

SHORT COMMUNICATIONS

SOME OBSERVATIONS ON THE SEXUAL BEHAVIOUR OF *PLATYCYPHA CALIGATA CALIGATA* (SELYS) (ZYGOPTERA: *CHLOROCYPHIDAE*)

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Received September 24, 1974 / Accepted October 22, 1974

The observations were carried out at two localities in Ethiopia. When two ♂ meet, one of them may fly off, or the two may face each other when flying with small vertical hops. When a ♂ approaches a perched ♀ it flies very slowly or hovers, its body swinging laterally, sometimes describing a semicircle around the ♀. The ♀ may refuse pairing by spreading out its wings. The copula was observed once and lasted about half a minute.

INTRODUCTION AND LIST OF LOCALITIES

In the fall of 1973 I took part in the zoological expedition to Ethiopia organized by Prof. P. Pasquini (to whom I express my sincere thanks) and financed by the Accademia Nazionale dei Lincei. During this expedition I had the opportunity of making some observations on the sexual behaviour of *Chlorocyphidae*. I believe it useful to report my observations, since sexual behaviour in this family is scarcely known, and because it is of particular interest in view of the high evolutionary level reached in this respect by the related *Calopterygidae*.

The observations were carried out at the following localities and dates (the letters G, C and M, following the names of the localities, indicate whether these were taken from the guide published in 1938 by the CONSOCIAZIONE TURISTICA ITALIANA, from the maps 1 : 500,000 G.S.G.S. 4355, or from the Michelin map respectively):

K a f f a, Anderaccia (G, C), Ponte naturale di Gurgutto (G) on the river Ghiccia (G, C) or Dincia (G); about 1650 m; October 26, 1973; between 11.00 a.m. and 1.00 p.m.

K a f f a, Uncuri (G) or Unkuri (C), Cascade del Ghibiè di Gimma (G) or Ghibbie (C); about 1650 m; October 29, 1973; between 9.30 and 11.15 a.m.

The specimens caught at Anderaccia (4♂, 1♀) were later identified as *Platycypha caligata caligata* (Selys) after the work of PINHEY (1967). Unfortunately, no specimens could be caught at Uncuri, but the specimens observed were quite similar, in their general appearance as well as in the colour of the tibiae and abdomen, to those of Anderaccia.

To the same species are referable the specimens caught in the other stations, viz.:

S h o a, Metehara (G) or Metahara (C, M), Cascade dell'Auasc (G) or Awash (M); about 900 m; November 3, 1973; 2 ♂.

G e m u G o f a, Soddu (C, G, M), river south-west of Soddu; about 1430 m; November 13, 1973; 2 ♂.

G e m u G o f a, Arba Mintch (M), small river north-east of Arba Mintch; about 1350 m; November 13, 1973; 1 ♂, 1 ♀.

All the specimens were caught by me, except for a male taken at Anderaccia and another at Metehara by Mesfin Mengestabe, our tireless driver, guide and collaborator.

OBSERVATIONS

FRASER (1949) describes the sexual behaviour of the *Chlorocyphidae* with dilated coloured tibiae (i.e., of the genus *Platycypha*, since males of the present genus *Africocypha* were unknown to him) as follows:

"... the males hover head-on to the settled female, the latter gazing apparently without any evoked emotion whilst the male sprawls its widely diverged tibiae in such a way as to display them to the best advantage... Quite occasionally another male will join in the courtship, when the first will at once attack it: the two, hovering steadily, make circles round one another, always face to face, sparring as it were, like a couple of wrestlers but never coming to grips save for an occasional nose bumping. No visible damage ever comes from these encounters, the victory going apparently to the most persistent of the two, for, sooner or later, one tires of the performance and flies off".

At Anderaccia, where the river Ghiccia is about 10 metres wide, the males were perched as close as possible to the middle of the river, for instance on overhanging branches or emerging stones. Now and then one of them would take flight, exploring the surface of the emerging stones near its perching site, to which it soon came back. The males often make the "abdominal bobbing" (a vertical movement of the abdomen, which probably has a cleaning function).

When two males meet, there are two possibilities: (1) one of the two flies off, pursued by the other; (2) the two face each other while flying with small vertical hops, the two bodies parallel to each other. In two instances of this latter case, once the two males had the same orientation; the other time the head of one male was oriented as the tip of the abdomen of the other. During the hopping flight the two males shift always remaining side by side, and both may draw back in the case they have the same orientation.

At Uncuri, too, the males were perched as close as possible to the middle of the river, which was about 50 metres wide; and this is why it was not possible to catch any specimens in this station. It was observed at Uncuri that the two males may shift upwards during the hopping flight, which may last up to half a minute and may, towards the end, turn into a short, straight, faster flight.

The approach of a male to a perched female was observed once at Anderaccia and several times at Uncuri. The male flies very slowly towards the female, with the head pointing towards her, and the body swinging laterally. At Anderaccia the female, which was perched on an emerging stone, flew off before being reached by the male. At Uncuri, I observed that a male, while hovering and swinging laterally, was describing a semicircle around the female. The latter may refuse the pairing by spreading out its wings, which in the resting position are held vertically over the body, as in the *Calopterygidae*. Only once, at Uncuri, could I observe a male seizing a female; unfortunately, in this case, I had not observed the swinging flight which must surely have preceded. Immediately there followed the copula, which lasted about half a minute; then the male left the female, which at once started egg-laying movements on floating or emerging branches.

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