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Karyological data of some endemic taxa from Mt Taigetos, Greece

Abstract

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In the present study, the chromosome number and the karyotype of 4 endemic taxa from populations of Mt Taigetos are given. For *Campanula papillosa* and *Clinopodium taygeteum* the somatic number is given to our knowledge for the first time. The geographical distribution and the conservation status of the threatened taxa are also discussed.

1881. *Centaurea athoa* subsp. *parnonia* (Halácsy) E. Gamal-Eldin & Wagenitz — $2n$ = 2x = 20 (Fig. 1A).

Gr: Peloponnisos, Nomos Lakonias, Mt Taigetos, at the way from Maganiari to EOS refuge, limestone, open place between *Pinus nigra-Abies cephalonica* forest, 36° 57' N, 22° 23' E, alt. 1300 m, 5 Jul 2014, *Ch. Kyriakopoulos& G. Kofinas 2052* (UPA).

Centaurea athoa belongs to sect. *Acrocentron* (Cass.) DC. (Wagenitz & Gamal-Eldin 1985) and it is divided into two subspecies. The typical one occurs at Athos peninsula and in W & S Anatolia (Gamal-Eldin & Wagenitz 1991), while subsp. *parnonia* (≡ *Centaurea parnonia* Halácsy) is an endemic taxon occurring in S & SE Peloponnisos, mostly at the middle-upper altitudinal range of Mts Taigetos and Parnon respectively (Gamal-Eldin & Wagenitz 1991).

The chromosome number of the population studied is $2n$ = 2x = 20 and agrees with previous reports by Routsi (1993) and Routsi & Georgiadis (1994, 1999), under the name *C. rupestris* subsp. *parnonia*. The same chromosome number is also given for the typical subspecies in material from Greece (Strid 1986; Routsi & Georgiadis 1994, 1999) and Turkey (Uysal & al. 2009).

1882. *Campanula papillosa* Halácsy — $2n$ = 32 (Fig. 1B).

Gr: Peloponnisos, Nomos Lakonias, Mt Taigetos, at the summit area of Profitis Ilias called Megala Zonaria, limestone slopes, 37° 57' N, 22° 21' E, alt. 1900 m, 22 Jun 2008, *Ch. Kyriakopoulos & N. Turland 755a* (UPA).

Campanula papillosa is a local endemic species of S Peloponnisos, which occurs on the higher altitudes of Mt Taigetos. It was found for the first time by Maire & Petitmengin

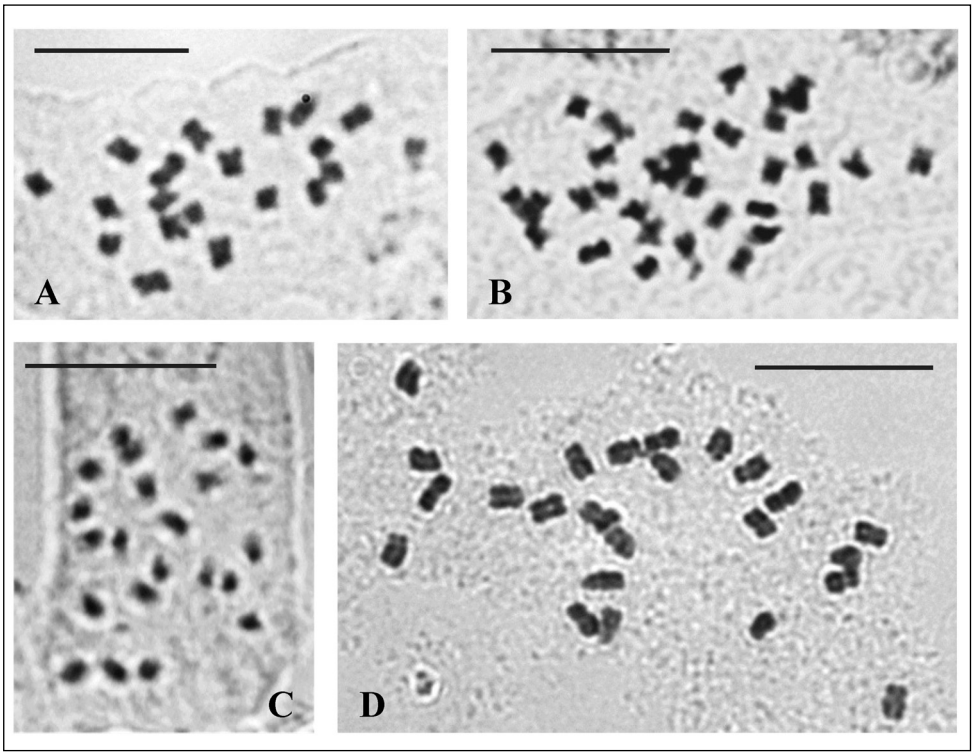

Fig. 1. Microphotograph of mitotic metaphase plates of: **A.** *Centaurea athoa* subsp. *parnonia*, 2*n* = 20; **B.** *Campanula papillosa*, 2*n* = 32; **C.** *Clinopodium taygeteum*, 2*n* = 22; **D.** *Silene gigantea* subsp. *hellenica*, 2*n* = 24. – Scale bars = 10 μm.

