CHROMOSOME COUNTS OF SOME ANGIOSPERMS FROM IRAN II

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Original chromosome observations including 20 species from 11 families are reported. Two of these are endemic to Iran. Chromosome number for four species and basic number for one genus are reported for the first time. Laggard chromosomes and chromatid bridge have been noted for one species.

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شمارش کروموزومی تعدادی از نهاندانگان ایران (۲)

از: سید محمود غفاری

مشاهدات کروموزومی ۲۰ گونه متعلق به ۱۱ خانواده گزارش میشود که دو گونه از آنها انحصاری ایران است ، شمارش کروموزومی ۴ گونه و عدد پایه یک جنس برای اولین بار ارائه میگردد . عقب‌ماندگی کروموزومی و پل کروماتیدی برای یک گونه یادداشت شده است .

INTRODUCTION

This is the second of a series of paper dealing with chromosome counts of some Angiosperms from Iran. As in the first report (Ghaffari and Sanei Chariat-Panahi 1985), some of the observations that are reported here confirm earlier reports listed in cumulative indices edited by Fedorov (1969), R. J. Moore. (1973, 1974 & 1977) and D. Moore, (1982), these are listed without discussion. Voucher specimens are preserved in the Herbarium of Research Institute of Forests and Rangelands (TARI).

The materials and methods involving conventional acetocarmine squashes of buds for meiotic stages are the same as those mentioned in first paper (1985).

BERBERIDACEAE

Bongardia chrysogonum (L.) Boiss.— 2n=12 (Fig. 1).

Karaj: Mardabad, Ghaffari 462.
Pervious reports for this taxon are 2n= 12, 14 and 24. I observed 2n=12 in mitosis cell.

FABACEAE

Lotus corniculatus L.— n=12. (Fig. 1).

Karaj: Koushk-Zar, Ghaffari 6662.

Occasionally in some cells, laggard chromosomes and chromatid bridge were observed.

Vicia persica Boiss.— n=5 (Fig. 1).

Karaj: Kandavan, Ghaffari 13563.

LINACEAE

Linum mucronatum Bertol.— n=14 (Fig. 1).

Tehran: Sorkh-Hesar, Ghaffari 16464. This is the first chromosome number report for this taxon.

PRIMULACEAE

Primula gaubaeana Bornm.— n=9 (Fig. 1).

Khoramabad, Ghaffari 17663
This agrees with previous report from Iran, Bohlin & Sjodin (1979) and Ghaffari (1985).

RANUNCULACEAE

Adonis flammea Jacq.— n=16 (Fig. 1).

Karaj: Mardabad, Ghaffari 862.

Ranunculus arvensis L.— n=16.

Karaj: Valian, Ghaffari 15163.

ROSACEAE

Agrimonia eupatoria L.— n=14.

Karaj: Mardabad, Ghaffari 9262.

Hulthemia persica (Gmel.) Bornm.—n=7 (Fig. 1).

Karaj: Mardabad, Ghaffari 1461.

RUTACEAE

Haplophyllum perforatum (M. B.) Kar. et Kir.— n=9 (Fig. 1).

Karaj: Valian, Ghaffari 14963.
From this genus only *H. dauricum* (L.)G. Don. with n=9, has been studied (Hanelt 1973), and this species was first examined by Ghaffari (1986).

SCROPHULARIACEAE

Veronica anagallis L.— n=18 (Fig. 2).

Karaj: Koushk-Zar, Ghaffari 2363.

Veronica campylopoda Boiss.— n=21 (Fig. 2).

Karaj: Mardabad, Ghaffari 1063.

Veronica polita Fr.— n=7.

Karaj: Mardabad, Ghaffari 1962.

Veronica orientalis Mill.— n=32.

Karaj: Kandavan, Ghaffari 12163.

Previous reports for this taxon are 2n=32, 40 and n=32 Ghaffari (1986).

SOLANACEAE

Hyoscyamus niger L.— n=17 (Fig. 2).

Karaj: Samghabad, Ghaffari 6563.

Hyoscyamus tenuicaulis Schönbeck-Temessy.— n=14 (Fig. 2).

Dezful, Ghaffari 765.
This species is endemic to Iran and this is the first chromosome number report for it.

Lycium depressum Stocks— n=12 (Fig. 2).

Ahvaz: Shiban, Ghaffari 665.

