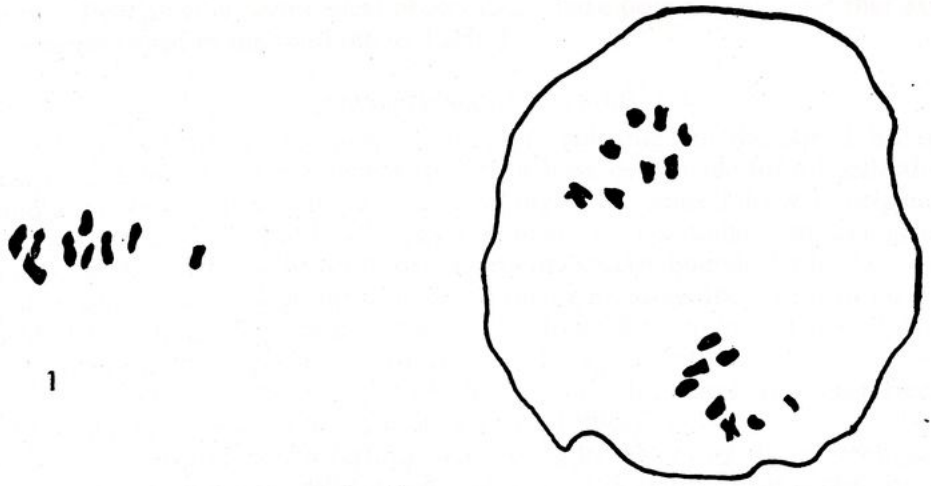
THE CHROMOSOME NUMBERS OF SPERGULA FALLAX AND HYPERTELIS BOWKERIANA

J. A. RATTER

During the past summer, specimens of both *Spergula fallax* (Lowe) E.H.L. Krause (Caryophyllaceae) and *Hypertelis bowkeriana* Sond. (Aizoaceae) were grown from seed of known wild origin and examined cytologically.

Spergula fallax was grown from a few seeds removed from a herbarium sheet of a collection from Iraq (Nat. Herb. Iraq. No. 32587, Abu-ghraib, 5 iii 63). Acetocarmine squashes of pollen mother cells showed regular meiosis with 9 bivalents and normal disjunction (fig. 1). The chromosome number of *S. fallax* therefore conforms to the normal x = 9 series of tribe *Sperguleae* and it is diploid like the other two species of *Spergula*, *S. arvensis* L. and *S. morisonii* Boreau, for which cytological data are available.



FIGS. 1-2. x approx. 1,300.

1. *Spergula fallax*, PMC 1st meiotic metaphase, 9 bivalents.
2. *Hypertelis bowkeriana*, PMC 1st meiotic telophase, n=8.

An excellent description of *S. fallax* is given under the synonym *S. flaccida* (Roxb.) Asch. by Maire (Flore de L'Afrique du Nord, 9: 93–95, 1963) and our plants grown in a greenhouse corresponded very closely to it. Under the conditions prevailing in the greenhouse the flowers were automatically self-pollinated by the stigmas touching the dehisced anthers. Such autogamy is no doubt the normal breeding system of the plant since the flowers are rather inconspicuous and the pollen output rather low. An accurate count was made of pollen present in anthers just prior to dehiscence; this showed c. 260 grains in a large anther of the inner whorl and c. 120 in a small anther of the outer whorl. This pollen production is similar to that of some of the inbreeding species of *Spergularia*. Nectar was secreted, however, and could be observed as drops about the base of the stamens, so probably some cross-pollination also occurs

in nature. The cultivated specimen from which the chromosome count was made is lodged in the herbarium of the Royal Botanic Garden, Edinburgh, under the number C. 5299.

Hypertelis bowkeriana Sond. was grown from seed of specimens collected in a mangrove swamp at Catembe, Delagoa Bay, Mozambique by Dr. P. Myerscough of the Department of Botany, University of Edinburgh. Both wild and cultivated specimens are lodged in the herbarium of the Royal Botanic Garden, Edinburgh, the latter under the number C 5173. Photographs and notes on morphology have been attached to the cultivated specimen. Acetocarmine squashes of pollen mother cells from unfixed buds showed many stages of regular meiosis from first meiotic anaphase onwards with $n = 8$ (fig. 2). This is the first chromosome count for *Hypertelis* and differs from those recorded in the closely allied genus *Mollugo*, where all but one of the species for which cytological information is available belong to an $x = 9$ series. Sugiura, however, recorded $n = 32$ in *Mollugo verticillata* (Studies on the Chromosome Numbers in Higher Plants, with Special Reference to Cytokinesis, 1. *Cytologia*, 7: 554–595, 1936) which suggests that an $x = 8$ series may also occur in *Mollugo*.