(1906) and described by Halácsy (1908). It is a little-known and rarely collected species of the genus *Campanula* with few references (Hartving 1991; Tan & Iatroú 2001) and to our knowledge its collection by the first author in 2008, is its rediscovery after 102 years. It is a relict species, categorized as Critically Endangered (CR) by Kyriakopoulos & al. 2009, because of its limited distribution area and very small population size, which was considered not to exceed 100 individuals.

To our knowledge, the chromosome number 2*n* = 32 and the karyotype of *Campanula papillosa* are given here for the first time.

1883. *Clinopodium taygeteum* (P.H. Davis) Bräuchler — 2*n* = 22 (Fig. 1C).

Gr: Peloponnisos, Nomos Messinias, Mt Taigetos, on the vertical NE slopes of Tsuga summit of Mt Xerovouna, in the north part of Taigetos ridge, 37° 06’ N, 22° 18’ E, alt. 1750 m, 1 Jul 2007, *Ch. Kyriakopoulos 561*(UPA). – Fig. 1C.

— Peloponnisos, Nomos Messinias, Mt Taigetos, place called Neraidovrahos, on the vertical slopes of Pirgaki summit of Mt Xerovouna, in the north part of Taigetos ridge, 37° 07' N, 22° 17' E, alt. 1650 m, 5 Aug 2007, *Ch. Kyriakopoulos 673* (UPA).
— Peloponnisos, Nomos Lakonias, Mt Taigetos, at the E slopes between the summits Sidirokastro and Anonimi, Pentadactilos ridge, 37° 02.554' N, 22° 19.036' E, alt. 1950 m, 17 Jun 2015, *Ch. Kyriakopoulos 2233* (UPA).

Clinopodium taygeteum (P.H. Davis) Bräuchler (≡ *Micromeria taygetea* P. H. Davis) is an endemic species of S Peloponnisos, which grows exclusively on limestone rock crevices and stony slopes, at the higher altitudes of the main summits Tsuga (1782 m) and Pirgaki (1731 m) of Mt Xerovouna, in the north part of Taigetos ridge. The species is included in the *Red Data Book of Rare and Threatened Plants of Greece* (Phitos & al. 2009) as Endangered (EN) by Kyriakopoulos & Kamari (2009).

The closest relative of this isolated taxon is *Clinopodium caricum* (P.H. Davis) Bräuchler & Heubl (≡ *Micromeria carica* P. H. Davis), which occurs in SW Anatolia (Τουρκία) (Burtt & Davis 1949). Davis collected *C. taygeteum* for first time in 1938 at the place above Tripi in Mt Xerovouna in Northern Taigetos. Recently, the first author also found *C. taygeteum* (*Kyriakopoulos 2233*, UPA) in the main ridge of Mt Taigetos called Pentadactilos, c. 15 km southern of its *locus classicus*.

To our knowledge, the chromosome number $2n = 22$ and the karyotype of *Clinopodium taygeteum* are given here for the first time.

1884. *Silene gigantea* subsp. *hellenica* Greuter — $2n = 24$ (Fig. 1D).

Gr: Peloponnisos, Nomos Lakonias, Mt Taigetos, at the gorge Langada, 37° 05' N, 22° 19' E, alt. 600 m, 23 Jun 2013, *Ch. Kyriakopoulos 1528* (UPA).

Silene gigantea (L) L. is a perennial species endemic to the Balkan Peninsula, western Asia and Cyprus. It is divided into three subspecies; subsp. *gigantea*, subsp. *rhodopea* (Janka) Greuter and subsp. *helllenica* Greuter (Greuter 1995, 1997).

Silene gigantea subsp. *hellenica* is growing from central to west Sterea Ellas (Parnassos and Giona), NW Evia, Peloponnisos (Mts Taigetos, Parnonas, Chelmos, Kyllini and Gerania) on the low-mid altitudes of them (Greuter 1997). Recently, Du Pasquier & al. (2015) mentioned that the distribution of *S. gigantea* subsp. *hellenica* can be extended to Turkey, however, according to the authors a more detailed study is necessary in order to clarify the taxonomic status of the Turkish populations.

The chromosome number found here is $2n = 24$. The same chromosome number is given for *Silene gigantea* s.l. by Degraeve (1980); Ghazanfar (1983); Strid & Andersson (1985); Montmollin (1986) and Runemark (1996).

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