THE IDENTITY OF *STENOPSYCHE GRISEIPENNIS* McLACHLAN (TRICHOPTERA, Family STENOPSYCHIDAE)

BY

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THE IDENTITY OF *STENOPSYCHE GRISEIPENNIS* McLACHLAN (TRICHOPTERA, Family STENOPSYCHIDAE)

By D. E. KIMMINS

THIS paper deals mainly with the identity of *Stenopsyche griseipennis* McLachlan, the type species of *Stenopsyche*, but records of the Stenopsychidae collected by Dr. R. Malaise during the Swedish Expedition 1934 to Burma and British India are also included.

It is with considerable reluctance that I re-open the much-discussed question of the identity of *Stenopsyche griseipennis* McLachlan, the type-species of the genus. My reason for so doing is that I am now in a position to study McLachlan's type specimen. His 1866 descriptions and figures were, for their time, adequate and he doubtless never imagined that the genus would eventually prove to include a large number of species. *S. griseipennis* was based on a single male, " Habitat in India orientali ", in his collection and later he added other specimens of *Stenopsyche* from Darjeeling, Assam and China.

In 1907 Ulmer figured as *griseipennis* the genitalia of a male from Baltistan and added Japan to its range, and subsequent authors gave as localities India, Sikkim, W. China, Siberia and Formosa. In July 1926, Ulmer returned to the problem and gave new figures and descriptions of the male genitalia, based on Chinese examples. In September of the same year Martynov produced a revision of the genus and gave figures and descriptions of his interpretation of *griseipennis*, based on examples from Korea, S. Ussuri, Manchuria and Altai. The Japanese form he described as *S. japonica* (subsequently synonymized with *S. marmoratus* Navás) and Ulmer's Baltistan male he placed in *S. himalayana*. Judging from a male from S. Ussuri, sent to Mosely by Martynov as *S. griseipennis*, his and Ulmer's 1926 interpretations represent allied but probably distinct species. Neither of these authors had seen McLachlan's type, which was then still in private hands and inaccessible.

In 1938, the British Museum (Nat. Hist.) acquired by purchase the McLachlan Collection and the Trichoptera were incorporated into the museum collections by Mr. M. E. Mosely. Upon his death in 1948, the Trichoptera were placed in my charge and one of the first tasks I undertook was the preparation of a card index of Trichoptera types. I found that our series of *S. griseipennis* contained no example labelled " Type " and as a temporary measure the index card was marked " Type not yet located ". Recently I made a thorough search in our collection, not only over the label *griseipennis* but also amongst other species of *Stenopsyche* and was finally rewarded by discovering, amongst *S. quadrilobata* Martynov, a male labelled " India "

and " Stenopsyche griseipennis " in McLachlan's handwriting, and with a British Museum register number indicating that it was part of McLachlan's collection. This specimen agreed satisfactorily with the original descriptions, measurements and figures, the only discrepancy being the locality label " India ", not " India orientali ". I think that McLachlan knew that it had come from eastern India but had not labelled it more fully, lest it be mistaken for East Indies. There was no minute reddish " Type " label of the kind generally employed by McLachlan, but as these were usually the lowest label on the pin, it may possibly have become detached and lost. (I have found other undoubted McLachlan types without such a label.) I am