This is the first chromosome number report for this taxon.

UMBELLIFERAE

Anisosciadium orientale DC.— n=11 (Fig. 2).
Ahvaz: 20 km. to Hamidyyah, Ghaffari 4264.
This is the first chromosome number report for this taxon, and x=11 for the

genus.

Ducrosia anethifolia (DC.) Boiss.— n=11 (Fig. 2).

Karaj: 5km. to Chalus, Ghaffari 10862.

This species has been first examined by Cartier (1983), who reported chromosome count of 2n=22. I found the same number of chromosomes.

VERBENACEAE

Verbena officinalis L.— n=7.

Karaj: Mardabad, Ghaffari 17263.

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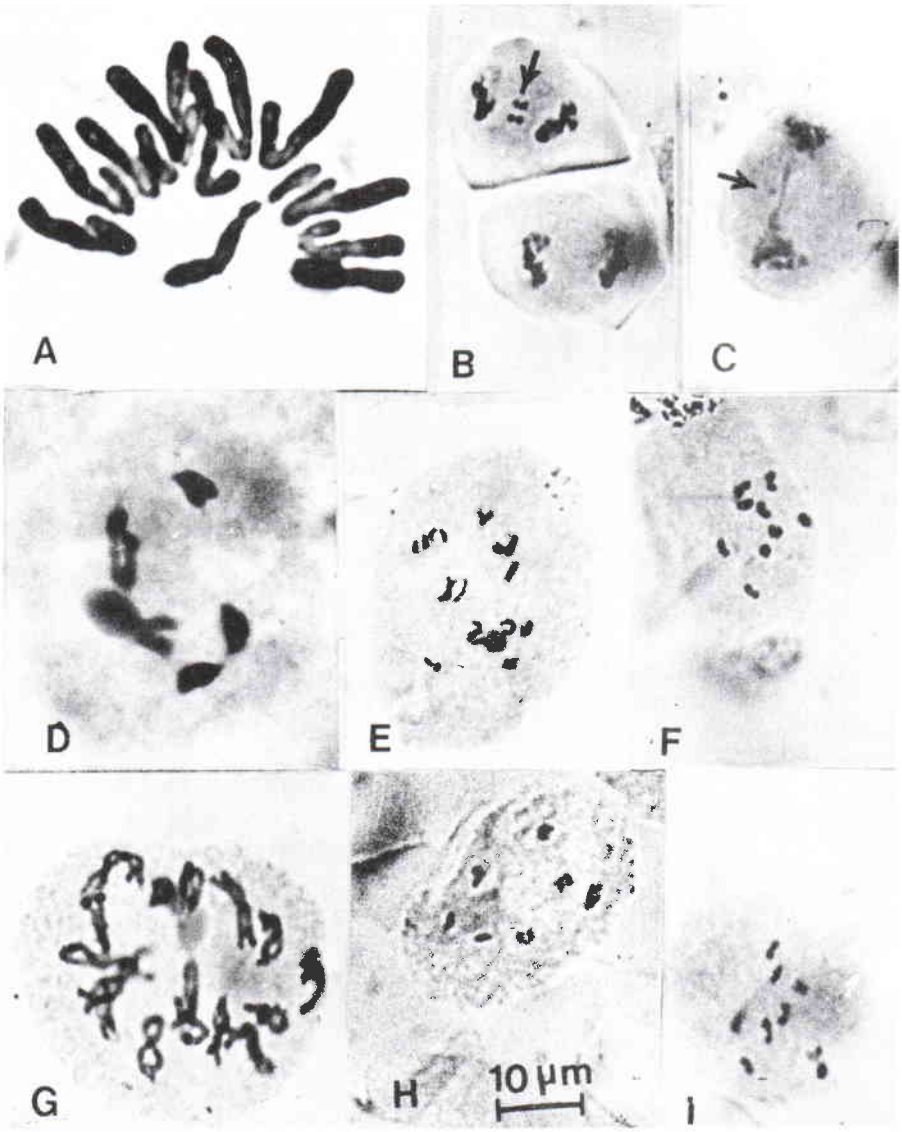

Fig. 1.: Meiotic chromosome figures (except A). —A: *Bongardia chrysogonum*, metaphase (mitosis). —B & C: *Lotus corniculatus*, late anaphase I, showing laggard chromosomes, chromatid bridge and fragment (arrows). —D: *Vicia persica*, diakinesis. —E: *Linum mucronatum*, diakinesis. —F: *Primula gaubaeana*, metaphase I. —G: *Adonis flammea*, diakinesis. —H: *Hulthemia persica*, diakinesis. —I: *Haplophyllum perforatum*, metaphse I.

