

TWO NEW SPECIES OF *GILPINIA* (HYMENOPTERA: DIPRIONIDAE) FEEDING ON *PINUS KESIYA* IN THAILAND

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Abstract.—*Gilpinia leksawasdii*, n. sp., and *G. paitooni*, n. sp., are described. Larvae of both species feed on *Pinus kesiya* in Thailand. Both are differentiated from other Diprionidae known from Thailand, and *G. leksawasdii* is distinguished from *G. socia* (Klug), a European species with which it has close affinities.

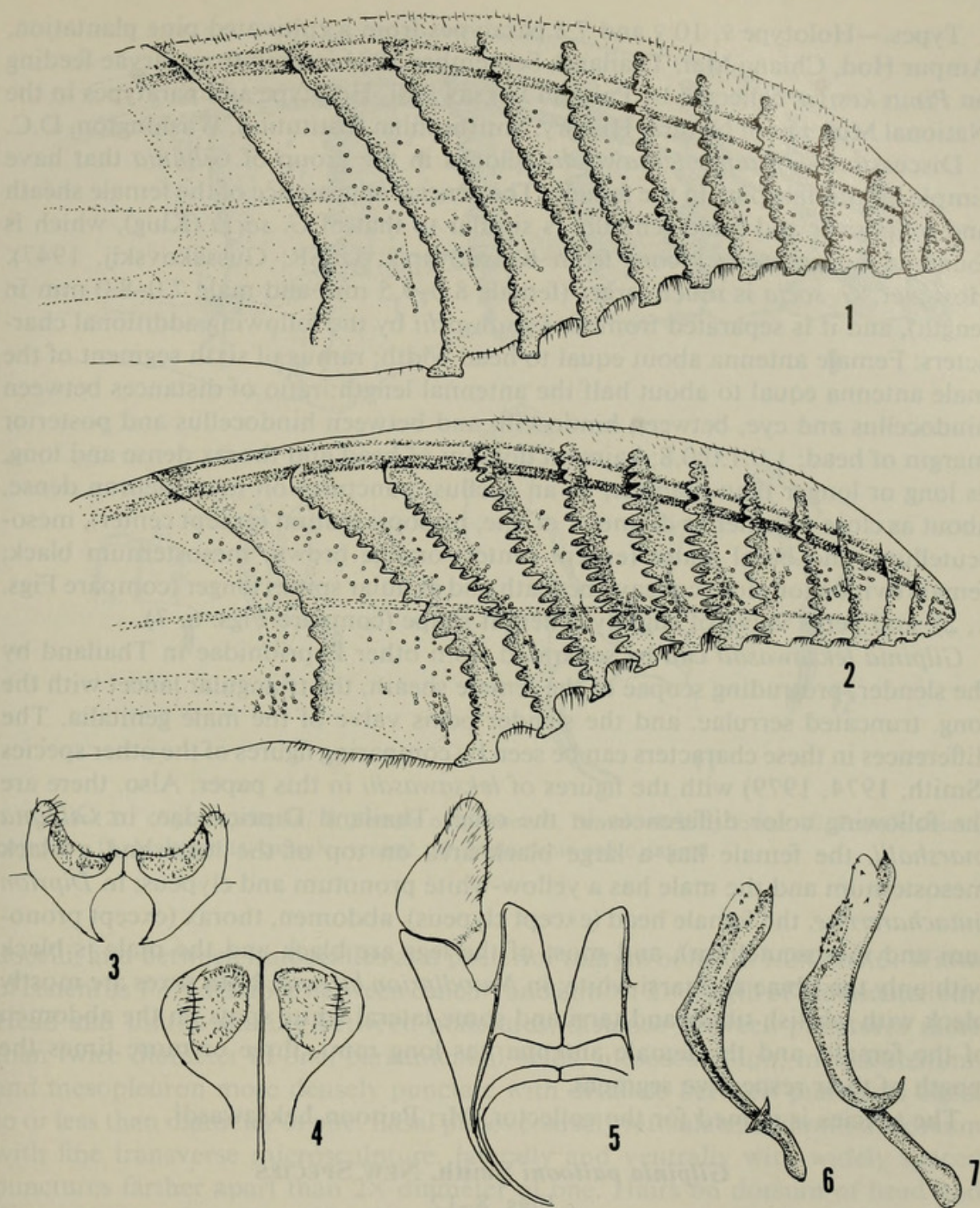
Three species of Diprionidae have been reported from Thailand: *Gilpinia marshalli* (Forsius) and *Nesodiprion biremis* (Konow) (Smith, 1974), and *Diprion hutacharernae* Smith (Smith, 1979). All feed on *Pinus* spp. Two additional species of *Gilpinia*, reared from *Pinus kesiya* Royle ex Gordon, are described here. The specimens were sent to me by Mr. Paitoon Leksawasdi, Biology Department, Faculty of Science, Chiang Mai University, Chiang Mai, Thailand.

