

Asiaephorus gen. nov., a review and description of a new species (Lepidoptera: Pterophoridae)

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A new genus, *Asiaephorus*, is recognised and described, with *Platyptilia sythoffi* Snellen, 1903, as its type-species. *Asiaephorus sythoffi* (Snellen) comb. nov., is redescribed and a lectotype is designated. A second species, *A. longicucullus* spec. nov., from Nepal, India and Japan is described. The genus has an East and South-Eastern Palaearctic and North Oriental distribution.

Introduction

When searching for the type-specimens of plume moth species from Indonesia described by Snellen in 1903, I encountered *Platyptilia sythoffi*. The four specimens mentioned in the original description were present, none of which was labeled as "type". No indication for the type-specimen was given by Snellen. The examination of these specimens revealed genitalia unlike those of *Platyptilia* Hübner, [1825], so it seems acceptable to create a new genus for these species. Superficially, the genitalia resemble those of *Amblyptilia* Hübner, [1825], *Uroloba* Walsingham, 1891 and *Paraamblyptilia* Gielis, 1991, but essential synapomorphies are absent. The structure of the genitalia of the specimens illustrated by Yano (1963) as *P. sythoffi* does not fit the genitalia of its type-specimens, although the species is congeneric. The species mentioned by Yano turned out to be undescribed. More material of this new species was found among Pterophoridae collected in Nepal and India (Assam).

Abbreviations used: Nationaal Natuurhistorisch Museum, Leiden, The Netherlands (RMNH); Zoological Museum, Helsinki, Finland (MZH); The Natural History Museum, London, Great Britain (BMNH); collection of C. Gielis, Lexmond, The Netherlands (CG).

Genus *Asiaephorus* nov.

Type-species: *Platyptilia sythoffi* Snellen, 1903. Gender: masculine.

Diagnosis.— The genus is characterised by having palps three times eye-diameter; forewings with a costal triangle at the base of the cleft, R1, R2 and R3 separate, R4 and R5 stalked, Cu1 from cell, Cu2 from angle of cell; third lobe of hindwing with subterminal, dorsal positioned scale tooth; male genitalia with an overriding large cucullus, a small and simple uncus, a simple saccus; the female genitalia with a centrally positioned, small and simple ostium and antrum structure, the absence of a sclerite in the ductus bursae, and the pair of signa in shape of small sclerotised ridges.

Ecology.— The hostplants of *Asiaephorus longicucullus* spec. nov. in Japan are

Salvia japonica Thunberg and *Scutellaria indica* Linnaeus (Yano, 1963). The species seems to prefer mountainous areas.

Distribution.— Indonesia (Java), Japan (Kyushu), Nepal, India (Assam).

Remarks.— In the phylogenetic analysis the relevant part of the matrix of the Pterophoridae genera (Gielis, 1993) was used and the data for the new genus were added. The analysis was done with PeeWee, with 50 replications and it resulted in 20 trees, all with length of 65 and a fit of 161. In most of the trees (13 out of 20) the genus *Paraamblyptilia* Gielis, 1993 is the sistergenus (fig. 7). In all other trees the sistergroup consists of *Stenoptilia* + *Nippoptylia* + *Pseudoxyroptila* + *Xyroptila* + *Uroloba* + *Korema-guia*. In the first case *Asiaephorus* is separated from *Paraamblyptilia* by the following apomorphic character states: the cells R4 and R5 are stalked (this is a reversal to the plesiomorphic state for the family, not present in listed genera); the vein Cu2 departing from angle of cell; the derived shape of the aedeagus and the presence of cornuti; the absence of a sclerite in the ductus bursae and the derived shape of the signum pair in the female; and the absence of the autapomorphy of the double uncus (which is present in *Paraamblyptilia*). In the second case (fig. 8) *Asiaephorus* is separated from the other genera by the following apomorphic character states: the cells R4 and R5 are stalked (this is a reversal to the plesiomorphic state for the family, not present in other listed genera); vein Cu2 from angle of cell; and the development of the signa (parallel to the situation in the genus *Cnaemidophorus* Wallengren, 1862).

