Mem. Inst. Butantan
Simp. Internac.
33(1):153-154, 1966

19. KARYOTYPES OF SOUTH-AMERICAN *ARANEIDA*

MANUEL O. DIAZ and FRANCISCO A. SAEZ

Departamento de Citogenética, Instituto de Investigación de Ciencias Biológicas, Montevideo, Uruguay

The karyotype constitution of eleven species of **ARANEIDA** belonging to eight families was studied. The data about chromosome number, and sex determination system obtained from this study are summarized in Table I.

TABLE I

Species	2 n	n	Sex determ. system
Fam. DYSDERIDAE			
Dydera magna Keys	9	5	X-O
Fam. SEGESTRIDAE			
Ariadna mollis	9	5	X-O
Segestria ruficeps	14	8	XX-O
Fam. SICARIIDAE			
Scytodes maculata	14	8	XX-O
Loxosceles rufipes	20	11	XX-O
Fam. AMAUROBIIDAE			
Amaurobius simoni	40	21	XX-O
Fam. SPARASSIDAE			
Polybetes pitagorica	42	22	XX-O
Fam. LYCOSIDAE			
Lycosa erythrognata	22	12	XX-O
Lycosa nordenskölii	19	10	X-O
Fam. THERIIDIDAE			
Theridium tepidariorum	22	12	XX-O
Fam. ARGIOPIDAE			
Metepeira lathyrina	24	13	XX-O

In the karyotypes of *Scytodes maculata* and *Loxosceles rufipes* all the autosomes are metacentric and the Xs acrocentric. The location of the centromere in *Dysdera magna*, *Ariadna mollis* and *Segestria ruficeps* cannot be clearly determined because of the absence of centromeric constrictions or angulations during

gonial divisions. Meiotic bivalents are very contracted and their configuration suggest a metacentric nature. Nevertheless, this assumption does not explain the behaviour of the chromosomes in gonial divisions where there is no polarization of the centromeric regions during anaphases. For explaining these peculiarities it is necessary to assume they have a *diffuse centromere* of the type observed in *Tityus bahiensis* by Piza. (1)

In the other species studied all the chromosomes are acrocentric.

Multiple X sex determination system was observed in eight of the studied species and X-O systems only in three of them. The Xs are acrocentric in all species studied except in those belonging to DYSDERIDAE and SEGESTRIDAE where centromere position is uncertain. The Xs in *Scytodes maculata* show a strong heteropycnosis from diplotene until second anaphase and are paired by their proximal ends during all this period. In gonial divisions the Xs of *Scytodes* are free and isopyctonic.

The higher chromosome numbers were observed in *Amaurobius simoni* and *Polybetes pitagorica* with n = 21 and 22 respectively, but in account of chromosome arms number *Loxosceles rufipes* is close to the former with n = 20. *Lycosa nordenskölii* show a sharp reduction in the chromosome number relative to the modal number of the family n = 12 (Suzuki (2)) and have an aberrant X-o system for the family. The lower chromosome number was found in *Dysdera* and *Ariadna* with an n = 5. Suzuki (2) has described a karyotype with n = 4 for *Ariadna lateralis*, a related species. Evidently in the families DYSDERIDAE and SEGESTRIDAE there is a trend toward extreme chromosome reduction. This may well be the effect of a diffuse centromere system.

The chromosomes of *Loxosceles rufipes* have been studied previously by Beçak and Beçak (3), and our results confirm their findings. The chromosomes of *Theridium tepidariorum* have also been studied by other authors: Hackman (4), Montgomery (5) and Suzuki (2), and also in this case we do no more than confirming their descriptions.

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