70. Pollen Development of Jussieua repens, L.*

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(Comm. by M. Miyoshi, M.I.A., May 12, 1928.)

The lowest numbers of chromosomes in the eight genera hitherto reported in Oenotheraceae are 7 in Oenothera, 7 (or 9) in Godetia, 7 in Eucharidium, 9 in Clarkia, 11 (or 14) in Fuchsia, 11 in Lopezia, 18 in Epilobium, and 18 in Chamaenerion.

As the chromosome number in none of the species of Jussieua was known, the writer has studied the pollen development of J. repens, with the following results.

In a faintly stained synaptic knot of microsporocytes of this species, a number of caryotin granules are seen. They show no evidence of a double nature and their number is neither constant nor coincident with the haploid or diploid number of chromosomes (Fig. 1).

Eight gemini are formed at diakinesis; and they regularly form a nuclear plate in the first meiotic metaphase, though occasionally one of the gemini behaves irregularly (Figs. 2–8).

The behaviour of chromosomes during the first and second meiotic divisions is normal, with some exceptions.

The haploid number of chromosomes was counted in various stages of the first and second meiotic divisions, and found to be always eight, a haploid number new to Oenotheraceae (Figs. 2–10).

The chromosomes differ from one another in size, two of them being larger (Fig. 5).

Pollen-tetrads seem to be formed by the process of protoplasmic furrowing (Fig. 11).

* Contributions to Cytology and Genetics from the Departments of Plant-Morphology and of Genetics, Botanical Institute, Faculty of Science, Tokyo Imperial University, No. 76.