The results are illustrated in figs 7 and 8. In both cases the cladograms are compatible with the results of the studies published by Gielis (1993). In fig. 7 the genus *Asiaephorus* is the sistergenus of *Paraamblyptilia* and in fig. 8 the second possibility is illustrated. I consider fig. 7, with *Paraamblyptilia* as the sistergenus, to be the best option.

Checklist

A. sythoffi (Snellen, 1903) (*Platyptilia*) comb. nov.: Indonesia (Java).

A. longicucullus Gielis, spec. nov.: Nepal, Japan, India (Assam).

Asiaephorus sythoffi (Snellen, 1903)
(figs 1, 3, 5)

Platyptilia sythoffi Snellen, 1903: 54-56

Material.— Lectotype (here designated) ♂ (RMNH), "Indonesia, W Java, Preanger, 5000 voet (= 1600 m), no date, Sythoff, gent. CG 4281". Paralectotypes (3 ♀ ♀; RMNH): same locality, gent. CG 4280.

Diagnosis.— The species is characterized by the relatively small size and the numerous oblique pale lines on the forewing, and the genital structure of the male and female.

Redescription.— Male, female. Wingspan 16-18 mm. Head appressedly scaled, dark brown, with some yellow scales above the eye, between the base of the antennae and at the frons. Palps three times eye diameter, dark brown with ventrally scattered yellow scales, protruding. Antennae dark brown, basal segment ventrally yellow,



Fig. 1, *Asiaephorus sythoffi* (Snellen), lectotype, ♂.



Fig. 2, *Asiaephorus longicucullus* spec. nov, paratype, ♀, Japan (Kyushu, Ishikawachi).

