61. *Studies on Amphibian Chromosomes.*

3. *Preliminary notes on the chromosomes of urodeles.*

(*Diemyctylus pyrrhogaster* and *Megalobatrachus japonicus*.)

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With the object of studying the relation between the sex chromosomes and sex determination in amphibians, the author investigated several species of this group, aided by a grant from the Imperial Academy of Japan. Two papers "Studies on Amphibian Chromosomes, 1 and 2"¹⁾ have already been published. Now, a brief account of the results concerning two species of urodeles (*Diemyctylus pyrrhogaster* and *Megalobatrachus japonicus*) will be given below.

In *D. pyrrhogaster* the spermatogonial metaphase shows 24 atelomitic chromosomes (Fig. 1). In the first spermatocyte they pair into 12 tetrads, of which the large ones form multiple rings (Fig. 2). The structure of the small tetrads can hardly be seen so clearly. The metaphase of the second spermatocyte shows 12 atelomitic chromosomes (Fig. 3).

In *M. japonicus* the spermatogonial metaphase shows 64 chromosomes of various forms, long V's, long rods, small V's, and dots (Fig. 4). In the first spermatocyte 32 tetrads (Fig. 5) and in the second spermatocyte 32 dyads (Fig. 6) are present. In every metaphase (Figs. 4-6) the megachromosomes lie at the periphery and the microchromosomes in the central space. The form and arrangement resemble the general type found in reptilian chromosomes.²⁾

Special chromosomes which could be designated sex chromosomes, are found in neither of these two species.

1) Iriki, Sh.: Mem. Coll. Sci., Kyoto Imp. Univ., Ser. B., Vol. 5.

Minouchi, O. and Iriki, Sh.: Ibid. 6.

2) Matthey, R.: Rev. Suisse d. Zool. T. 38, No. 9.

Nakamura, K.: Mem. Coll. Sci., Kyoto Imp. Univ., Ser. B., Vol. 4.

„ : Proc., Vol. 3.

„ : Ibid., Vol. 4.

„ : Ibid., Vol. 7.

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

Figs. 1-3. *Diemyctylus pyrrhogaster* (Zeiss Obj. 1/12; Oc. K. 12).

Figs. 4-6. *Megalobatrachus japonicus* (Zeiss Obj. 1.5 mm; Oc. K. 18).