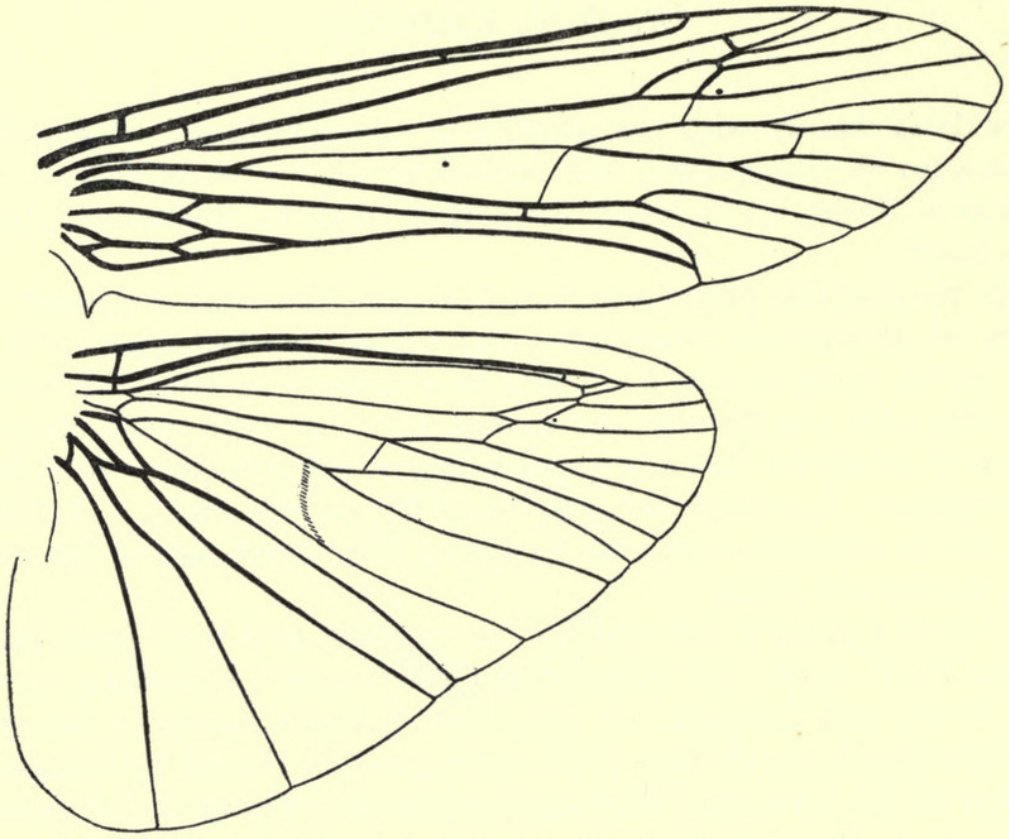

FIG. 1. *Stenopsyche griseipennis* McLachlan, ♂. Wings of type.

quite satisfied that this specimen is the one which McLachlan had before him when describing *S. griseipennis*, and I have therefore labelled it as the type, recording this belief on my own determination label. I consider that Mosely was quite justified in associating this specimen with *S. quadrilobata* Martynov, which species therefore becomes a synonym of *S. griseipennis* McLachlan.

Stenopsyche griseipennis McLachlan

(Text-figs. 1–3)

Stenopsyche griseipennis McLachlan, 1866, *Trans. ent. Soc. Lond.* (3) **5** : 265–266, pl. 17, fig. 5 ; pl. 19, figs. 5*a–e*.

Stenopsyche quadrilobata Martynov, 1935, *Rec. Ind. Mus.* **37** : 131–132, fig. 36. **(Syn. nov.).**

In view of the confusion which has arisen over the identity of this species, previous

records of the distribution of *S. griseipennis* must be considered doubtful. I have seen examples from INDIA, United Provinces (Masuri), Punjab (Simla); SIKKIM (Phedong); N. BURMA (Mishmi Hills).

♂ GENITALIA (from type). Ninth segment reduced dorsally to a narrow, transverse band, side-pieces produced in slender, triangular lobes. Tenth segment more or less fused to ninth, extending about as far as apices of side-pieces, rather narrow, from