Gilpinia leksawasdii Smith, NEW SPECIES

Figs. 1, 3-6

Female.—Length, 7.0-7.5 mm. Orange brown with following black: Antenna (except 1st segment); interocellar area; mesonotum (except lateral margins of lateral lobes and anterior half or most of scutellum in some specimens, and lateral margins of prescutum); sometimes narrow anterior margin of pronotum and mesal margin of cervical sclerite; and basal plates (except lateral margins). Extreme apices of femora and most of tibiae whitish. Wings hyaline; costa amber, remaining veins and stigma blackish.

Antenna serrate, 18-19 segmented, $\frac{2}{3}$ width of head, rami of segments 5-13 equal to width of respective segments. Clypeus subtruncate; malar space $2\times$ diameter of an ocellus and equal to $\frac{2}{3}$ distance between antennae; postocellar area $1\frac{3}{4}\times$ broader than long; ratio of distances between hindocellus and eye, between hindocelli, and between hindocellus and posterior margin of head: 1.0:0.7:0.8. Width of cenchrus $2\times$ distance between cenchri and $2\times$ length of metascutellum. Head and thorax (except mesoscutellum and metascutellum) shining, with widely spaced punctures, distance between punctures more than twice diameter of one; mesoscutellum and metascutellum more densely punctate, distance between punctures equal to or little more than diameter of one and surface with fine microsculpture. Abdomen with fine transverse microsculpture. Hairs on dorsum of head and thorax shorter than diameter of an ocellus. Hindtibial spurs simple. Sheath (Figs. 3, 4) with slender protruding scopae. Lancet (Fig. 1) with 12 annuli; annular spines short; serrulae on segments 2-7 or 8 protruding, rectangular, each truncate at apex.



Figs. 1-7. 1, 3-6, *Gilpinia leksawasdii*. 2, 7, *G. socia*. 1, 2, Female ovipositors. 3, Female sheath, dorsal. 4, Female sheath, posterior. 5, Genital capsule, ventral. 6, 7, Penis valves, lateral.

Male.—Length, 5.0–5.3 mm. Black with following orange brown: Palpi; lateral downturned portions of terga; sterna; and legs beyond 1st or 2nd trochanteral segments. Extreme apex of each coxa may be orange brown; extreme apices of femora and most of tibiae usually whitish. Antenna pectinate, 20–21 segmented; rami on segments 3 to apex, ramus of 6th segment equal to about $\frac{2}{3}$ length of antenna. Ratio of distances between hindocellus and eye, between hindocelli, and between hindocellus and posterior margin of head: 1.0:0.8:0.5. Genitalia as in Figs. 5, 6. Other features as for female.

Types.—Holotype ♀, 10 ♀ and 7 ♂ paratypes from a cultivated pine plantation, Ampur Hod, Chiang Mai, Thailand, September 1981, reared from larvae feeding on *Pinus kesiya*; collected by Paitoon Leksawasdi. Holotype and paratypes in the National Museum of Natural History, Smithsonian Institution, Washington, D.C.

Discussion.—*Gilpinia leksawasdi* belongs in the group of *Gilpinia* that have simple hindtibial spurs in the female. The general appearance of the female sheath and ovipositor and male genitalia is similar to that of *G. socia* (Klug), which is found in Europe (one record from Krasnoyarsk, USSR; Gussakovskij, 1947). However, *G. socia* is much larger (female 8.0–9.5 mm and male 7.0–8.0 mm in length), and it is separated from *G. leksawasdi* by the following additional characters: Female antenna about equal to head width; ramus of sixth segment of the male antenna equal to about half the antennal length; ratio of distances between hindocellus and eye, between hindocelli, and between hindocellus and posterior margin of head: 1.0:1.0:0.8; hairs on dorsum of head and thorax dense and long, as long or longer than diameter of an ocellus; punctures on mesopleuron dense, about as close together as diameter of one; mesoprescutum (except center), mesoscutellum, and basal plates (except center) orange brown; mesosternum black; female ovipositor more concave beneath and annular spines longer (compare Figs. 1, 2); and penis valve of slightly different shape (compare Figs. 6, 7).

