

FOUR NEW CADDISFLIES FROM CHINA
(Trichoptera: Hydropsychidae)

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Abstract. The following four new caddisflies of Hydropsychidae from China are described and figured: *Cheumatopsyche surgens* (Hunan), *Hydromanicus paucispinus* (Anhui), *Hydatopsyche huapingensis* (Guangxi) and *Macrostemum gigapunctatus* (Xizang).

1. *Cheumatopsyche surgens* sp.n.

Body length with forewings 9 mm. Body and maxillary palpi black, antennae and labial palpi yellow, wings and legs brown. Tibial spur formula 2-4-4. Hindwing with the first fork, stalk of M far away from M, with clear m-cu. Male genitalia (fig.1-5): This species is similar to *Cheumatopsyche chinensis* (Martynov) in the upturned typical part of the tenth tergum, but the hind margin is not concave. Tip of phallus with a minute triangular ventral endothecal lobe, and harpago tapering to its apex.

Holotype ♂, Sangzhi, Tianpinshan, Hunan Province, 1.6.1981, Tong Xinwang. The type specimen is deposited in the Hunan Institute of Forestry Science.

2. *Hydromanicus paucispinus* sp.n.

Body length with forewing 14 mm. Body colour black, paler beneath, antennae and appendages brown. Forewing brown, dotted with paler spots. Male genitalia (figs.6-9): End of tenth tergum contracted. Posterior processes near to each other, narrow and twisted down and inwards. Lateral preanal appendages near the base of the tergum, with a short thick, accessory process. A pair of long low hairy processes before the base of the preanal appendages. Base of phallus thick, middle part thin and long, thickening to the end. Two ventral endothecal lobes narrow, curved inwards. Endothecal processes cover the phallotremal sclerites. Coxopodite thick, twice the length of the harpago. From the middle to the tips, the harpago is contracted at the outer margin. - The male genitalia are like those of *Hydromanicus fissus* Li & Tian without extended phallotremal sclerites, but the shapes of the tenth tergum and ventral endothecal lobes are quite different.

Holotype ♂, Jiuhuashan, Anhui Province, 5.6.1989, Li Youwen. The type specimen is deposited in the Department of Plant Protection, Nanjing Agricultural University.

3. *Hydatopsyche huapingensis* sp.n.

Body length with forewings 15 mm. Vertex and back of the thorax and abdomen black, antennae and underside of thorax and appendages are brown. Forewings black with many minute paler patches. Male genitalia (Figs.10-14): Typical part of tenth tergum narrower, middle of the hind margin concave. A pair of posterior processes slender, inwardly curved, sharp at apex. A pair of dorsal sharp processes arise near the base of these processes. A short prominent process in the middle of the tergum. The preanal appendages long and slender, with a short thick lobe near the base. Ventral endothecal lobe of phallus large, rounded, bowl-like. Two endothecal processes narrow, curved downwards, and below them a pair of sharp sclerites curved upward between them. Below these, a pair of spines extends up and outwards. Coxopodite with a minute sharp process at base, twice the length of the harpago.

This species is allied to *Hydatopsyche melli* Ulmer, but the process at the base of coxopodite is minute and sharp at apex, and the sclerites between endothecal processes and ventral endothecal lobe are different.

Holotype ♂, allotype ♀, paratypes 3♂♂, 3♀♀: Nongshen, Huaping, Guangxi Province, 14.7.1984, Li Youwen. Deposited in the Department of Plant Protection, Nanjing Agricultural University.

4. Macrostemum gigapunctatus sp.n.

Body length with forewing 15 mm. Body colour brown, vertex brown, eyes pale, front warts large and rounded, posterior warts smaller, kidney-shaped. Forewing orange, with three large brown patches: the first, typically of the wing; the second, strip-like, along anal margin; the third, rhomboidal, in middle of wing. Tibial spur formula 2-4-4. Male genitalia (Figs.15-20): The tenth tergum broad, with a pair of minute hairy processes, the hind margin excised deeply, nearly reaching the base of the tergum. Base of phallus thick and curved, middle part thin, thickened before the tip. From the lateral view, ventral endothecal lobe short. Clasper slender, the harpago nearly as thick as coxopodite. The former about half the length of the latter. Male genitalia of this species are similar to those of *M.fastuosum*, but with a pair of minute hairy processes on tenth tergum, harpago shorter, and shape of the phallus different. In addition, the colour patterns of the two species are quite different.

Holotype ♂, Medog, Xizang, 29.4.1983, Lin Zai. Deposited in the Department of Plant Protection, Nanjing Agricultural University.