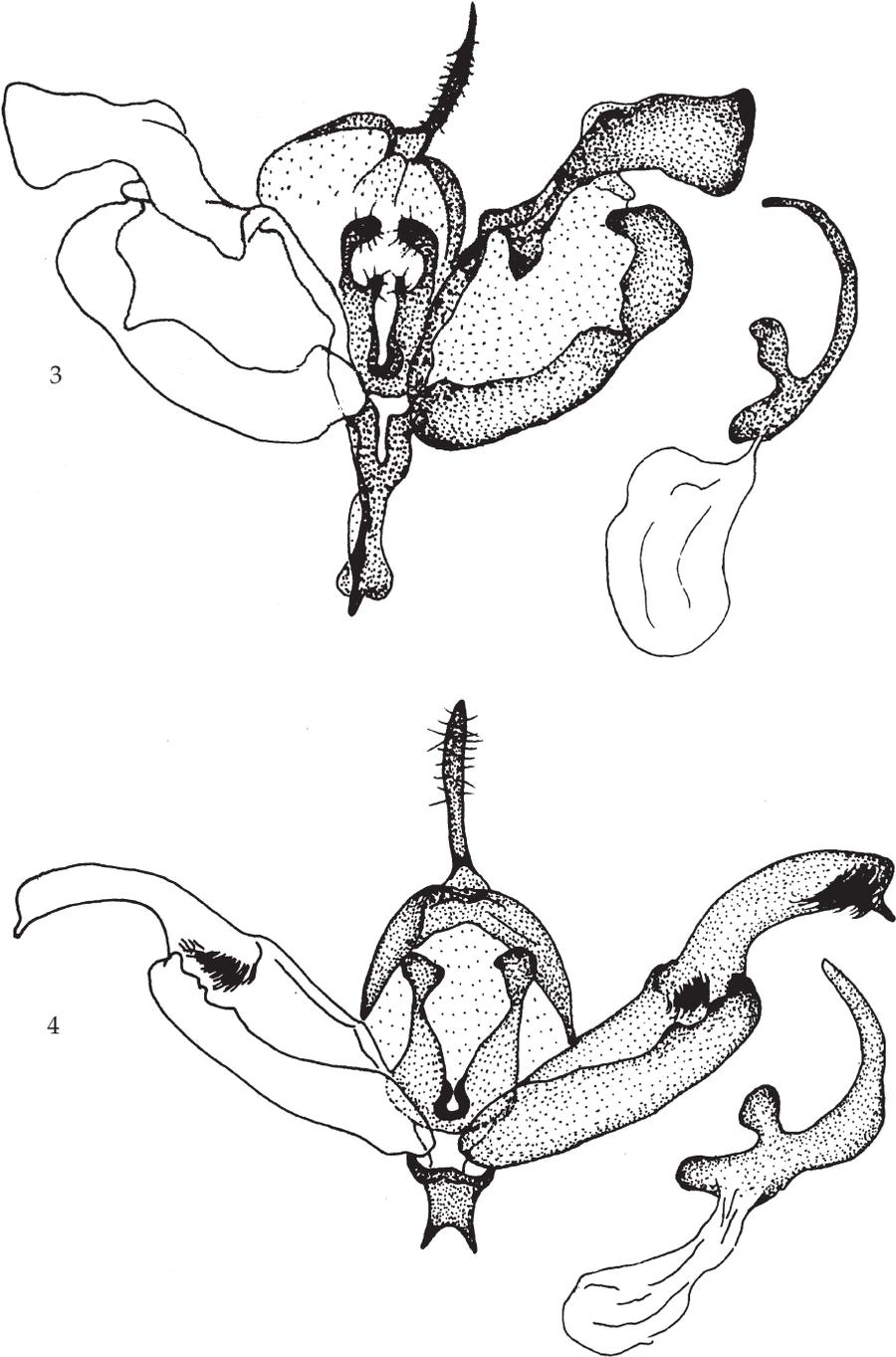


Fig. 3, *Asiaephorus sythoffi* (Snellen), lectotype, ♂; fig. 4, *A. longicucullus* spec. nov., holotype, ♂. 3-4, male genitalia.

shortly ciliated. Thorax, tegulae and abdomen mostly dark brown; Mesothorax and thorax and abdomen laterally with scattered yellow scales. Legs dark brown with laterally at the femur and tibiae regularly dispersed yellow scales. Hindleg with two pairs of spurs, dark brown; proximal pair of equal length, inner spur of distal pair longest.

Forewing cleft from 2/3rd, dark brown; upperside with whitish oblique lines at costa and dorsum, and in lobes three nearly complete narrow transverse lines and a complete subterminal line, parallel of termen; a very dark costal triangle just before base of cleft and an equally dark wide central band in first lobe extending less distinctly into second lobe. Fringes pale grey, with darker patches at anal angle of both lobes and centrally at dorsum of second lobe; terminal fringes of first lobe basally with a row of black scales, centrally narrowly interrupted; termen of second lobe with scale groups at tip, centrally and at anal angle; dorsum with scale teeth at 2/3rd and 4/5th. Underside dark brown, with a regular row of small silvery white scales at costa and a narrow subterminal line in both lobes.

Hindwing dark brown. Fringes grey, with a subterminal scale tooth at the dorsum of the third lobe. Underside dark brown; venous scales dark ferruginous, in a double row, the costal row well extending into the second lobe.

Abdomen ventrally with bright yellow patches, especially near the thorax.

Male genitalia.— Valves symmetrical; basal part almost in a rounded shape; apex extended to a wide, blunt cucullar process; saccular margin wide, interrupted centrally. Tegumen rather wide and short. Uncus long and slender with a sharp tip. Anellus arms broad and long, with two blunt processes, the distal one the bigger. Saccus extended, with a single tip. Aedeagus curved and slender; coecum well-developed.

Female genitalia.— Papillae anales rounded, simple. Apophyses posteriores three to four times papillae anales. Lamina post-vaginalis angulated, like a roof. Lamina ante-vaginalis crescent-shaped. Apophyses anteriores long and slender, twice the papillae anales. Ostium narrow, excavated. Antrum three times longer than wide, poorly sclerotised, gradually narrowing. Ductus bursae long and slender. Vesica seminalis at the junction of the ductus bursae and bursa copulatrix. Bursa copulatrix vesicular, with a pair of very small signa in shape of sclerotised ridges.

Ecology.— The type series was collected at 1600 m altitude. The flight period and hostplant are unknown.

Distribution.— Indonesia: Java.

Asiaephorus longicucullus spec. nov.
(figs 2, 4, 6)

Platyptilia sythoffi; Yano, 1963: 129-133 (misidentification).