Gilpinia leksawasdi can be separated from other Diprionidae in Thailand by the slender, protruding scopae of the female sheath, the triangular lancet with the long, truncated serrulae, and the slender penis valve of the male genitalia. The differences in these characters can be seen by comparing figures of the other species (Smith, 1974, 1979) with the figures of *leksawasdi* in this paper. Also, there are the following color differences in the other Thailand Diprionidae: in *Gilpinia marshalli*, the female has a large black area on top of the head and a black mesosternum and the male has a yellow-white pronotum and clypeus; in *Diprion hutacharernae*, the female head (except clypeus), abdomen, thorax (except pronotum and mesoscutellum), and most of the legs are black and the male is black with only the tibiae and tarsi white; in *Nesodiprion biremis*, both sexes are mostly black with whitish tibiae and tarsi and some lateral white spots on the abdomen of the female, and the female antenna has long rami, three or more times the length of their respective segment.

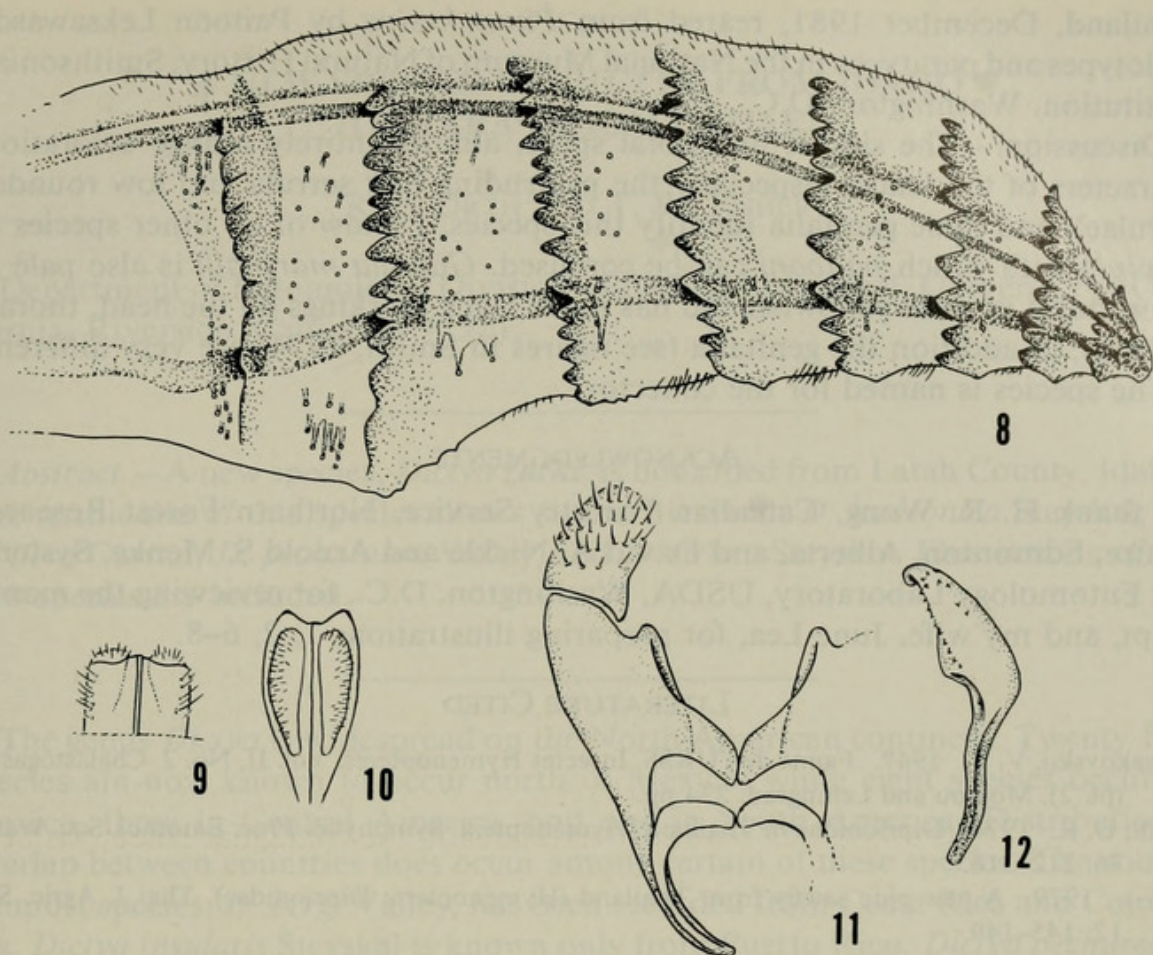
The species is named for the collector, Mr. Paitoon Leksawasdi.

