

CHROMOSOMES OF *SACHSIA*
(*COMPOSITAE* - *INULEAE*)

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The genus *Sachsia* has traditionally been placed in the tribe Inuleae, subtribe *Plucheinae* which is characterized as having two marginal stigmatic rows and bacular thickenings in the bases of the pollen grain spines. However, *Sachsia* and *Rhodogeron* which have sexine bacules branching toward the base, and *Stenachaenium* which has bacules anastomosing toward the base and submarginal stigmatic rows, are considered to be "several deviating genera whose inclusion in the group does not seem justified" by Merxmüller et. al. (1977) who exclude them from the *Plucheinae*. They conclude that when *Pterocaulon* and *Sphaeranthus* are also excluded from the *Plucheinae*, the subtribe becomes so coherent that generic distinction becomes the major problem.

The disposition of the excluded genera is unclear, therefore, the late William T. Gillis provided me with achenes of *Sachsia polycephala* Griseb. hoping that the chromosome number would be useful in clarifying the taxonomic position of the genus. It is hoped that this information will be useful toward that end.

METHODS. Achenes of *Sachsia polycephala* Griseb. from Dade Co. Florida, G. N. Avery 1672, 24 January, 1976 were germinated and the plants were grown to maturity in a growth chamber. Heads were collected in Carnoy's fixative (6 absolute ethanol : 3 glacial acetic acid : 1 chloroform). PMC's were squashed in acetocarmine and examined using phase illumination.

OBSERVATIONS. In all countable cells $n = 10$ (Figure 1) and meiosis appeared regular. This is the first chromosome report for *Sachsia*.

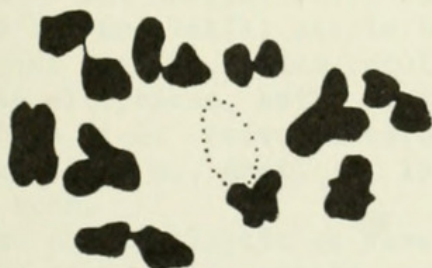


Figure 1. Meiotic chromosomes of *Sachsia polycephala* Griseb. x ca. 800

This count is consistent with chromosome counts for other genera in the *Plucheinae sens. lat.* except for *Blumea*. In *Blumea*, five different meiotic counts are reported among 23 counts from twelve

species; and twelve different mitotic counts are reported among 29 counts from 18 species. Apomixis apparently provides additional confusion in that genus.

Six counts in *Laggera* are all $n = 10$ and/or $2n = 20$. The same numbers are reported for one count in *Tessaria*, 18 of 19 counts reported for *Pluchea* (Banerjee and Sharma, 1974 report $2n = 30$ in *P. indica* (L)Less.), one count in *Pterigeron*, three in *Pterocaulon*, and four in *Sphaeranthus*.

Except for *Blumea*, chromosomally this group is cohesive and this count for *Sachsia* does not provide evidence for its exclusion from the Plucheinae as traditionally described.

LITERATURE CITED

- Banerjee, A. K. and A. Sharma. 1974. Chromosome studies on some Indian members of Compositae. I. Tribe Inuloideae. Broteria Serie Trimestral Ciencias Naturais 43: 15-32.
- Merxmüller, H., et. al. 1977. Inulae - Systematic review, p. 577-602 in V. H. Heywood, J. B. Harborne, and B. L. Turner (eds.) The biology and chemistry of the Compositae, Vol.1 Academic Press, New York.

NOTE: A list of 97 chromosome counts from 41 species of six genera of Plucheinae and a 44 item bibliography citing the sources of those counts is available from this author.



Faasen, Paul van. 1981. "Chromosomes of *Sachsia* (Compositae - Inuleae)." *Phytologia* 48, 129–130..

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