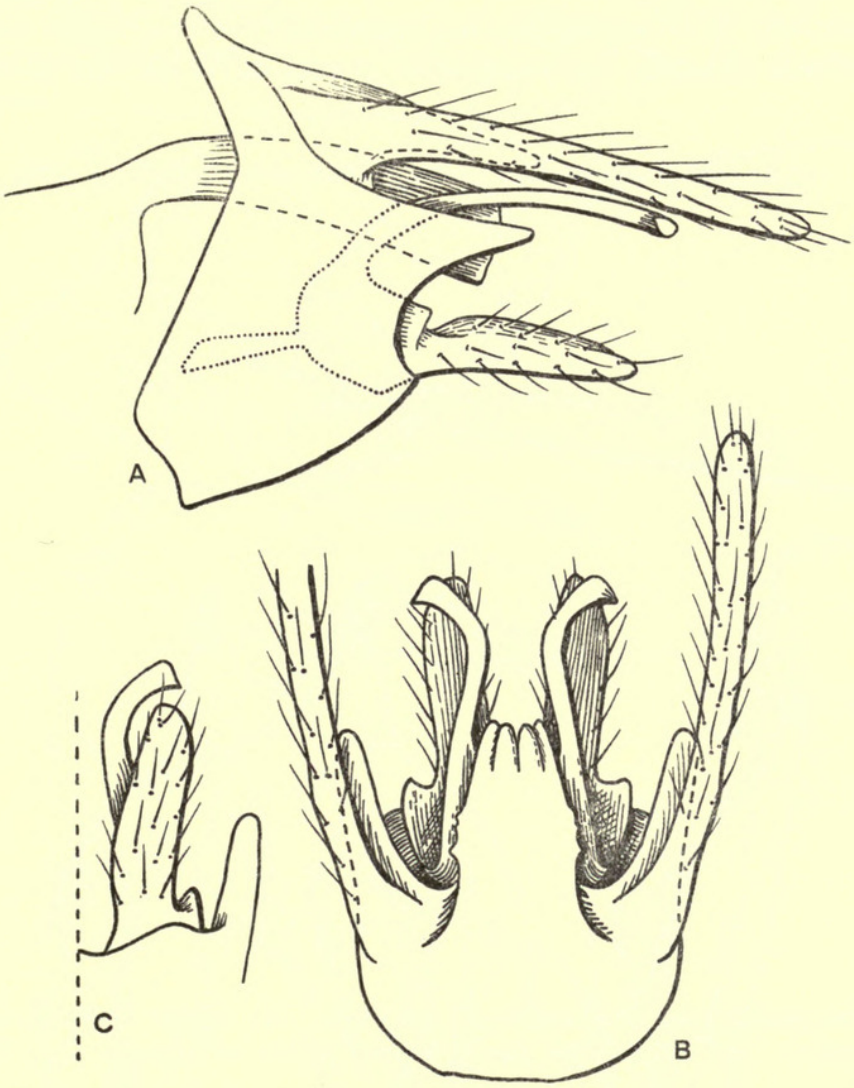

FIG. 2. *Stenopsyche griseipennis* McLachlan, ♂ genitalia of type. (A), lateral; (B), dorsal; (C), right clasper, ventral.

above tapering to a four-lobed apex. The lateral margins about half-way are irregularly serrate, the serrations not amounting to processes. From the side, the upper surface is smooth. Cercus long, slender, digitate. Aedeagus with an expanded base and cylindrical stem, within which is an evertible membrane armed with numerous acute teeth or spines. Clasper bifid, its upper branch arising at the extreme base, forming a slender spine, curving upward and tailward, its apex bent outwards and acute. Lower branch flattened, a little shorter than the upper, its apex rounded in ventral view.

The association of the female *griseipennis* must be regarded as provisional, since

I have not had both sexes from the same locality even. The association is based upon a slightly broader and more truncate apex of the fore wing than in *S. pallidipennis* Martynov, the male of which is closely allied to *griseipennis*. The female thus provisionally assigned to *griseipennis* differs considerably from *pallidipennis* in the shape of the internal part of the subgenital plate.

