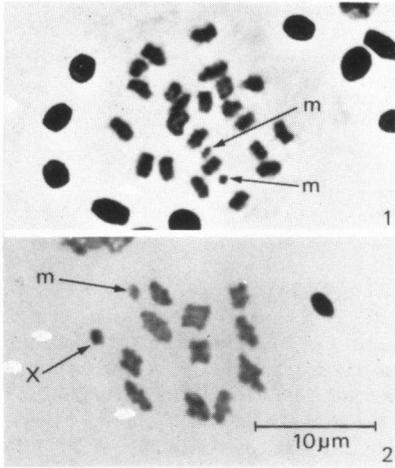


THE KARYOTYPE OF *LIBELLULA
FULVA* MÜLL. FROM SWITZERLAND
(ANISOPTERA: LIBELLULIDAE)

It is probably due to its very local occurrence and brief adult life that this is the only Central European libelluline species the chromosomes of which have not yet become known. Thanks to Miss Irene E. Siegenthaler, Thun, Switzerland, we have been able to collect, June 30, 1979, a number of mature males in the Nature Reserve Schmittmoos (on the Walenbach stream), Waffenplatz, Thun, canton Berne (alt. 628 m). Four dissected specimens yielded 60 slides, all showing considerable mitotic activity, inspite of the advanced age of the insects. Although the complement is of a characteristic libelluline type ($2n \sigma = 25$, $n \delta = 13$, m, X second smallest of the set a metaphase I; cf. Figs. 1-2), for the above reasons it is considered worthwhile bringing it here on record.

L. fulva is a relic of the Eurasian preglacial fauna, hence it has no close relatives either in the Old or in New World. As far as the



Figs. 1-2. Müller, ♂, polar views of (1) spermatogonial metaphase; — (2) early primary spermatocyte metaphase. (Feulgen squash, 1500 X).

morphology of the penis is concerned, it is remarkable specialized, and so is *L. depressa* L., which appears to be a European offshoot from the ancient *Plathemis* stock. According to C.H. KENNEDY (1922, *Ent. News* 22: 65-71, 105-111, pl. 4), to whom we owe the above statement, *fulva* and *depressa* are the most different ("specialized away") from the primitive *L. semifasciata* Burm. penis of any true libellulas. The same is true of *L. quadrimaculata* L., the nearest relative of which appears *L. angelina* Sel. of Japan.

The chromosomes are known of all of these taxa (*P. lydia* [Dr.]), but *depressa* is the only species with a definite variation of chromosome numbers in different geographic populations ($n = 12$, England; L. HOGBEN, 1921, *Proc. R. Soc.*, B, 92: 60-80; — $n = 12, 13$; (Austria; B. KIAUTA, 1968, *Genetica* 39: 64-74; — $n = 13$; France; B. KIAUTA, 1973, *Genen Phaenen* 16: 55-60). It would be interesting, therefore, to examine the cytology of *fulva* systematically throughout the geographic range of the species.

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HEMIANAX EPHIPPIGER (BURM.) IN SOUTHWESTERN GERMANY AND IN CORSICA (ANISOPTERA: AESHNIDAE)
Some time ago Dr. Peter Miotk (Hannover) showed me his dragonfly collection containing two unidentified specimens, that I recognized as belonging to *H. ephippiger*. They were two adult females, captured July 22, 1966 at the Erichskircher Ried/Bodensee, E of Friedrichshafen (Baden-Württemberg, German Federal Republic). This is the third record for Germany.

A dragonfly collection (now in my possession) of Dr. Paul Blum and Dr. Walter Sudhaus (both Freiburg i.Br.) from Corsica contains a female of this species, collected August 3, 1970, nr. St. Marié. The species had not yet been reported from the island of Corsica.

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