

Pamphilius nitidiceps, a New Species of Leaf-rolling Sawfly
(Hymenoptera, Pamphiliidae) from China

Akihiko Shinohara

Department of Zoology, National Science Museum,
Hyakunin-chô 3–23–1, Shinjuku-ku,
Tokyo, 169–0073 Japan

Abstract A new species of leaf-rolling sawfly, *Pamphilius nitidiceps*, is described on the basis of a female specimen collected at the central part of the Qin Ling Mountains in central Shaanxi, central China. The new species is well characterized by its pale coloration, mostly smooth, shining and glabrous head with strongly swollen upper part of frons and facial crests, deep incision between middle and apical teeth of the right mandible, absence of middle tooth in the left mandible, and maculated forewings.

Key words: Hymenoptera, Pamphiliidae, *Pamphilius nitidiceps*, new species, China.

The Chinese fauna of the Holarctic leaf-rolling sawfly genus *Pamphilius* Latreille, 1802, is little known. Of about 90 described world species of the genus, only six have been recorded from this vast country (Shinohara *et al.*, 1988, in press). These six species should doubtless represent only a small portion of the actual *Pamphilius* fauna of China, in view of the fact that, for example, more than 30 species have been recorded from Japan and 17 species from Korea (Shinohara, 1997).

I have recently examined a female specimen of a seventh Chinese species of the genus to be described as a new species in the following lines. The specimen was captured by Mr. T. Yagi, a member of the Sino-Japanese entomological expedition to the mountains of Shaanxi, 1997, at the central part of the Qin Ling Mountains in central Shaanxi, central China.

I wish to thank Mr. T. Yagi, the Museum of Nature and Human Activities, Hyogo, Sanda, for his careful attention to collect sawflies during the expedition and Prof. T. Naito, Kobe University, Kobe, for his help in various ways. My thanks are also due to Dr. S.-I. Uéno, National Science Museum, Tokyo, for reviewing the manuscript. This work is supported in part by the Grant-in-aid for Scientific Research No. 07640943 from the Ministry of Education, Science, Sports and Culture, Japan, and the Grant-in-aid No. 07041141 for Field Research of the Monbusho International Scientific Research Program, Japan.

Pamphilius nitidiceps sp. nov.

(Figs. 1, 2 A, C)

Female (holotype). Length ca. 11 mm. Head dark orange, with clypeus, inner orbit, paraantennal field, and lower part of gena suffused with pale yellow, and broad transverse band across ocellar area and entire postocellar area black with the exception of a large posteromedian subtriangular area of the latter. Mandibles pale yellow basally, gradually darkened towards dark rufous apex. Antenna pale yellow, gradually darkened towards apex and with blackish apical segments (beyond 14th or 15th); scape, pedicel and 1st flagellar segment slightly tinted with orange. Thorax black, with tegula yellow and the following dark orange: pronotum (ventral part somewhat pale yellowish and obscure spot at each anterior dorsolateral part blackish); cervical sclerite, excepting broad lateral band; posterior half of mesoscutal median lobe; three vertical lines on mesoscutal lateral lobes, extending from posterior margin of median lobe to mesoscutellum, medial one on borders of the lobes posteriorly much narrowed, and lateral ones each swollen outwardly at middle; rather obscure but large spot at posterolateral corner of each mesoscutal lateral lobe; entire mesoscutellum and obscure median spot on posttergite; large median part of metanotum, including entire metascutellum; large spot at dorsal margin of metepisternum. Legs pale yellow, with narrow coxal bases black. Wings hyaline, very slightly stained with blackish brown; forewing with distinct cloud covering area around vein 2r-rs, apical half of cell 1Rs, entire 2Rs, apical 3/4 of 2M, and adjacent part of cells 3M and 3Cu; veins C, Sc, R, R1, and bases of M+Cu and 1A pale brown and other veins blackish brown to black; stigma with anterior margin orange and the rest with basal 1/3–1/2 pale yellow and apical 2/3–1/2 black. Abdomen orange, ventrally yellowish, with most of propodeum, narrow anterior margin of 2nd tergum and caudal part, including 6th to 9th terga and 7th sternum, black; posterior margin of terminal tergum, cercus, saw-sheath and posteromedian part of 7th sternum dark orange to dark brown.