Figs. 1-14: male genitalia.

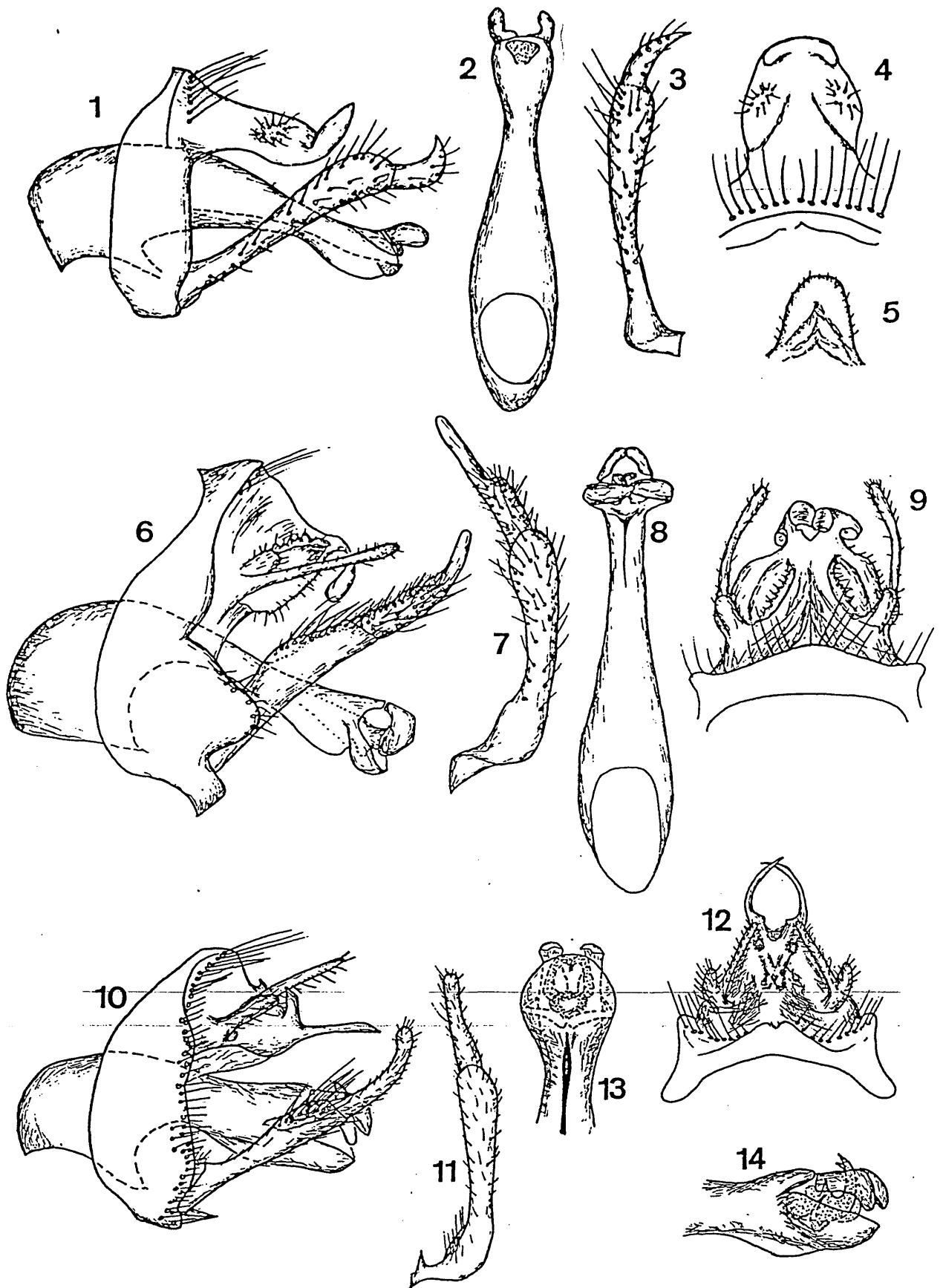
Cheumatopsyche surgens sp.n.: 1.lateral, 2.phallus ventral, 3.clasper ventral, 4.10th tergum dorsal, 5.do.caudal.