Material.— Holotype, ♂ (MZH), "Nepal, Mt Pulchoki, 2700 m, 27°5'N 85°25'E, 10.v.1996, A. Albrecht, O. Bistroem, K. Mikkola & A. Wikberg, prep. CG 3254". Paratypes: 1 ♀ (CG): "Japan, Kyushu, Miyazaki Pref., Ishikawachi, 14.vi.1960, emerged 20.vi.1960, K. Yano, gent. CG 2793"; 1 ♂ (BMNH): "India, Assam, Shillong, 3000 ft, ix.(19)07, prep. BM 20974, coll. Fletcher".

Diagnosis.— The species is characterized by the oblique, instead of parallel, subterminal line in the fore wing and the shape of male and female genitalia.

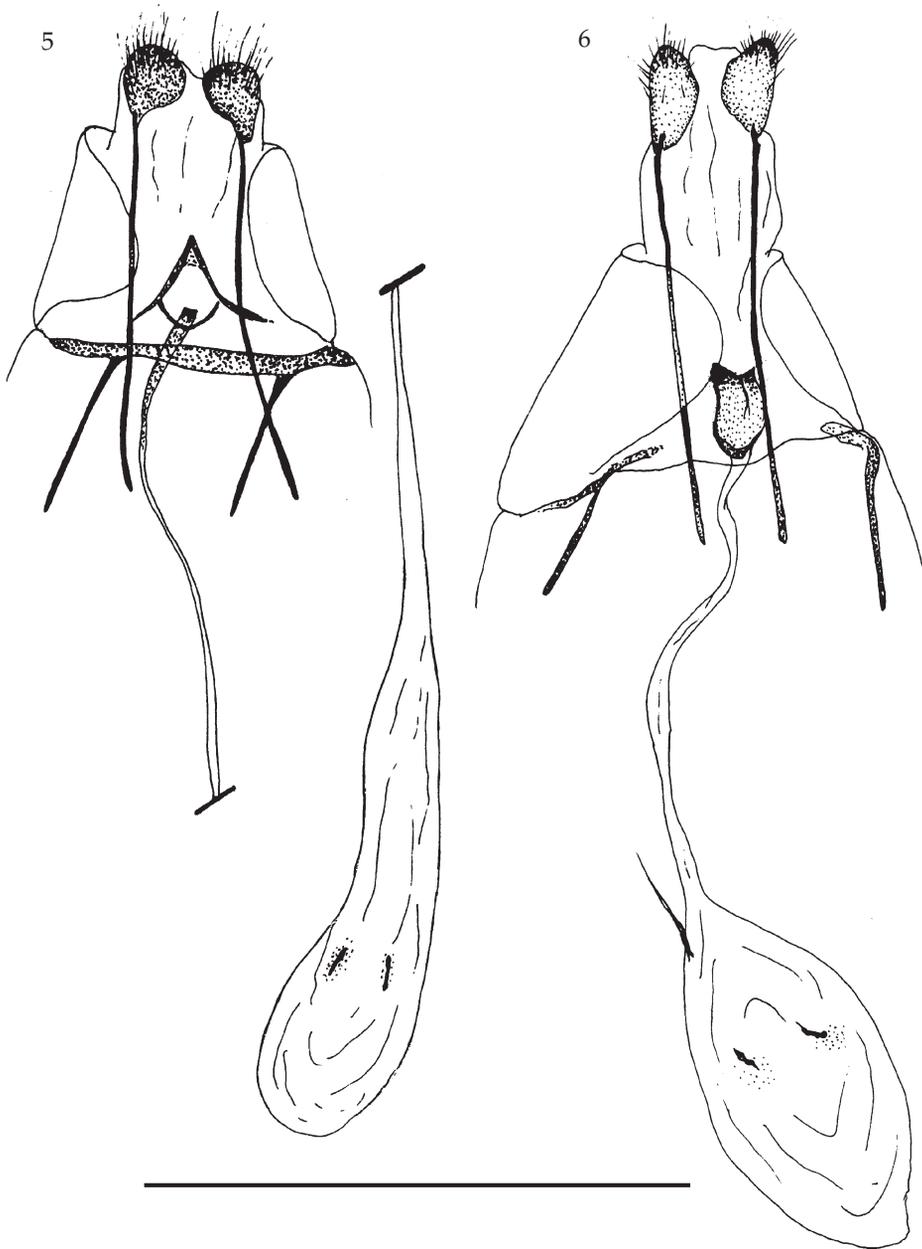
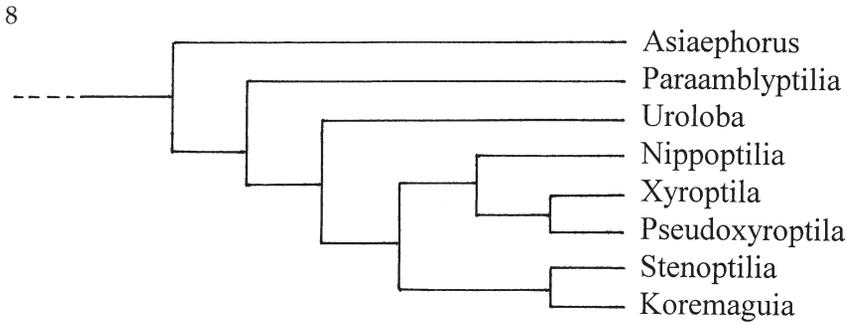
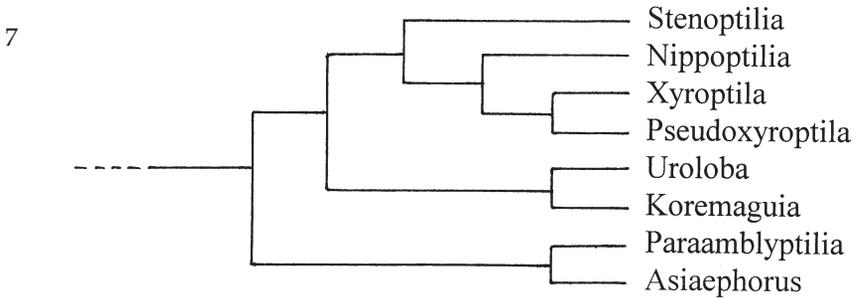