Upper frons below ocelli strongly convex, with rather shallow, sharply defined longitudinal furrow (median notch) extending from ocellar basin (but almost obsolete on dorsal surface) to rather shallow punctiform median fovea; ocellar basin represented by deep broad furrow around median ocellus and its anterolateral extensions reaching antennal furrows; frontoclypeal crest low, rounded; facial crest strongly roundly inflated, not carinate, terminating just before reaching inner orbit. Head smooth, shining and almost impunctate; clypeus, ventral part of frons, and gena with sparse, inconspicuous punctures; head glabrous, except for very sparsely pilose clypeus and more densely pilose gena. Right antenna with 23 segments and left one 22; 3rd segment about 2.5 times as long as 4th. Tarsal claw without distinct basal lobe and inner tooth shorter than outer one. Forewing with cell C pilose all over. Saw-sheath (Fig. 1 D) with elongate, apically pilose peg.

Male. Unknown.

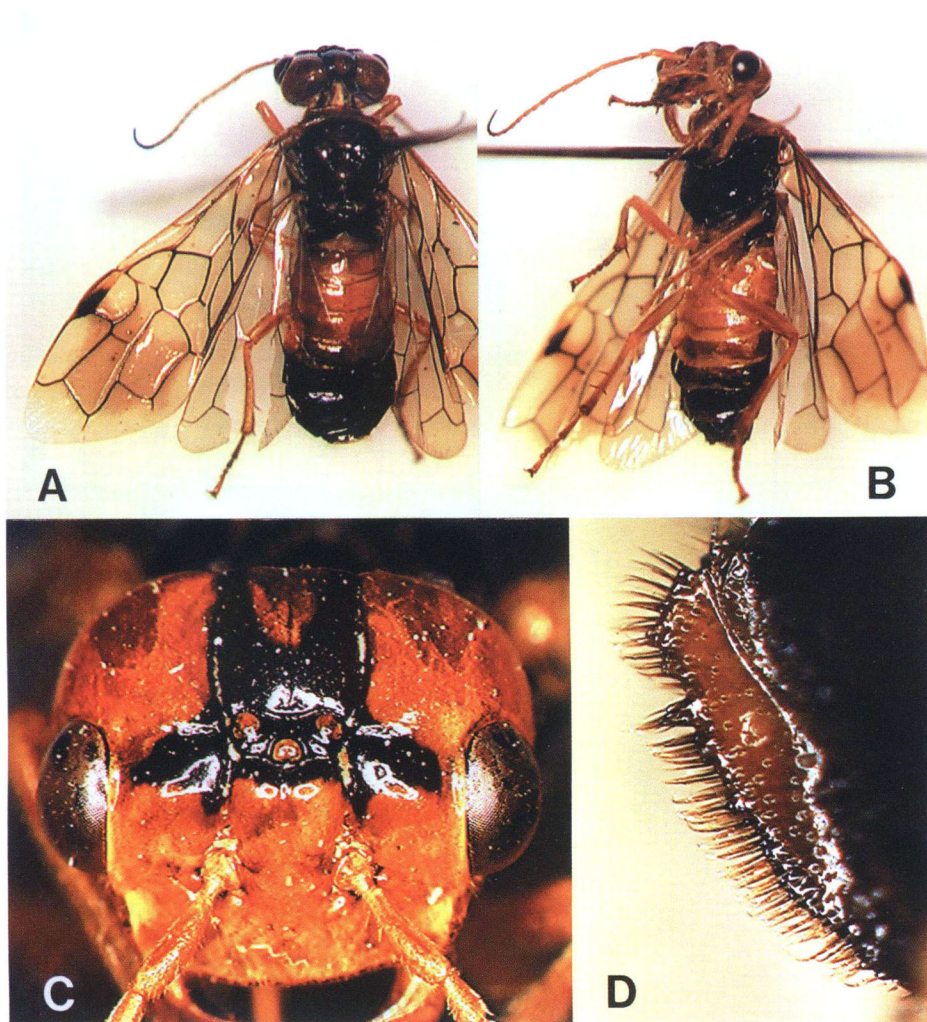


Fig. 1. *Pamphilius nitidiceps* sp. nov., ♀, holotype. — A, Dorsal view; B, lateroventral view; C, head, dorsofrontal view, width of head 3.1 mm; D, sawsheath, lateral view, height of sawsheath 0.78 mm.

