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CAENIS DEMOULINI, A NEW EPHEMEROPTERON FROM THAILAND

by

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During a short stay at Bangkok on December 3rd, 1953, Professor H. Boschma observed that enormous quantities of minute insects were attracted by lamplight in the hotel of the Royal Dutch Airlines (K.L.M.) "Plaswijk" at the airport Laksi. From the enormous accumulations of these insects around the lamps he collected a sample which he entrusted to me for examination. This sample proved to consist almost entirely of a new species of mayfly which is described in the present paper.

Caenis demoulini nov. spec.

Female imago.

Head and thorax uniformly yellowish brown. Eyes purple-black, prominent. Antennae grey-brown; median ocellus prominent, colour light brown with a darker edge.

Abdomen pale yellowish brown, at the dorsal surface with light brown-grey markings, except on the last three tergites. Ventral surface paler, especially the last three segments. Stigmata in or near a faint black or grey spot. Cerci and filum terminale silver-white, rather densely covered with stiff, long, silvery hairs, except at the base of these caudal filaments, where the colour passes into a very light brown, whilst here the hairs abruptly become much shorter, and are placed more densely.

Anterior legs grey-brown, median and posterior legs pure white with a very faint yellowish spot at the end of the femora.

Wings vitreous, veins light grey, except subcosta and radius, which are dark grey-brown. Area subcostalis very light ferruginous.

Measurements:	body ♀	3.5 mm
	wing ♀	2.9-3.0 mm
	cerci and filum terminale ♀	3.0 mm.

Eggs yellowish brown, length 0.13-0.15 mm.

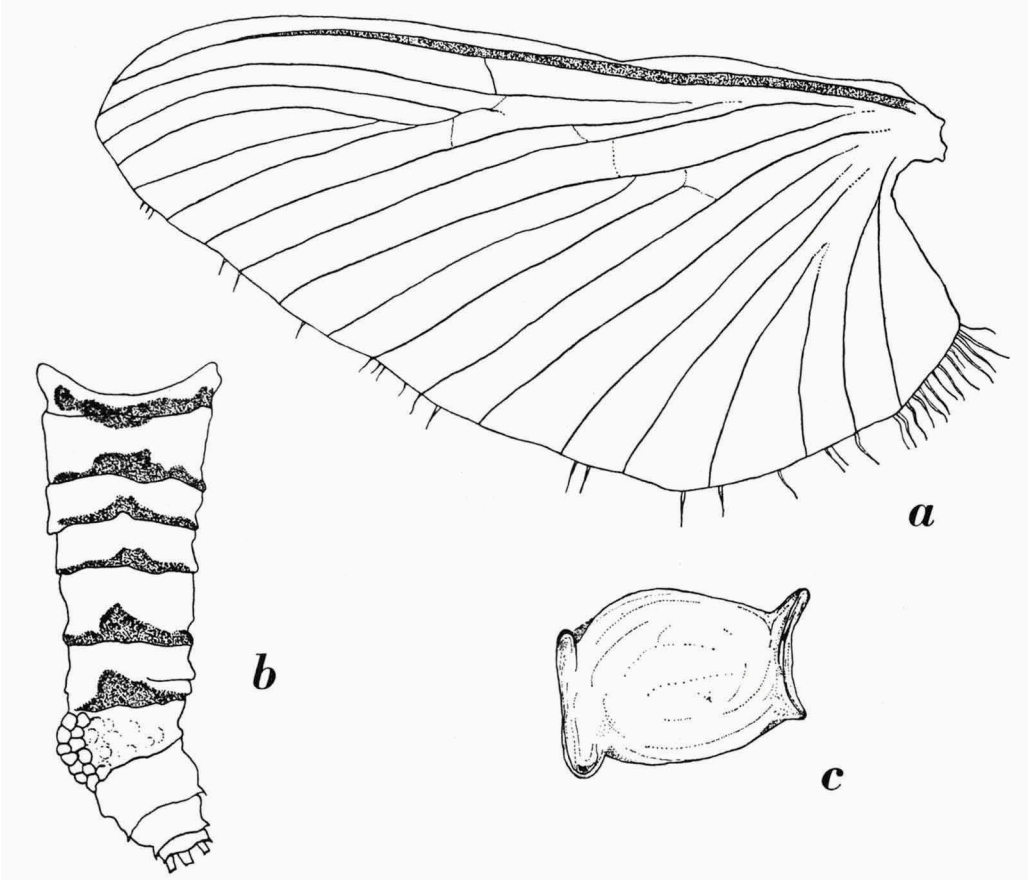

Fig. 1. *Caenis demoulini* nov. spec. a, wing ♀; b, abdominal pattern holotype, dorsal surface; c, egg, highly magnified.

Thailand, Bangkok, airport Laksi, 16 ♀♀ dry (1 holotype, 15 paratypes); the rest of the material, most specimens rather damaged, in alcohol.

All specimens in the Rijksmuseum van Natuurlijke Historie, Leiden; they have all, except the holotype and the paratype no. 1, a cluster of eggs at the end of the abdomen. The abdomen of the holotype is broken and the eggs protrude through the 7th segment. The material at hand is strongly uniform

in colour and measurements [1]), only paratype no. 1 has a dark brown ring on the caudal filaments at about 1 mm from their base.

