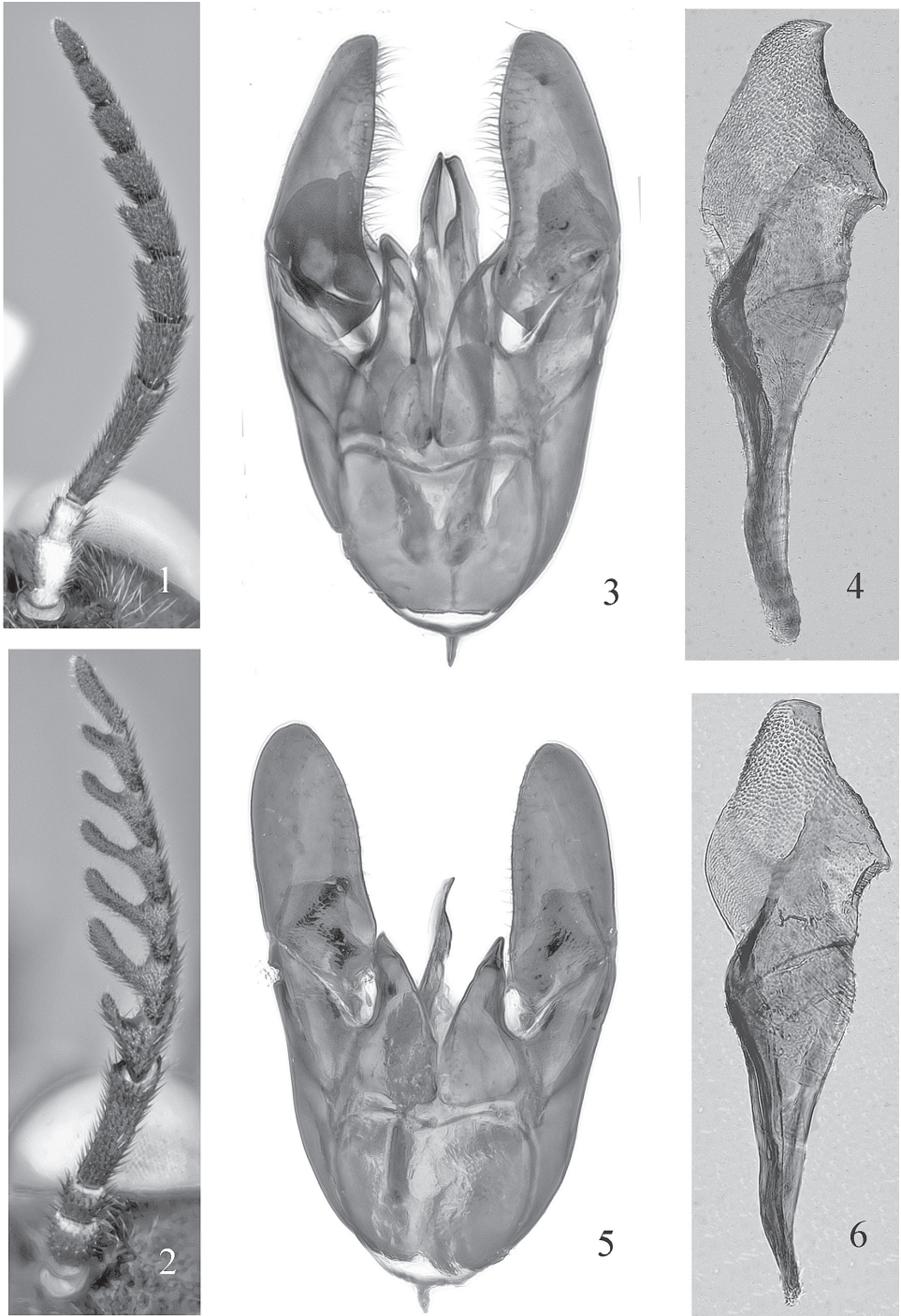
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Beldonea Cameron is an unusual genus of Tenthredininae, which, in part, is distinguished from other genera of the subfamily by the serrate antennae of the female (Fig. 1) and pectinate antennae of the male (Fig. 2). Lacourt (1996) proposed a new subfamily and new tribe of Tenthredininae, Beldoneinae and Beldoneini, for this genus, including only *Beldonea* and synonymizing *Flagellaria* Saini et al. Almost simultaneously, Wei (1997) proposed a new tribe, Beldoneini, including four genera, *Beldonea*, *Flagellaria*, *Cromaphya* Rohwer, and *Oculocornia* Wei. Lacourt's (1996) synonymy of *Beldonea* and *Flagellaria* was followed by Saini et al. (2006), Saini (2007), and Taeger et al. (2010). However, Wei et al. (2006) chose to keep *Flagellaria* as a distinct genus. In different chapters in the same book, *Flagellaria* is treated as a valid genus (Wei et al. 2006) and as a synonym of *Beldonea* (Saini et al. 2006). Here, I follow Lacourt (1996), Saini et al. (2006), Saini (2007), and Taeger et al. (2010), although Wei (1997) makes some good justification for keeping *Flagellaria* valid, e.g., the 10-segmented, serrate antenna (Figs 1, 2), absence of antennal organs, round metepimeral appendage, and impunctate mesopleuron.