Distribution. China (Shaanxi).

Holotype: ♀, “[Shaanxi: Fuping-x.], Liangfengya [33°40’N, 107°52’E], 2,000–2,100 m, 12 km WNW Longcaoping, 24 Jun. 1997, T. Yagi.” Deposited in Beijing University.

Etymology. The new specific epithet refers to the smooth, shining head of the new species.

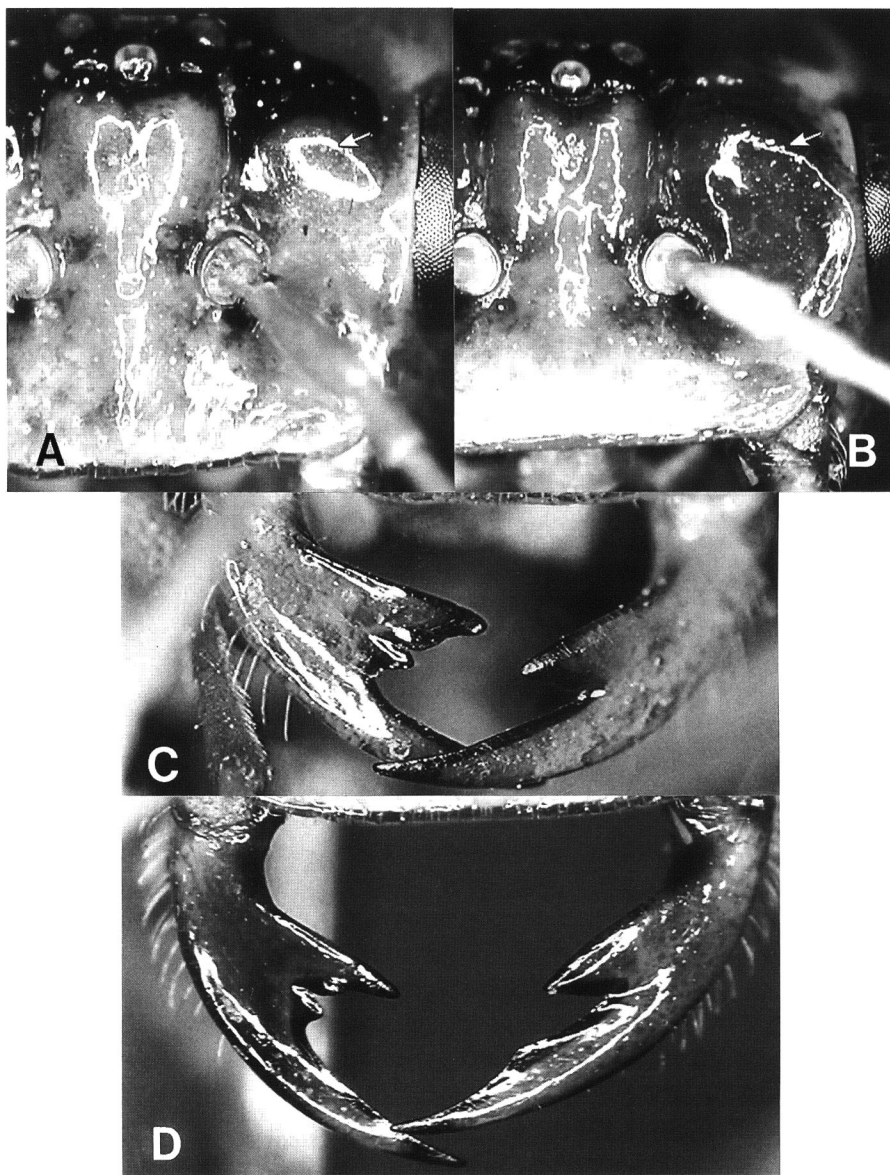


Fig. 2. *Pamphilius nitidiceps* sp. nov., ♀, holotype (A, C) and *Pamphilius takeuchii* Beneš, 1972, ♀, Minoto, Mts. Yatsugatake, Nagano Pref. (B, D).—A–B, Part of head, frontal view (facial crest arrowed); C–D, mandibles, dorsofrontal view.