Fig. 5. *Asiaephorus sythoffi* (Snellen), paralectotype, ♀, Indonesia (W Java, Preanger); fig. 6. *A. longicullus* spec. nov., paratype, ♀, Japan (Kyushu, Ishikawachi). 5-6, female genitalia.



Figs 7-8, two cladograms found after analysis of the matrix (Gielis, 1993, and after addition of the new genus) with PeeWee.

Description.— Male, female. Wingspan 16-19 mm. Description as in *A. sythoffi* (Snellen), with the following differences: the colour of both fore- and hindwings darker black-brown; the subterminal line in the first forewing lobe not parallel to termen, but oblique.

Male genitalia.— Valves symmetrical, with an overriding very well-developed cucullus, which ends in the shape of a birdhead; sacculus dorso-terminally with serrate margin. Tegumen arched. Uncus rather slender, but not as acutely ending as in *sythoffi*. Anellus arms club-shaped, with a latero-medial thorn at the tip. Saccus forked. Aedeagus curved, gradually narrowing towards tip; coecum well developed.

Female genitalia.— Papillae anales longer than wide, simple. Apophyses posteriores four to five times papillae anales. Lamina ante- and post-vaginalis poorly developed. Apophyses anteriores one and a half times papillae anales. Ostium excavated. Antrum twice longer than wide. Ductus bursae long and slender. Ductus seminalis at the top of the bursa copulatrix. Bursa copulatrix vesicular, with a pair of small irregularly shaped signa.

Ecology.— The adult flies from May till October in Japan; in May in Nepal and in September in Assam. The Assam and Nepal specimens were collected in mountainous areas, at 1000 and 2700 m, respectively. Specimens from Japan have been bred on

Salvia japonica Thunberg and *Scutellaria indica* Linnaeus. The larve and pupa have been described by Yano (1963).

Distribution.— Nepal, Japan (Kyushu, Honshu) and Assam.

Remarks.— The saccus illustrated by Yano (1963) has a single tip. Regrettably no male specimen from Japan was available. However, the female paratype has been collected and examined by Yano and identified as belonging to this species.

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