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Karyological data of some Greek taxa

Abstract

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Chromosome numbers and karyotypes are given for 2 taxa occurring in Greece. Karyotype microphotographs are provided, and their karyotype morphology is discussed. For both studied taxa, *Iris attica* and *Delphinium hellenicum*, the somatic chromosome number $2n = 16$ has been found for all the populations examined.

Keywords: Chromosome number, distribution, endemism, Greece, karyomorphology.

Introduction

In the context of updating the PhytoKaryon database (Kamari & al. 2017-onwards), which aims to record the chromosomal diversity of the plants of Greece, populations of two native species were studied. For both *Iris attica* (a Balcan endemic) and *Delphinium hellenicum* (a Greek endemic) $2n = 16$ chromosomes are reported, while the karyotype morphology is in accordance with previous references.

2008. *Iris attica* Boiss. & Heldr. — $2n = 2x = 16$ (Figs 1A, 1B & 1C).

- Gr:** Sterea Hellas, Nomos Attikis, Mt. Parnitha, Aeras summit, near the Sannatorium, alt. 1019 m., 38° 08' 57" N, 23° 43' 16" E, 3 Apr 2021, leg. E. Kriemadi E15 (AUA). – Purple form, $2n = 16$. – Fig. 1A.
- Sterea Hellas, Nomos Attikis, Mt. Parnitha, Aeras summit, near the Sannatorium, alt. 1019 m., 38° 08' 57" N, 23° 43' 16" E, 3 Apr 2021, leg. E. Kriemadi E16 (AUA). – Yellow form, $2n = 16$. – Fig. 1B.
- Sterea Hellas, Nomos Attikis, Mt. Beletsi, alt. 580 m., 38° 13' 08" N, 23° 49' 32" E, 3 Apr 2021, leg. E. Kriemadi E17 (AUA). – Yellow form, $2n = 16$. – Fig. 1C.

Iris attica is a Balkan endemic species growing in rocky limestone substrate at low and moderate altitude. Until recently the synonym *Iris pumila* subsp. *attica* (Boiss. & Heldr.) K.

Richt. was used, however according to the latest typification of some species of the genus (Boltenkov & al. 2021) the name *Iris attica* was re-established.

The chromosome number of $2n = 16$, found here for both yellow and purple forms, is in accordance with previous studies by Simonet (1932), Mitra (1956), Randolph & Mitra (1959), Lovka & al. (1971), Sauer & Stegmeier (1979), Sauer & Leep (1979) and van Loon & Oudemans (1981). The karyotype consists of one metacentric to sub-metacentric chromosome pair (m-sm), while the rest are acrocentric to subtelocentric (st-t). At least 2 chromosome pairs bear small spherical satellites at their short arms. Chromosome size ranges from 8.67 to 4.67 μm .

2009. *Delphinium hellenicum* Pawł. — $2n = 2x = 16$ (Fig. 1D).

Gr: Sterea Hellas, Nomos Attikis, Mt. Imittos, SE slopes, alt. 239 m., 37° 59' 39" N, 23° 50' 37" E, 15 Jul 2021, leg. E. Kriemadi E22 (AUA).

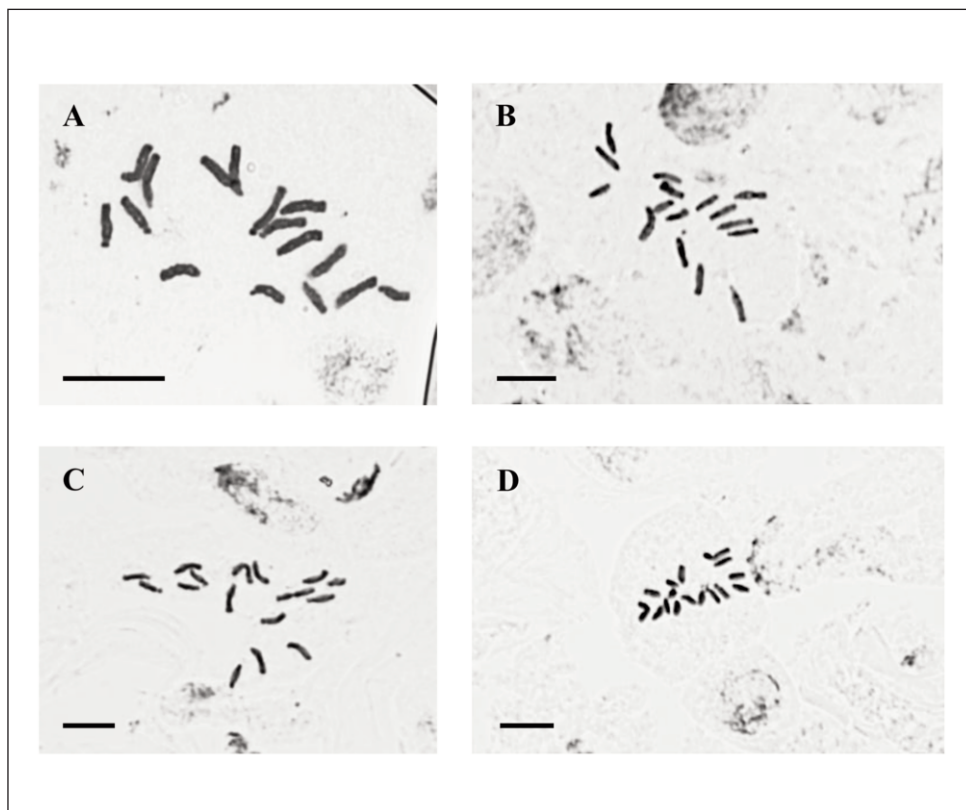


Fig. 1. Microphotographs of mitotic metaphase plates of: **A**, *Iris attica*, $2n = 16$ (E15); **B**, *I. attica*, $2n = 16$ (E16); **C**, *I. attica*, $2n = 16$ (E17); **D**, *Delphinium hellenicum*, $2n = 16$. – Scale bars = 10 μm .

Delphinium hellenicum is a Greek endemic species distributed in Peloponnisos, Sterea Hellas and the Ionian Islands. It is legally protected in Greece by a Presidential Decree (Pr. Decree 67/1981).

The chromosome number $2n = 2x = 16$ and the karyotype morphology in the population studied here from Sterea Hellas, agrees with that given by Kamari & al. (2003) in material from Peloponnisos. Additionally, the nuclear DNA amount has been estimated in a population from Kefallinia (Ionian Islands) (Siljak-Yakovlev & al. 2019). The 2C DNA value of the studied material was 9.92 pg (± 0.02) and according to the categories established by Leitch & al. (2005) it is characterized as medium-sized ($7 \leq 2C < 28$).

The karyotype consists of one pair of submetacentric chromosomes (sm), which is the largest in size, and 7 pairs of acrocentric to subtelocentric chromosomes (st-t). At least, two visible small, spherical satellites on the short arms of an acrocentric chromosome pair (st-SAT) are counted. Chromosome size varies from 5.72 to 2.15 μm .

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