

THE KARYOTYPE OF *ISCHNURA PUMILIO* (CHARP.) (ZYGOPTERA: COENAGRIONIDAE)

Miss M. Verdonk (Bussum, the Netherlands) during 1978 studied a population of this species in the surroundings of the village of Winterswijk, Gelderland Prov., the Netherlands, and supplied two adult males (taken July 23, 1978) for cytological examination.

This is the thirteenth member of the genus examined karyologically, and the first possessing a high-n complement, viz  $2n \sigma = 29$ ,  $n \delta = 15$ . The mitotic and meiotic metaphase sets have the definite appearance of a primary complement, without any trace of a secondary fragmentation of a pair having taken place. The elements (bivalents) are of gradually decreasing magnitude, save for a medium-sized *m* and a slightly smaller (unpaired) X.

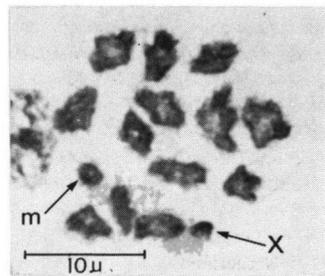


Fig. 1. (Charp.) (Feulger. squash, 1500 X): primary spermatocyte metaphase, polar view.

*Ischnura pumilio* is well-known for a number of peculiar features in its distributional pattern and ecology. Among these is its capability of rapid colonization of small, ephemeral aquatic biotopes of recent origin, which are ecologically unsuitable as breeding sites of any other odonate species. It is also noted for the relatively short duration of its populations at any one locality (save perhaps

in the alpine zone), probably not much longer than three consecutive years. (Cf. C. DUFOUR, 1978, *Mitt. schweiz. ent. Ges.* 51: 421; — G. JURZITZA, 1970, *Beitr. Forsch. Südw.Dtl.* 24: 151-153; — R. RUDOLPH, 1979, *Odonatologica* 8: 55-61, with bibliography; — W. ZIMMERMANN, 1972, *Ent. Ber., Berlin* 1972: 108-112).

The high chromosome number, exceeding the family type number and causing an increase of the recombination index, is in good agreement with the pronounced ecological flexibility of the *I. pumilio* genotype.

It is interesting that the other four high-n coenagrionide species, viz. *Argia apicalis* (Say), *A. tibialis* (Ramb.) (B. KIAUTA & M.A.J.E. KIAUTA, 1979, *Abstr. Pap. 5th int. Symp. Odonatol., Ste-Thérèse, Quebec*, in press), *Enallagma cyathigerum* (Charp.) (B. KIAUTA, 1969, *Genetica* 40: 158-180), and *Leptagrion macrurum* (Burm.) (B. KIAUTA, 1972, *Odonatologica* 1: 31-35), are also peculiar in their ecological adaptations and/or habitat range as compared with their congeners, possessing chromosome numbers equal to or lower than the coenagrionide type number ( $n = 14$ ).

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