The genus and species, *Beldonea impunctata* (Wei), are recorded from Thailand for the first time. The presence of the genus in Thailand is not surprising since it has been recorded from Malaysia (Malay Peninsula), China (Hainan and Yunnan), and north-eastern India (as *Flagellaria*, Wei 1997). Five species of *Beldonea* are listed by Taeger et



Figures 1–6. Antennae and male genitalia. **1** Female antenna of *Beldonea impunctata*. **2** Male antenna of *B. impunctata* **3** Male genital capsule, ventral, of *B. impunctata* **4** Penis valve, lateral, of *B. impunctata* **5** Male genital capsule, ventral, of *B. okutanii* **6** Penis valve, lateral, of *B. okutanii*.

al. (2010), *B. lubens* (Konow) and *B. okutanii* (Saini et al.) from India, *B. pendleburyi* (Forsius) from the Malay Peninsula, and *B. impunctata* (Wei) and *B. fumosa* Wei from China. Females of the Thai specimens clearly key to *B. impunctata*, described from Yunnan, in Wei's (1997) key to the four *Flagellaria* species. However, the malar space used by Wei (1997: 6, couplet 2) is invalid because *B. okutanii* has a linear malar space as do the other species, not broad as described by Saini et al. (1985).

The male of *B. impunctata* was unknown, but the series from Thailand associates the sexes, and the male is here separated from that of *B. okutanii* from India. Both are distinguished from *B. fumosa* Wei by the rounded apex of the penis valve (Figs 4, 6) as opposed to the acute apex in *B. fumosa* (Wei 1997, fig. 11). The color and antennal characters for *B. impunctata* and *B. okutanii* are identical and the only notable differences are in the genitalia. The general shape of the penis valve of *B. impunctata* (Fig. 4) is similar to that of *B. okutanii* illustrated by Lacourt (1996, fig. 57), Saini et al. (1985, fig. 15), and Saini (2007, fig. 652), although the illustrations of these authors slightly differ. These authors do not illustrate the genital capsule. The genital capsule and penis valve of both species are compared in Figs 3–6. In *B. impunctata* (Figs 3, 4), the inner margin of the harpe is more strongly indented, the parapenis is somewhat longer and more slender, and the penis valve has a somewhat stronger hook at its apex and longer and more slender valvura. In *B. okutanii* (Figs 5, 6), the inner margin of the harpe is almost straight, the parapenis is somewhat shorter and stouter, and the penis valve has a less defined hook at the apex and the valvura is broadened almost to the base. The punctures on the mesoscutellum also may be of some help. In *B. okutanii*, they are more numerous and as close or closer together than the shiny interspaces, whereas in *B. impunctata*, the punctures are less numerous and farther apart than the shiny interspaces.

New records for *B. impunctata* are as follows: THAILAND: Phetchabun, Khao Kho NP, deciduous forest at Ta Pol river, 16°32.539'N, 101°2.483'E, 242 m, Malaise trap, 26.v-2.vi.2007, Sonchai Chachumnan & Saink Singtong leg, T2558 (1 ♂); Kamphaeng Phet, Mae Wong NP, Chong Yen, 16°5.968'N, 99°6.472'E, 1306 m, Malaise trap, 1–8.x.2007, Chumpol Piluk & Aram Inpuang leg, T2816 (1 ♂); Kamphaeng Phet, Mae Wong NP, Chong Yen, 16°5.212'N, 99°6.576'E, 1306 m, Malaise trap, 14–21.iv.2008, Piluek C. leg, T3633 (1 ♂); Kamphaeng Phet, Mae Wong NP, Chong Yen, 16°5.968'N, 99°6.472'E, 1306 m, Malaise trap, 3–10.ix.2007, Chumpol Piluk & Aram Inpuang leg, T2812 (1 ♀, 1 ♂); Chiang Mai, Doi Phahompok NP, Headquarter, 19°57.961'N, 99°9.355'E, 569 m, Malaise trap, 18–25.vii.2007, Seesom. K. leg, T2947 (1 ♂); Chiang Mai, Doi Phahompok NP, Headquarter, 19°57.961'N, 99°9.355'E, 569 m, Malaise trap, 25.vii-1.viii.2007, Wongchai. P. leg, T2951 (1 ♂); Chiang Mai, Doi Chiangdao NP, Pha Tang substation, 19°24.978'N, 98°54.886'E, 526 m, Malaise trap, 4–11.ix.2007, S. Jugsu & A. Watwanich leg, T5682 (1 ♂); Chiang Mai, Doi Phahompok NP, Headquarter, 19°57.961'N, 99°9.355'E, 569 m, Malaise trap, 1–7.viii.2007, Wongchai, P. leg, T2949 (2 ♀). Specimens are deposited in the Queen Sirikit Botanical Garden Entomological Collection, Chiang Mai, Thailand, and the National Museum of Natural History, Washington, D.C., USA (USNM).

I have examined a female and a male of *B. okutanii* collected from the type locality: India, Sikkim, Gangtok, 1750 m, 11-5-86, M. Saini (USNM).

Acknowledgments

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