Gilpinia paitooni Smith, NEW SPECIES

Figs. 8–12

Female.—Length, 7.8–8.4 mm. Antenna black, segments 1 and 2 orange brown. Head and body orange to orange brown; mandible dark reddish; margins of ocelli, sutures of mesonotum, and narrow inner margins of lateral lobes of mesonotum black; basal $\frac{1}{3}$ of tibiae whitish; abdomen paler orange than head and thorax. Wings hyaline; costa and subcosta light brown, stigma and other veins dark brown to black.

Antenna serrate, 17–18 segmented, $1\frac{1}{6}\times$ head with, rami of segments 5–12 equal to width of respective segments. Clypeus subtruncate; malar space $2\times$ diameter of an ocellus and equal to distance between antennae; postocellar area $2\times$ broader than long; ratio of distances between hindocellus and eye, between hin-



Figs. 8–12. *Gilpinia paitooni*. 8, Female ovipositor. 9, Female sheath, dorsal. 10, Female sheath, posterior. 11, Male genital capsule, ventral. 12, Male penis valve, lateral.

docelli, and between hindocellus and posterior margin of head: 1.0:0.9:0.6. Width of cenchrus $1\frac{1}{2}\times$ distance between cenchri and almost $2\times$ length of metascutellum. Head and thorax shining between punctures, distance between punctures more than twice diameter of one; paraantennal fields, mesoscutellum, metascutellum, and mesopleuron more densely punctate with distance between punctures equal to or less than diameter of one. Basal plates coarsely reticulate; abdominal dorsum with fine transverse microsculpture, laterally and ventrally with widely spaced punctures farther apart than $2\times$ diameter of one. Hairs on dorsum of head and thorax shorter than diameter of an ocellus. Hindtibial spurs simple. Sheath (Figs. 9, 10) without protruding scopae, scopae stout. Lancet (Fig. 8) with 9 annuli; annuli 2 and 3 divergent; serrulae low, rounded, serrula of 2nd annulus protruding ventrally.

Male.—Length, 5.5–6.0 mm. Black; palpi white; mandible dark reddish; venter of abdomen and legs beyond trochanters dark orange. Antenna pectinate, 21–22 segmented with rami on segments 3 to apex, ramus of 6th segment equal to about $\frac{3}{5}$ length of antenna. Ratio of distances between hindocellus and eye, between hindocelli, and between hindocellus and posterior margin of head: 1.0:1.0:0.5. Genitalia as in Figs. 11, 12. Other features as for female.

Types.—Holotype ♀, 12 ♀ and 4 ♂ paratypes from Pui Mountain, Chiang Mai,

Thailand, December 1981, reared from *Pinus kesiya* by Paitoon Leksawasdi. Holotypes and paratypes in the National Museum of Natural History, Smithsonian Institution, Washington, D.C.

Discussion.—The simple hindtibial spurs, almost entirely orange coloration, characters of the lancet (especially the protruding first serrula and low rounded serrulae), and male genitalia identify this species. I know of no other species of *Gilpinia* with which *paitooni* can be confused. *Gilpinia marshalli* is also pale in color, but it is more yellowish and has more black markings on the head, thorax, and legs; in addition the genitalia (see figures in Smith, 1974) are very different.

The species is named for the collector.

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