The eggs of the new species closely resemble those of *Caenis nigropunctata* Klap. (cf. Ulmer, 1913).

I dedicate this new *Caenis* to Dr. G. Demoulin (Institut Royal des Sciences Naturelles, Brussels), the well known Belgian ephemeropterist, who provided me with literature not easily available elsewhere.

Affinities.

Caenis demoulini belongs to the *perpusilla*-group, known to occur in South East Asia. The species is characterized by short caudal filaments, a uniformly yellowish-brown coloured head and pronotum, and pure white median and posterior legs. Its nearest allies, *C. perpusilla* Walker, *C. nigropunctata* Klapalek, *C. nigrostriata* Navas, and *C. piscina* Kimmins, differ from it by the following characters: length of caudal filaments, markings of head and pronotum, and colour of median and posterior legs.

species	caudal filaments ♀	head and pronotum	median and posterior legs
perpusilla	11 mm	with dark markings	—
nigropunctata	11 mm	with dark spots and markings	with black spot
nigrostriata	3 mm	with black lines	with black line
piscina	3 mm	pale yellowish brown	with purplish spot
demoulini	3 mm	yellowish brown [2])	pure white

The other members of the *perpusilla*-group are more different from *C. demoulini*. *C. picea* Kimmins has a white abdomen and white anterior legs, except femur and apex of the tibia, which have darker markings. *C. annulata* Navas, described from the Philippines (Luzon), differs from the new species by its annulated legs and the much longer caudal filaments (♀ 8 mm), whereas *C. pumila* Navas, reported from the same island, has much longer wings (♀ 4.5 mm), whilst the anterior legs, except the femora, are whitish.

C. srinagari Traver from Kashmir belongs to another group; it is quite different by its red-brown head and thorax, and by its yellow legs and yellow caudal filaments.

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1) One of the nearest relatives of the present species, *Caenis nigropunctata* Klap., varies largely in size (cf. Ulmer, 1939).

2) At a certain incidence of the light two somewhat darker lines become evident at the right and left sides of the dorsal surface of the thorax.

The distribution of the *perpusilla*-group of the family Caenidae in South East Asia is noted on the accompanying map. The family is not yet known from French Indo China (Lestage, 1921, 1924a; Navas, 1924) and from Malaya. *C. perpusilla* Walk. has been recorded from Ceylon (type locality) and from Bengal (Rajshahi, cf. Needham, 1909); perhaps this species

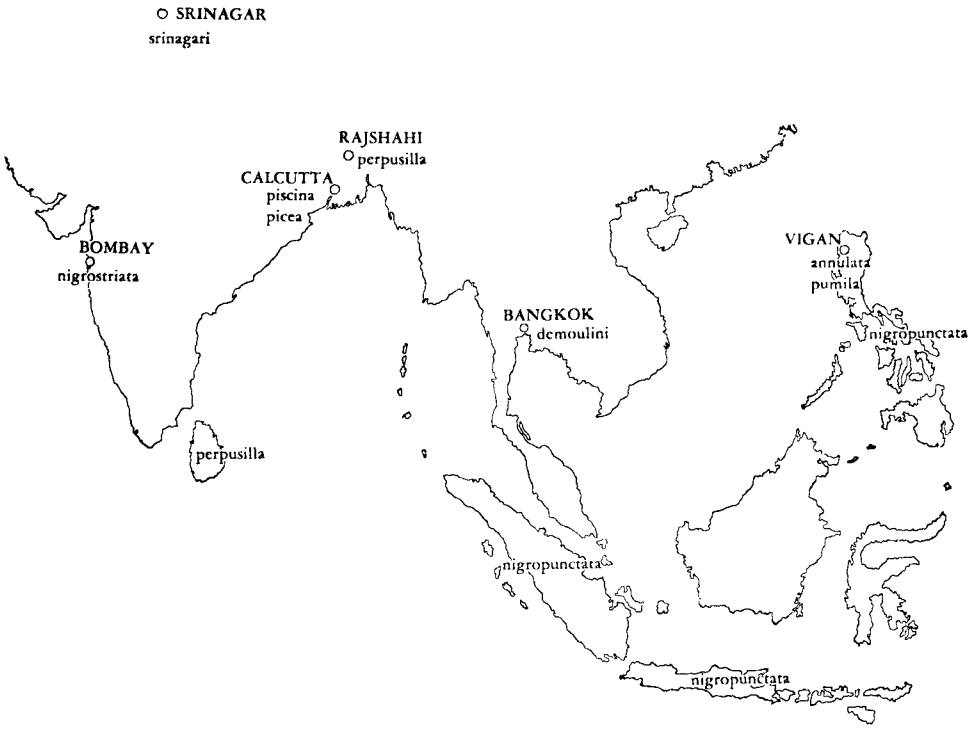

Fig. 2. Distribution of the *perpusilla*-group in South East Asia.

occurs along the whole Eastern coast of India. *C. nigropunctata* Klap. has been found on Sumatra, Java, Bali, and the Philippines, consequently showing a rather remarkable distribution [1]). *C. annulata* Navas and *C. pumila* Navas are confined to the Philippines, whereas *C. picea* Kimm. and *C. piscina* Kimm. have been reported from Calcutta.

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1) Lestage (1924a) is a reprint of Lestage (1921) with some minimal alterations, probably only misprints.