

Pamphiliid Sawflies (Hymenoptera) from India

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Abstract *Pamphilius himalayanus* n. sp. from Himachal Pradesh, India, is described and illustrated. It is the second species of the Pamphiliidae recorded from India and most closely related to *P. tibetanus* from Tibet. New collecting records and notes on variation are given for *P. kashmirensis*, and the male genitalia are illustrated for the first time.

The sawfly family Pamphiliidae of India is little known. *Pamphilius kashmirensis* BENEŠ, described from Kashmir (BENEŠ, 1971), is the only species of the family previously recorded from this country.

A peculiar, apparently new pamphiliid was collected by the junior author during his field survey in the Manali area, Himachal Pradesh, in 1980. Every effort has been made ever since to rediscover the species but without success. Considering the distinctiveness of the new species and difficulties in obtaining additional material in the near future, we have decided to describe it in the following lines. The new species, *P. himalayanus*, belongs to the *tibetanus* group (SHINOHARA *et al.*, 1988) and differs from other congeners in the peculiar structure of the head and the mostly yellow coloration.

With the discovery of the new species, two species of the genus *Pamphilius* are now known to occur in India, both endemic to the subalpine zone of the Himalayan Range. In this paper, we will also give accounts of *Pamphilius kashmirensis* mainly on the basis of newly obtained material.

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Pamphilius himalayanus n. sp.

(Fig. 1 A-E)

Female (holotype). Head yellow, slightly darker between eyes, with black marking as in Fig. 1 A-C; mark covering ventral part of cervix and neighboring part of paraoccipital region, and all maxillariae black; mandible yellow, with rufous apex; antenna yellow, with apical 4 segments blackish. Thorax black, with the following parts yellow: posterior half of dorsal pronotum (excepting narrow median part), lateral pronotum (excepting narrow posterior margin), tegula, posterior half of mesonotal median lobe, each mesonotal lateral lobe (excepting broad lateral margin, narrow border of median lobe and parascutellar area, which are black, and broad anterior portion, which is light brown), mesoscutellum, mesepisternum (excepting very narrow anteroventral margin and most of preepisternum), mesepimeron (excepting anterior corner and oblong mark along ventral margin), convex area of metasutum, metascutellum, metepisternum (excepting ventral corner), and metepimeron (excepting anterior corner and oblong mark along ventral margin); legs yellow, with narrow coxal bases black. Wings very distinctly stained with light brown; stigma, veins C, Sc and those in basal third of forewing light brown, and other veins dark brown to blackish. Abdomen dark yellow, paler ventrally, with small lateral spot on each tergum (almost absent on 4th to 6th segments) black.

Head (Fig. 1 A-C) with very small eye and very broad postocular area; postgenal carina distinct laterally but obsolete before attaining posterior end of lateral suture; lateral sutures subparallel, each nearly straight, very broad; facial crest strongly convex, carinate; antennal furrow nearly obsolete above level of facial crest; upper frons below ocelli very strongly, pyramidally raised, without median notch, extending ventrally as well-developed, rounded frontoclypeal crest onto clypeus; ocellar basin shallow, inconspicuous; median fovea indistinct; median part of anterior margin of clypeus strongly produced and irregularly toothed. Upper part of head behind transverse and lateral transverse sutures with dense, very large (diameter about a half of that of lateral ocellus), deep punctures, narrow interspaces generally weakly (in anterior part heavily) coriaceous; area from these sutures down to level of antennal socket with very dense, coarse punctures, mat; top of frontoclypeal crest, ventral part of para-antennal field, and clypeus smooth with sparse, rather shallow punctures (area between antennal sockets with several large deep punctures and anterior part of clypeus more densely punctate); gena with very dense, large, coarse punctures; punctate area of head covered with dense long lanate golden hairs (those on vertex slightly longer than diameter of lateral ocellus). Mandibles as in Fig. 1 D. Antenna with 22 segments; 3rd segment about 1.4 times as long as 4th, with apex strongly oblique. Tarsal claw (Fig. 1 E) with small basal lobe and inner tooth thicker and slightly shorter than outer one. Forewing with cells C and Sc1 glabrous throughout.