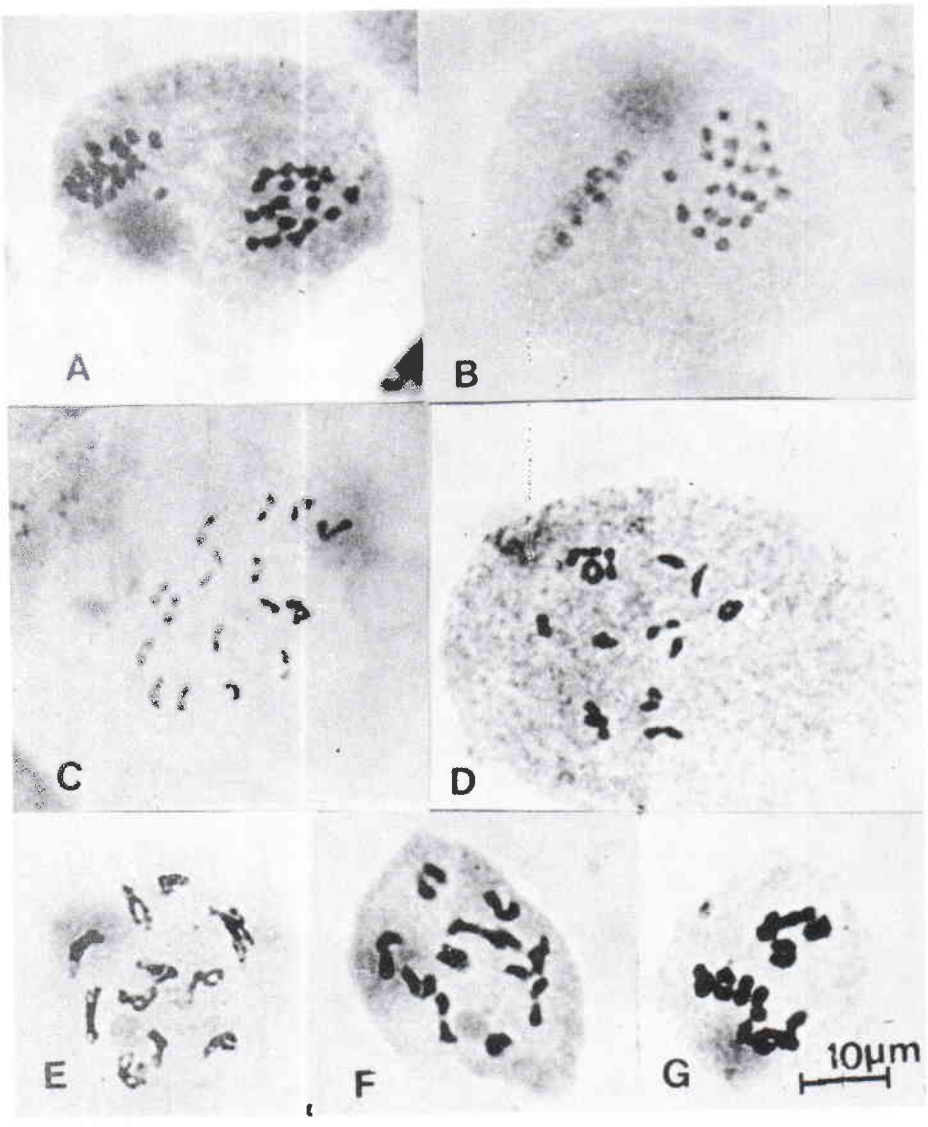

Fig. 2.: Meiotic chromosome figures. —A: *Veronica anagallis*, metaphase II.— B: *Veronica campylopoda*, metaphase II. —C: *Hyoscyamus niger*, metaphase I. —D: *Hyoscyamus tenuicaulis*, metaphase I.— E: *Lycium depressum*, diplotene.— F: *Anisosciadium orientale*, diakinesis. —G: *Ducrosia anethifolia*, metaphase I.