♀ GENITALIA (example from Phedong, Sikkim). Eighth sternite from the side obliquely truncate apically, about one and a half times as long as deep, its lower apical angle rounded. From beneath the apical margin is divided into two rounded lobes, beyond which extends the subgenital plate, covering the membranous ninth

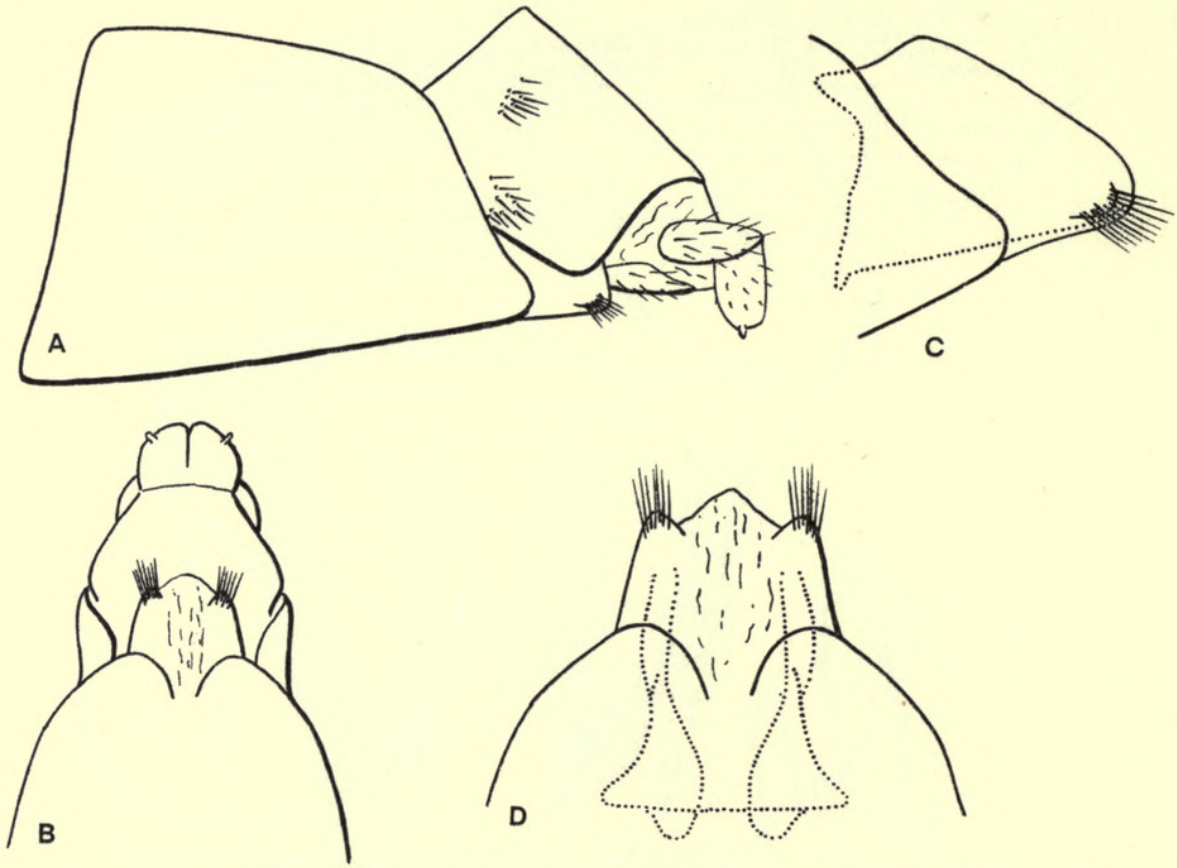

FIG. 3. *Stenopsyche griseipennis* McLachlan, ♀ genitalia. (A), eighth to tenth segments, lateral; (B), the same, ventral; (C), subgenital plate, lateral (more enlarged); (D), the same, ventral.

sternite. The sides of the subgenital plate are more sclerotized than the centre and terminate in tufts of setae. Internal structure as indicated in Text-fig 3D. Ninth tergite saddle-shaped, with two groups of setae on each side. Tenth tergite and sternite each divided into two elongate sclerites. Cerci two-segmented, basal segment quadrate, terminal minute.