Measurements (in mm): Length 14.5, forewing length 13.0, head width 3.78, thorax width 4.47, scape length 0.86, pedicel length 0.40, 3rd antennal segment length

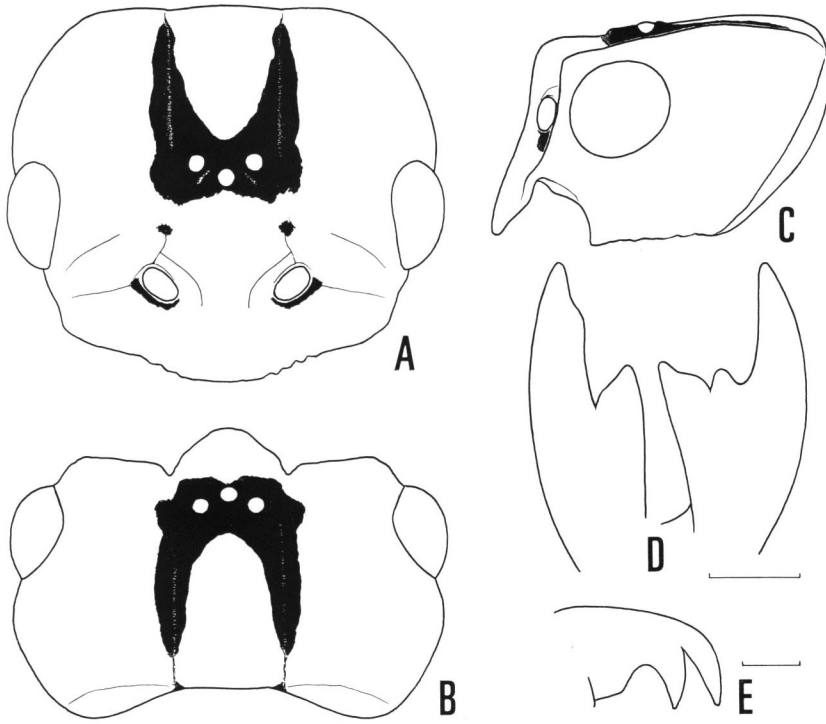


Fig. 1 A–E. *Pamphilius himalayanus* n. sp., ♀, holotype; A–C, head; D, mandibles; E, tarsal claw. Scale: 1 mm for D, 0.1 mm for E.

0.85, 4th antennal segment length 0.59, 5th antennal segment length 0.54, malar space 0.41, distance between proximal margins of antennal sockets 0.93, distance between antennal socket and inner orbit 0.76, vertex (length $\times$ width) 1.38×1.03 , eye (shortest diameter $\times$ longest diameter) 0.88×0.96 , hind tibia length 4.47.

Male. Unknown.

Distribution. India (Himachal Pradesh).

Holotype: ♀, "Gulaba, Manali, H. P. (India), 15. VI. 1980," "Alt. 2,750 m, Temp. 21.5°C, Humid. 65%." In Government College, Talwara.

Host plant. Unknown.

Remarks. This new species is most closely related to *P. tibetanus* SHINOHARA, NAITO et HUANG from Tibet. These two species, together forming the *tibetanus* group, are well characterized by the strongly pitted, pilose head, with very small eyes, pyramidally convex upper part of frons, developed and carinate facial crest, and medially produced and irregularly toothed anterior margin of clypeus. These characters will serve to separate the two species from other species of the genus. From *tibetanus*, *himalayanus* differs in having much paler coloration on the head and abdomen, dis-

tinctly light brownish wings, less conspicuous facial crest, more strongly convex frons, and the shape of the anterior margin of clypeus (compare Fig. 1 A–C with figs. 6–8 in SHINOHARA *et al.*, 1988).

Superficially, the new species resembles *Onycholyda birmanica* BENEŠ from north-eastern Burma, whose coloration is similar to that of the former. Besides the generic characters, the strongly pitted and densely pilose head will easily distinguish *P. himalayanus* from *O. birmanica*.

This is the second species of the Pamphiliidae recorded from India. The other species, *P. kashmirensis* BENEŠ, which is discussed below, is readily separated from *himalayanus* by a number of features, such as the predominantly black coloration, the long 3rd antennal segment, and the structure of the head.

Pamphilius kashmirensis BENEŠ

(Fig. 2 A–C)

Pamphilius kashmirensis BENEŠ, 1971, 311; BENEŠ, 1976, 170.

Distribution. India (Kashmir, Himachal Pradesh), Pakistan ("Murree Hills").

Specimens examined. ♀ (holotype), "Kashmir, Gulmarg," "16–VI–31, FLETCHER coll." (NRS); 1 ♂ (paratype), "Khillenmarg, 11,000', Gulmarg, Kashmir, C. F. C. BEESON, 28. V. 1928" (NRS); 1 ♀, 2 ♂, Khilanmarg, 3,200 m, nr. Gulmarg, Kashmir, 6–7. VI. 1981, A. SHINOHARA; 1 ♀, Lakkar Mandi, Dalhausie, Himachal Pradesh, 3. V. 1980; 8 ♀, Dalhausie, Himachal Pradesh, V. 1983; 1 ♂, "181," "Murree Hills, Punjab, 7,500 ft., May, 1920, DUTT coll." (USNM).

