

## **STUDIES ON CRUCIFERAE: V. CHROMOSOME NUMBERS FOR TWENTY-FIVE TAXA**

by

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**Abstract.** Somatic chromosome numbers are scored for twenty-five Cruciferous taxa, most of them belonging to the tribe *Brassicaceae*. Some new basic numbers and also some new cases of poliploidy are reported.

**Resumen.** Se han contado los números cromosómicos (somáticos) de veinticinco táxones de crucíferas, la mayoría de ellos pertenecientes a la tribu *Brassicaceae*. Se da cuenta de algunos números básicos nuevos, así como de algunos casos de poliploidía.

This work was aimed at increasing the available information on the caryology of the Crucifer family and especially in the tribe *Brassicaceae*.

Counts were made on temporary squash preparations of cold-treated root tips. Fixation was done in Carnoy, and staining with orcein. In some cases, the inflorescence apex gave good mitotic plates, but this method became unuseful when dealing with medium or large chromosome numbers.

Four-digit numbers following the initials GC are references for identification of each sample in the seed bank which is kept in the author's laboratory. Reference herbarium specimens are also conserved.

### **Fortuynia bungei** Boiss.

Desertic plains North of Yadz, Central Iran (GC-3764).

Somatic chromosome number:  $2n = 4x = 32$ .

### **Physorrhinchus chamaerapistrum** (Boiss.) Boiss.

Deserts near Behbahan, South Western Iran (GC-3749).

Somatic chromosome number:  $2n = 4x = 32$ .

The number  $4x$  found in the last two species is coincident to that of *Zilla* (REESE, 1957). The three genera are usually placed within the same sub-tribe, the *Zillinae*.

***Pseudofortuynia esfandiari* Hedge**

Rocky places in the mountains near Abadeh, Central Iran (GC-3760).  
Somatic chromosome number:  $2n = 2x = 14$ .

***Rytidocarpus moricandioides* Cosson**

Seed sample supplied by the Jardin de Plantes, Paris, France (GC-0708).

Somatic chromosome number:  $2n = 4x = 28$ .

The basic number  $x = 7$  which has been found for the last two species is coincident to that of *Moricandia*, a morphologically related genus.

***Cordylocarpus muricatus* Desf.**

As a weed near Beni Snassen mountains, Northeastern Morocco (GC-1137).

Somatic chromosome number:  $2n = 2x = 16$ .

***Otocarpus virgatus* Durieu**

Arid slopes near Saida, Algeria (GC-1925).

Somatic chromosome number:  $2n = 2x = 16$ .

***Chalcanthus renifolius* Boiss.**

Mountains near Tehran, Iran. Material supplied by Dr. E. Esfandiari (GC-3866).

Somatic chromosome number:  $2n = 2x = 14$ .

***Brassica dimorpha* Cosson et Durieu**

Mediterranean shrub vegetation in the Northern side of the Aures mountains, East Algeria (GC-5016).

Somatic chromosome number:  $2n = 4x = 44$ .

Very probably a tetraploid of the genome  $x = 11$  which is exhibited in diploid form by *B. souliei* (syn. *B. amplexicaulis*). Both species have several morphological characters in common.

***Brassica fruticulosa* Cyrillo subsp. *numidica* (Cosson) Maire**

Coastal slopes. Cap de Garde, North Eastern Algeria (GC-4694).

Somatic chromosome number:  $2n = 4x = 32$ .

A tetraploid from the basic number  $x = 8$  which is exhibited by the type of *B. fruticulosa*.

***Crambe gomerae* Webb**

Seed sample received from the Botanic Garden of La Orotava, Tenerife, Canary Islands, Spain (GC-2011).

Somatic chromosome number:  $2n = 2x = 30$ .

This record agrees with the number found in other Macaronesian *Crambe* species (BRAMWELL & al., 1972; BORGES, 1974). The complement  $x = 15$  was probably formed by amphiploidy.