Remarks. *Pamphilius nitidiceps* sp. nov. is well characterized by its pale coloration, mostly smooth, shining and glabrous head with strongly swollen upper part of frons and facial crests (Figs. 1 A–C, 2 A), deep incision between middle and apical teeth of the right mandible (Fig. 2 C), absence of middle tooth in the left mandible (Fig. 2 C), and maculated forewings (Fig. 1 A–B).

With only a female specimen available, placement of this new species in existing species-groups, which are largely based on male genitalic characters, cannot be decisive; however, the structure of the head, long 3rd antennal segment, pilose cell in the forewing as well as general color pattern may suggest its close affinity to the species of the *komonensis* subgroup of the *alternans* group (Shinohara, 1991). Within the *komonensis* subgroup, *P. nitidiceps* most closely resembles the Japanese species *P. takeuchii* Beneš, 1972, to which it would run in Shinohara's (1991) key to the members of the *alternans* group. The two species can be separated by the following key:

1. Facial crest roundly swollen, not carinate, outer part terminating just before reaching inner orbit (Fig. 2 A); right mandible with incision between middle and apical teeth very deep (Fig. 2 C); left mandible without middle tooth (Fig. 2 C); antenna pale yellow, with only segments beyond 14th or 15th blackish, the color changing rather gradually; cervical sclerite orange, with broad black band laterally; mesonotum and metanotum marked with dark orange but no pale yellow marking; black marking on stigma large, occupying apical 1/2–2/3 except for anterior margin (Fig. 1 A–B).....*P. nitidiceps*
- Facial crest bluntly carinate, outer part continuous along inner orbit to clypeal margin (Fig. 2 B); right mandible with incision between middle and apical teeth rather shallow (Fig. 2 D); left mandible with middle tooth (Fig. 2 D); antenna pale yellow, with segments beyond 6th–10th blackish, the boundary rather sharp; cervical sclerite usually entirely black, seldom marked with orange; mesonotum and metanotum usually marked with dark orange and pale yellow, at least spot on each mesoscutal lateral lobe, mesoscutellum and metascutellum pale yellow; black marking on stigma small, occupying only apical posterior corner.....*P. takeuchii*

The absence of the median tooth of the left mandible is known for several species of *Onycholyda* and *Pamphilius* (Shinohara, 1991; Shinohara & Byun, 1993). In *Pamphilius*, three species, *P. lethierryi* (Konow, 1881) and *P. cilix* Konow, 1897, of the *lethierryi* subgroup of the *alternans* group, and *P. basilaris* Shinohara, 1982, the only member of the *basilaris* group, share this character. From these three species, *P. nitidiceps* is distinguishable by a combination of very smooth and glabrous upper part of the head, strongly swollen upper part of the frons and facial crests, entirely pale yellow femora of all legs and entirely hyaline basal half of the forewing.

References

- Shinohara, A., 1991. *Pamphilius alternans* (Hymenoptera, Pamphiliidae) and its close relatives. *Bull. natn. Sci. Mus., Tokyo*, Ser. A, **17**: 25–63.
- Shinohara, A., 1997. *Pamphilius kimi*, a new species of leaf-rolling sawfly (Hymenoptera, Pamphiliidae) from Korea. *Jpn. J. syst. Ent.*, **3**: 227–230.
- Shinohara, A. & B. K. Byun, 1993. Pamphiliid sawfly genera *Neurotoma* and *Onycholyda* (Hymenoptera, Symphyta) of Korea. *Insecta koreana*, **10**: 75–91.
- Shinohara, A., D. Dong & T. Naito, in press. *Pamphilius tibetanus* (Hymenoptera, Pamphiliidae) and its close relatives. *Jpn. J. syst. Ent.*, **4**.
- Shinohara, A., T. Naito & F.-S. Huang, 1988. Pamphiliid sawflies (Hymenoptera) from Xizang (Tibet) and Sichuan, China. *Annl. Soc. ent. France*, (N. S.), **24**: 89–97.