Stenopsyche pallidipennis Martynov

(Text-figs. 4–6)

Stenopsyche pallidipennis Martynov, 1926, *Eos*, **2**: 297, figs. 22–24.

N.E.BURMA: Waingmew, 15.iii.1934, R. Malaise, 2 ♂, 5 ♀.

DISTRIBUTION. INDIA: United Provinces (Naini Tal); SIKKIM (Kalimpong); ASSAM (Khasi Hills); N. BURMA (Mishmi Hills).

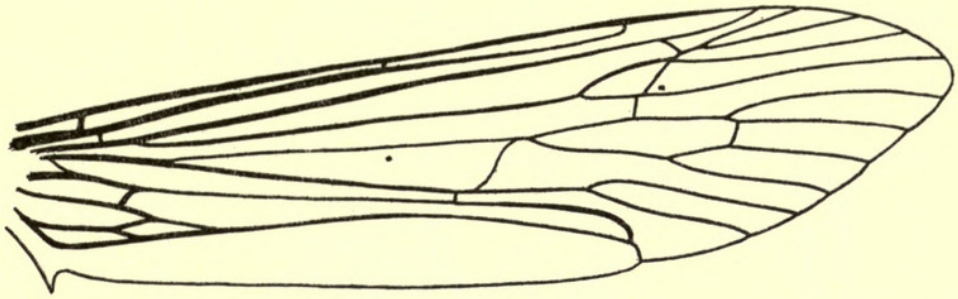

FIG. 4. *Stenopsyche pallidipennis* Martynov, ♂ fore wing.

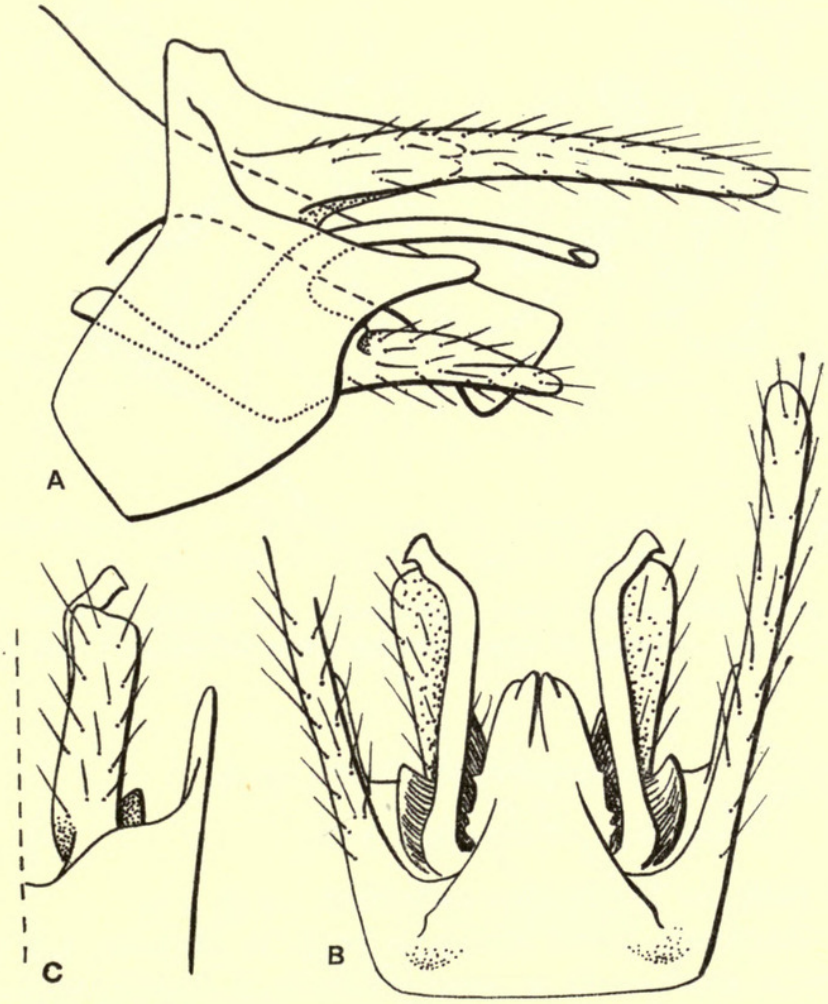

FIG. 5. *Stenopsyche pallidipennis* Martynov, ♂ genitalia. (A), lateral; (B), dorsal; (C), right clasper, ventral.