***Erucastrum laevigatum* (L.) O. E. Schulz subsp. *brachycarpum* (Rouy) Bolós et Vigo**

Limestone rocks in El Montgó, Denia, Alicante, Spain (GC-5118).

Somatic chromosome number:  $2n = 2x = 14$ .

In the vegetative and flower stages, this taxon is very similar to *E. virgatum* Presl. which shares the same chromosome number.

***Erucastrum laevigatum* (L.) O. E. Schulz var. *pseudosinapis* (Lange) O. E. Schulz**

Roadsides between Vélez Rubio and Puerto Lumbreras, Almería province, South Eastern Spain (GC-3261).

Somatic chromosome number:  $2n = 4x = 28$ .

The number is coincident to that found by HARBERD (1972) for material growing in Murcia. Diploid forms have been recorded by FERNÁNDEZ-CASAS (1973) in Granada.

***Erucastrum laevigatum* (L.) O. E. Schulz subsp. *glabrum* Maire**

Calcareous rocks near Kenifra, Central Morocco (GC-3016).

Somatic chromosome number:  $2n = 2x = 16$ .

***Erucastrum laevigatum* (L.) O. E. Schulz subsp. *littoreum* (Pau et F. Quer) Maire**

Three collections in the montane region of the Rif range in North Morocco:

Ain Zorah (GC-4092), Tizi Ouzli (GC-5129) and Ruadi (GC-5132). They show the same chromosome number.

Somatic chromosome number:  $2n = 4x = 32$ .

Probably of autotetraploid origin.

***Erucastrum laevigatum* (L.) O. E. Schulz subsp. *littoreum* (Pau et F. Quer) Maire var. *brachycarpum* Maire**

Calcareous rocks in Jbel Zelagh near Fez, Morocco (GC-3018).

Somatic chromosome number:  $2n = 6x = 48$ .

Probably an exaploid from the basic number  $x = 8$  which is found in the last two *Erucastrum* taxa.

***Erucastrum leucanthum* Coss. et Dur. var. *gaetulum* Maire**

In *Macrochloa* steppes near Midelt, Morocco (GC-4380).

Somatic chromosome number:  $2n = 4x = 32$ .

Probably of autotetraploid origin.

***Diplotaxis glauca* (Schmidt) O. E. Schulz**

Seed material supplied by Dr. P. Sunding (Oslo University) collected from Cape Verde Islands (GC-2928).

Somatic chromosome number:  $2n = 1x = 26$ .

The genome of this species is probably common to that of *D. harra* (Forsk.) Boiss. This strongly supports the inclusion of former Cape Verde *Sinapidendron* species within the genus *Diplotaxis* DC.

**Diplotaxis harra** (Forskal) Boiss.

Arid slopes near Quasr-el-Shirin, Western Iran (GC-3737).

Somatic chromosome number:  $2n = 2x = 26$ .

The same number was found by HARBERD (1972) working on Algerian material.

**Diplotaxis virgata** (Cav.) DC. subsp. **cossoniana** (Reut.) Maire et Weill.

As a weed near El Kantara, Algeria (GC-3659).

Somatic chromosome number:  $2n = 2x = 14$ .

**Diplotaxis catholica** (L.) DC. subsp. **ibicensis** (Pau) F. Quer

Coastal rocks, Cala Torretas, Ibiza Island, Spain (GC-3457).

Somatic chromosome number:  $2n = 2x = 16$ .

**Sinapis pubescens** L. subsp. **indurata** (Cosson) Batt.

Pastures North of Sedrata, Constantina, Eastern Algeria (GC-4689).

Somatic chromosome number:  $2n = 2x = 18$ .

**Hutera cheiranthos** (Vill.) Gz. Campo subsp. **nevadensis** (Willk.) Gz. Campo

Schists in Sierra Nevada, Granada province, South Spain, at an altitude of 2500 m (GC-2000).

Somatic chromosome number:  $2n = 2x = 24$ .

**Lycocarpus fugax** (Lag.) O. E. