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SOME CHROMOSOME NUMBERS IN ERICACEAE

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ABSTRACT. Chromosome counts are recorded for material of known wild origin of the following nine species: *Agauria salicifolia* (Lam.) Hook. f. ex Oliver var. *intercedens* Sleumer from Ruanda, n = 12; *A. buxifolia* (Lam.) Cordem from Reunion, n = 12; *Diogenesia amplectens* (Sleumer) Sleumer from Ecuador, n = 24; *Gaultheria leucocarpa* Blume from Java, n = 22; *Vaccinium auriculifolium* Sleumer, *V. reticulatovenosum* Sleumer and *V. shoddei* Sleumer, all n = 12 from Papua New Guinea; *V. varingiaefolium* (Blume) Miquel var. *varingiaefolium* from Java, n = 12; *V. poasanum* Donnell Smith from Honduras, n = 24. All counts were made at MI in PMC and meiosis in all species showed regular formation of bivalents. None of the species appears to have been counted previously and the counts for *Agauria* and *Diogenesia* represent the first for the genera.

The chromosome counts reported below were made from plants of known wild origin cultivated in the Royal Botanic Garden, Edinburgh. All counts were made from squashes of pollen mother cells stained by propionocarmine or acetocarmine. Voucher herbarium specimens are lodged in the Edinburgh herbarium (E) under the 'C' numbers cited. None of the species appears to have been counted previously and the counts for *Agauria* and *Diogenesia* represent the first for the genera.

AGAURIA

Agauria salicifolia (Lam.) Hook. f. ex Oliver var. **intercedens** Sleumer

n = 12 (MI, 12 bivalents). E access. no. 730764. Ruanda, Ruhenger prefecture, Muhabura volcano, 2800 m, 21 ii 1972, *P. Auquier* 2636 (C13954).

A. buxifolia (Lam.) Cordem

n = 12 (MI, 12 bivalents), fig. 1A. E access. no. 751103. La Reunion, Petit Matarum, Cirque de Cilaos, 1500 m, 22 ii 1975, *M. J. E. Coode* (C12869).

These two species are strikingly different in gross morphology: *A. salicifolia* is a green-flowered, glabrous plant while *A. buxifolia* is red-flowered and glandular-hairy. Sleumer (1938) united *Agauria* into one highly variable species with numerous varieties and forms, but Friedman (1981) has reinstated *A. buxifolia* and gives several differentiating characteristics including ultimate stature and ecology. Certainly the plants in cultivation are very distinct and support Friedman's treatment despite their both having the same chromosome number.

DIOGENESIA

Diogenesia amplectens (Sleumer) Sleumer

n = 24 (MI, 24 bivalents), fig. 2A. E access. no. 762396. Ecuador, 15 km W of Aloag, 1976, *G. Argent* (C13818).

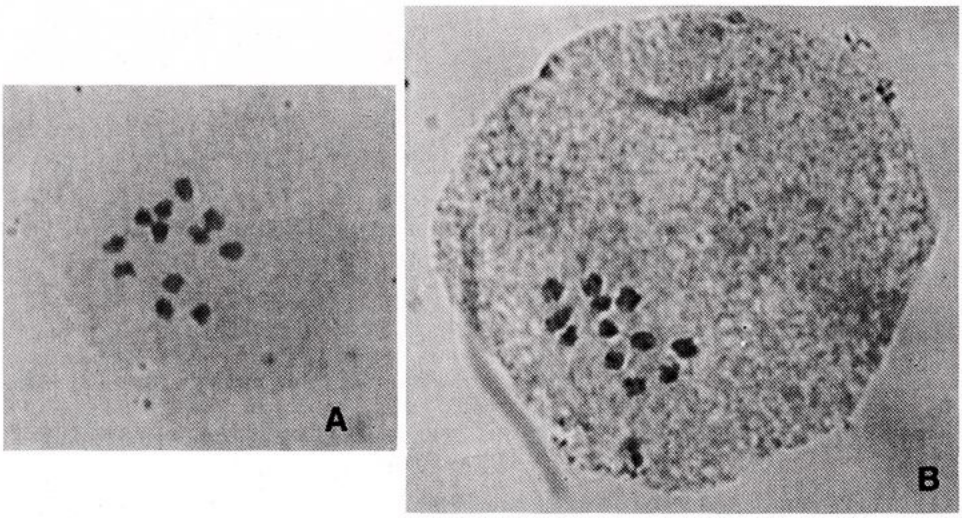

FIG. 1. 1st Meiotic Metaphase ×1800: A, *Agauria buxifolia*, 12 bivalents; B, *Vaccinium reticulatovenosum*, 12 bivalents.

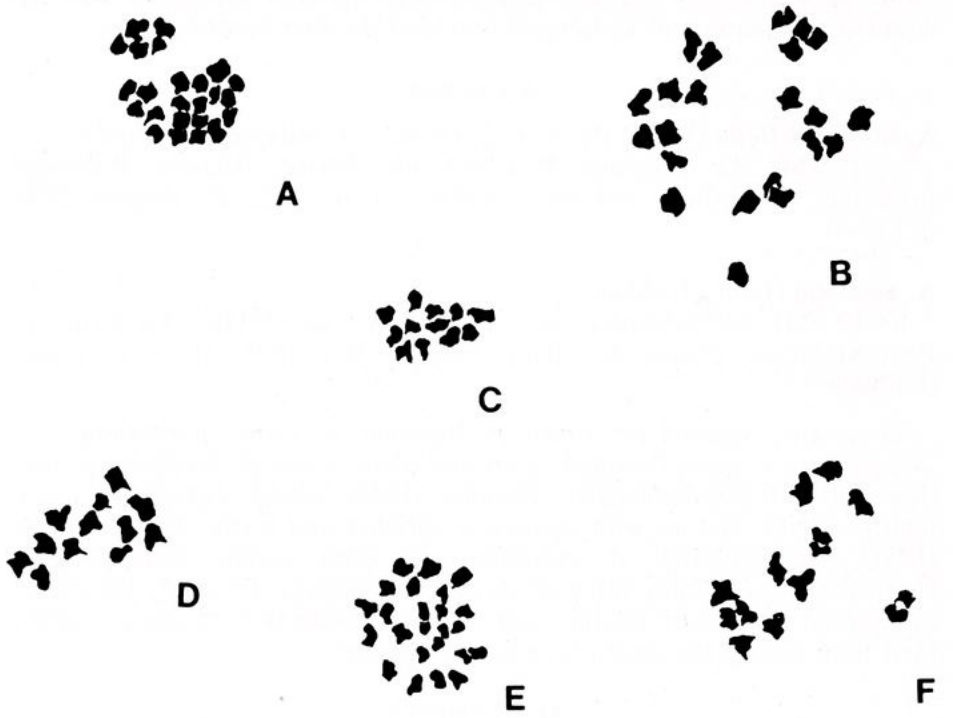

FIG. 2. Camera lucida drawings, 1st Meiotic Metaphase ×1800: A, *Diogenesia amplectens*, 24 bivalents; B, *Gaultheria leucocarpa*, 22 bivalents; C, *Vaccinium shoddei*, 12 bivalents; D, *V. varingiaefolium* var. *varingiaefolium*, 12 bivalents; E, *V. poasanum*, 24 bivalents; F, *V. auriculifolium*, 12 bivalents.

Diogenesia is one of the many genera of Vaccinioideae in South America defined by a combination of characters, not one of which on its own is diagnostic (see Sleumer, 1978). It is closely related to *Vaccinium* and *Sphyrospermum* and in some ways bridges the morphological gap between them. The chromosome number merely emphasises the relationship with *Vaccinium*.

GAULTHERIA

Gaultheria leucocarpa Blume

n = 22 (MI, 22 bivalents with some secondary association), fig. 2B. E access. no. 762226. Java, Pangrango, above Tjibodas, 29 iv 1968, *P. Woods* 1030 (C7267).

This is the same as the count made by Mehra & Bawa (1969) for the Indian species *Gaultheria fragrantissima* Wall. and suggests that there may be a good cytological distinction between *Gaultheria* and the closely related genus *Diplycosia,* since the single count reported for that genus (Ratter & Milne, 1973) was n = 18.

VACCINIUM

Vaccinium auriculifolium Sleumer

n = 12 (MI, 12 bivalents), fig. 2F. E access. no. 671333. Papua New Guinea, Kendap/Lagaip Divide, 9800′, *M. Black* 239 (C6685).

V. reticulatovenosum Sleumer

n = 12 (MI, 12 bivalents), fig. 1B. E access. no. 681529. Papua New Guinea, Morobe District, Mt Kaindi, nr Wau, 12 vi 1968, *P. Woods* 1863 (C7510).

V. shoddei Sleumer

n = 12 (MI, 12 bivalents), fig. 2C. E access. no. 671332. Papua New Guinea, Kendap/Lagaip Divide, 9800′, *M. Black* 238 (C6402).

V. varingiaefolium (Blume) Miquel var. **varingiaefolium**

n = 12 (MI, 12 bivalents), fig. 2D. E access. no. 680857. Java, Kadangbadak, Pangrango, above Tjibodas, 28 iv 1968, *P. Woods* 1027 (C6514).

The above four counts of n = 12, the basic number for the genus, are the first counts of *Vaccinium* in the Malesian region, an area with the highest concentration of *Vaccinium* species in the world. These species are all from section *Bracteata* Nakai and counts from some of the other morphologically quite dissimilar sections in this area may yet give more variable results.

Vaccinium poasanum Donnell Smith

n = 24 (MI, 24 bivalents), fig. 2E. E access. no. 730609. Honduras, Tegucigalpa, 7000′, 8 i 1973, *G. A. C. Herklots* (C12277).

This species, known from the mountains in a restricted area of Central America, has the tetraploid number for the genus.

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