The male genitalia are very closely allied to those of *S. griseipennis*, the chief differences being the broader dorsal part of the ninth segment, produced in a hump near the base in side view, the less tapered tenth segment, whose apex is often obscurely four-lobed or even bilobed and the more truncate apices of the lower

branches of the claspers. The pattern of the fore wing is much the same but the apex is rather more acute. In the female, assuming that sex to be correctly associated in *griseipennis*, the internal part of the subgenital plate is longer and narrower in side view, and the ventral view is quite different.

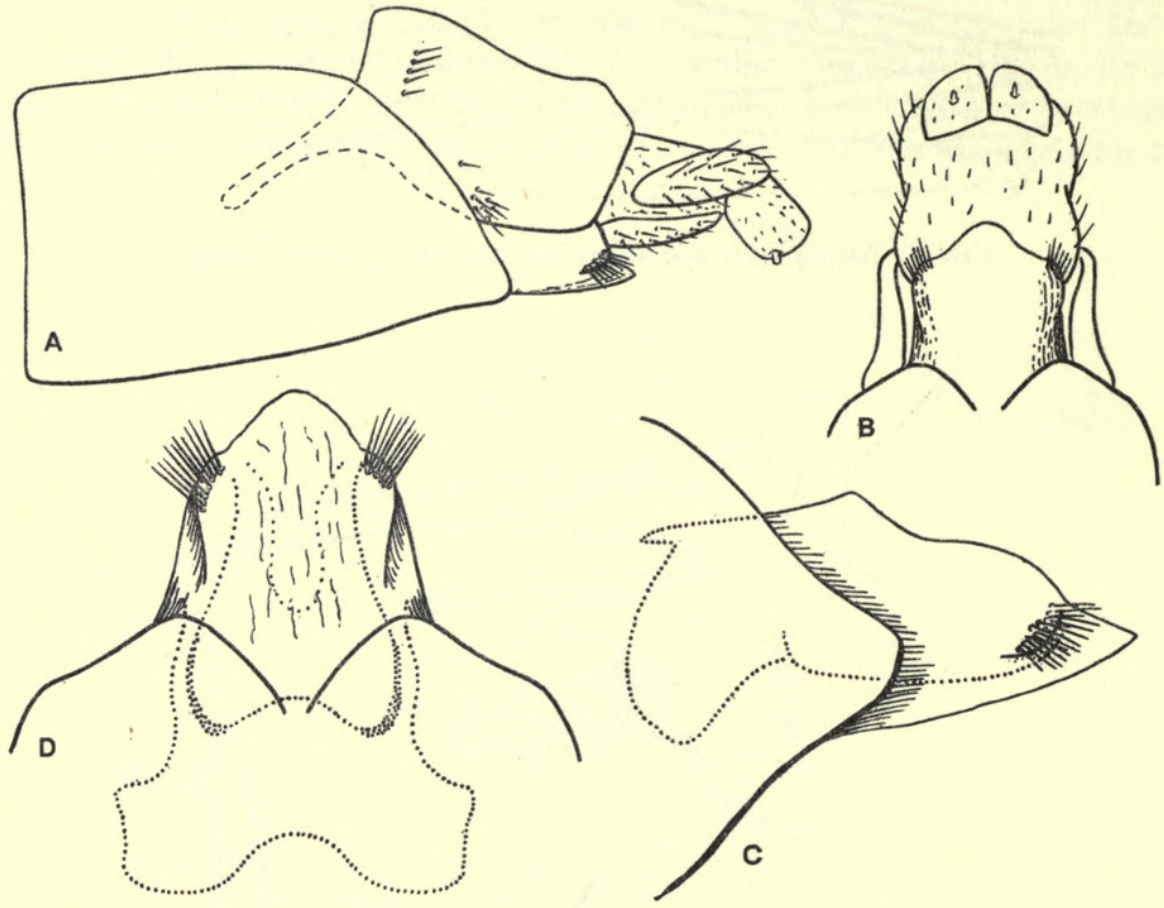

FIG. 6. *Stenopsyche pallidipennis* Martynov, ♀ genitalia. (A), eighth to tenth segments, lateral; (B), the same, ventral; (C), subgenital plate, lateral (more enlarged); (D), the same, ventral.

Stenopsyche khasia sp. n.

(Text-figs. 7–8)

ASSAM: Khasi Hills, ex McLachlan collection, 12 ♂, 5 ♀.

N. E. BURMA: Kambaiti, 6,800 ft., 10.iv.1934, R. Malaise, 4 ♂, 7 ♀.

General appearance much as in *S. griseipennis* or *S. pallidipennis*. Venation not significantly different from *griseipennis*.

♂ GENITALIA. Ninth tergite reduced dorsally to a narrow, transverse band. Side-pieces large, acute. Tenth segment forming a pair of tapering plates with acute apices, separated almost to their bases by a narrow excision. There is a small process on the upper surface of each near the base. Cercus long and slender. Aedeagus enclosing a pair of slender curved spines, two rows of broad, scale-like spines and two rows of small, slender spines. Clasper with the upper branch slender in side view, rather broader for most of its length in dorsal view, abruptly narrowed and