Variation. The female varies in length from 9.0 to 10.5 mm, and the male from 8.0 to 9.0 mm. Seventeen intact antennae of the female have 19 to 21 segments, with the 3rd segment about 2.4–3.0 times as long as the 4th, and five male antennae have 18 or 19 segments, with the 3rd segment about 2.5–2.8 times as long as the 4th.

The coloration varies as follows: Female:— In the specimen from Khilanmarg, the yellow genal spot is obscure and the pale marks on the 4th and 5th abdominal segments are reduced, leaving only 4th laterotergite and posterior margin of the 4th sternum yellow and 4th tergum above and 5th laterotergite marked obscurely with yellow or orange. In the specimens from Dalhausie, the yellow genal spot is very large and the anterior and lateral parts of the 5th abdominal tergum, in addition to the 4th, are sometimes orange. Male:— The yellow mark on the clypeus is fused with that on the paraantennal field and the prepectus of the mesepisternum is yellow-marked in one specimen from Khilanmarg and the specimen from the Murree Hills, while the yellow marks are separated by a black stripe and the prepectus lacks yellow marking in the other specimen from the former locality. In the Murree specimen, anterolateral corner of the 5th abdominal tergum is orange.

Host plant. Unknown.

Remarks. This species was known only from the type series collected in the Gulmarg area in Kashmir, but the collecting data enumerated above suggest that the

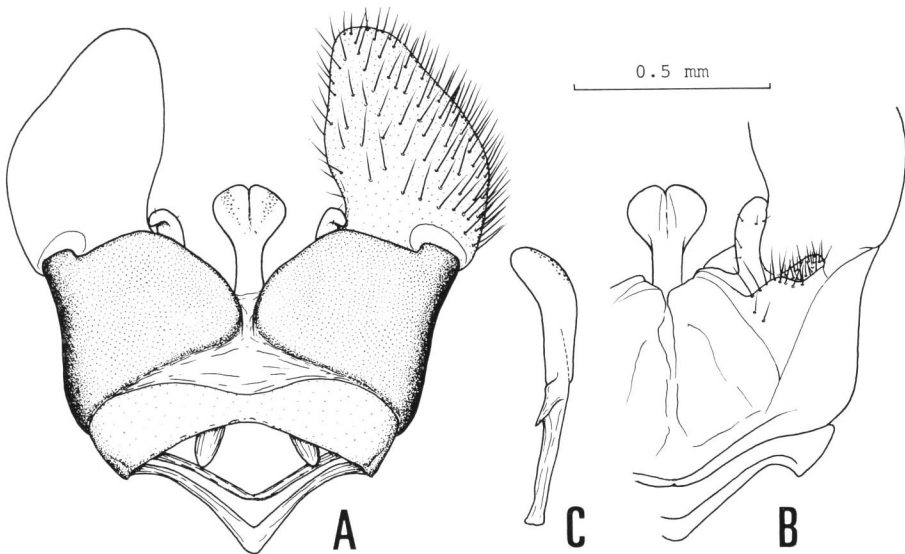


Fig. 2 A–C. *Pamphilius kashmirensis* BENEŠ, ♂, Khilanmarg, genitalia; A, dorsal aspect; B, ventral aspect; C, penis valve, lateral aspect.

species may be widely distributed in the western Himalayas.

The female of this species can easily be recognized by the head color pattern (figs. 1–2 in BENEŠ, 1971), long lanate pale hairs covering the head, long 3rd antennal segment, black mesepisternum (only prepectus yellow), distinctly brownish wings with blackish brown stigma, and the mostly black abdomen (usually only 4th and part of 5th segments and caudal parts pale-marked). The male is also recognizable by the same set of features, although yellow marks on the clypeus and paraantennal field are often connected, the prepectus is often black, and the posterior margin of each of 4th to 7th sterna and most of hypopygium are yellow; the long, apically widening valvifers in the genitalia (Fig. 2 A–C) is also characteristic.

BENEŠ (1971) noted that the stub of Cul (or cross-vein cu-a) in the forewing is long and slightly curved backward in the type series and that this condition might be characteristic of the species. Of the 15 specimens at hand, however, three (two females from Khilanmarg and Dalhausie, respectively, and a male from the Murree Hills) have the vein short and straight, thus suggesting unstable nature of this character.

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