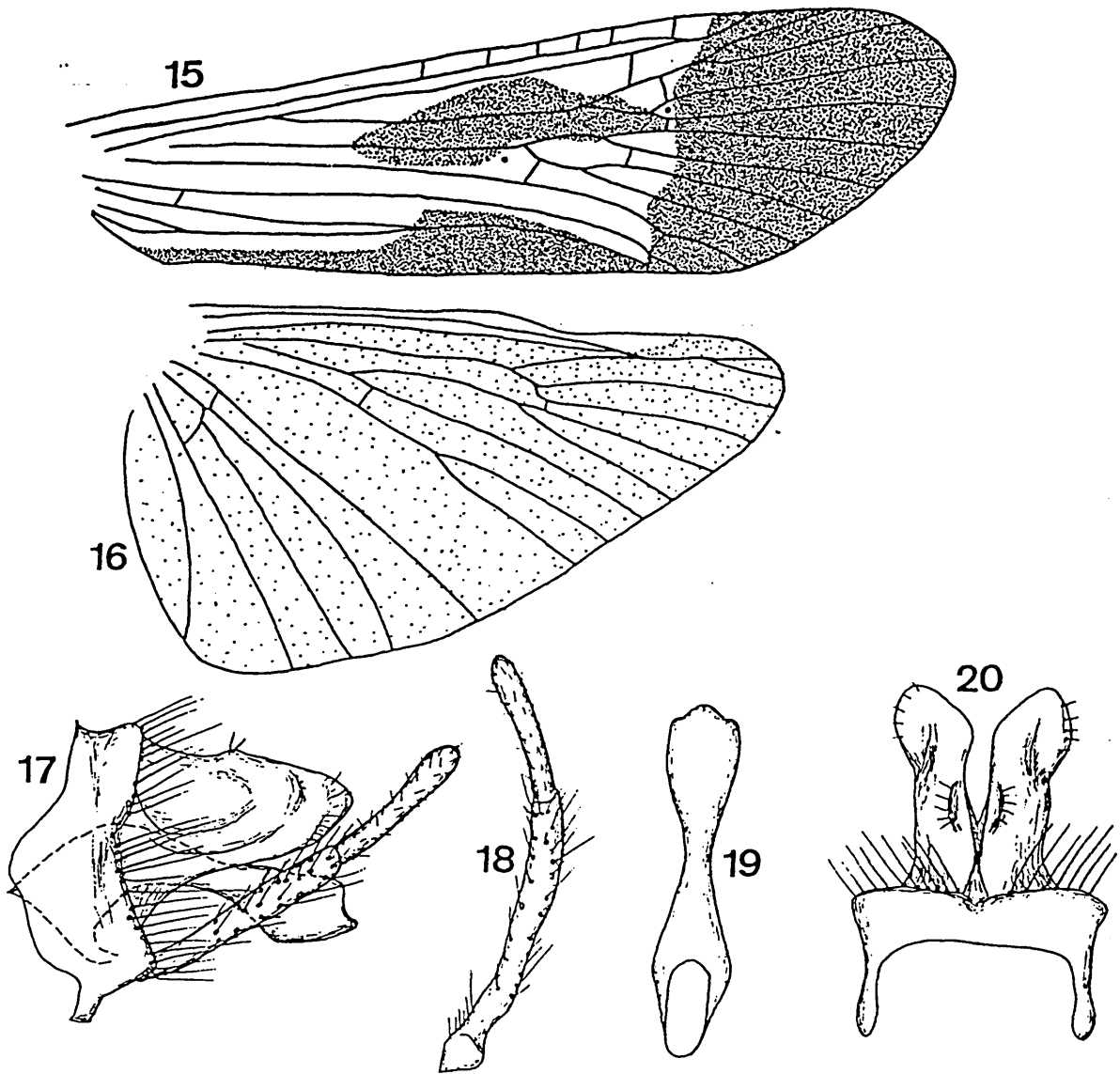
Hydromanicus paucispinus sp.n.: 6.lateral, 7.clasper caudal, 8.phallus ventral, 9.10th tergum dorsal.

Hydatopsyche huapingensis sp.n.: 10.lateral, 11.clasper caudal, 12.10th tergum dorsal, 13.end of phallus ventral, 14.do.lateral.

Macrostemum gigapunctatus sp.n.: 15.-16.wings, 17.male genitalia lateral, 18.clasper caudal, 19.phallus ventral, 20.male genitalia dorsal.

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Responsibilities: to conduct a phylogenetic analysis of a generic/species group of the caddisfly family Lepidostomatidae, and develop skills in scientific illustration and museum curation. Available September 1990. Contact: John S. Weaver III, Entomology Dept., University of New Hampshire, Durham, NH 03824, USA. Phone: (603) 862-1707. Fax: (603) 862-2030

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