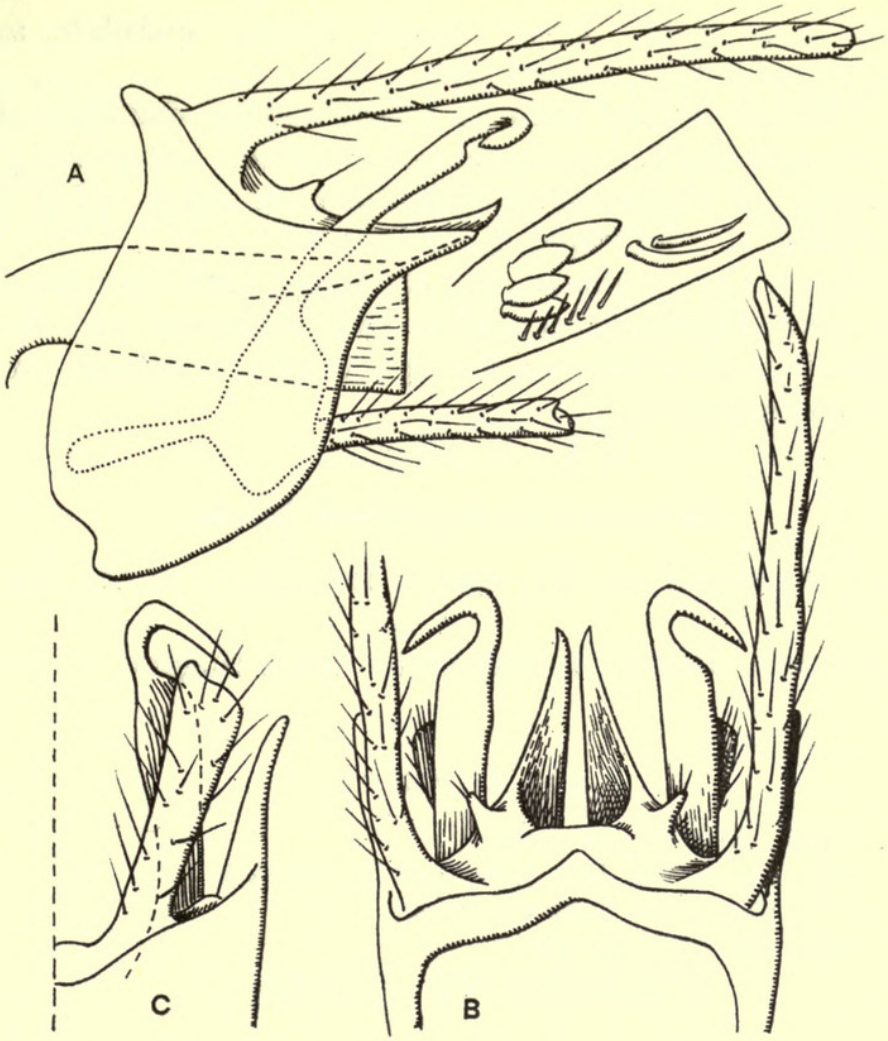

FIG. 7. *Stenopsyche khasia* sp. n. ♂ genitalia. (A), lateral (apex of aedeagus more enlarged); (B), the same, dorsal; (C), right clasper, ventral.

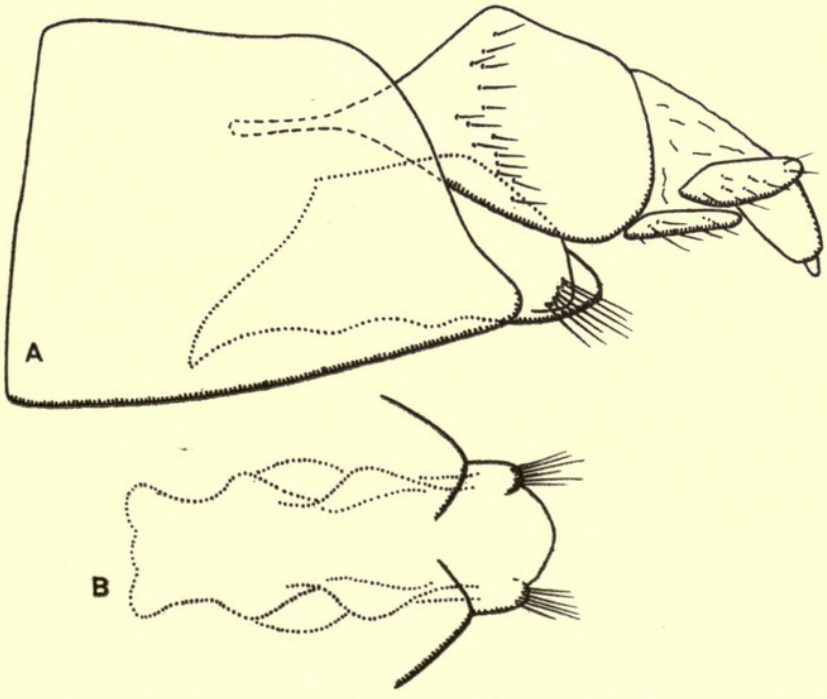

FIG. 8. *Stenopsyche khasia* sp. n. ♀ genitalia. (A), eighth to tenth segments, lateral; (B), subgenital plate, ventral.

hooked outwards at its apex. Lower branch slender, spatulate, apex obliquely truncate or slightly excised in ventral view.

♀ GENITALIA. Eighth sternite with its apical margin sinuously oblique in side view, lower apical angle slightly produced and rounded. Subgenital plate elongate, shaped as in Text-fig. 8. Ninth tergite with a band of setae.

Length of fore wing, ♂, 16–17 mm., ♀, 15–17 mm.

♂ holotype, ♀ allotype (with abdomen in glycerine), both from the Khasi Hills, in British Museum (Nat. Hist.), paratypes in the Stockholm and British Museum (Nat. Hist.). The differences between this species and *griseipennis* are given in the above comparative description.

Stenopsyche benaventi Navás

N. E. BURMA: Washaung, 20 km. east of Myitkyina, 14.vii.1934, R. Malaise, 2 ♂, 4 ♀.

Previous distribution. INDIA: Rewah State, Chota Nagpur.

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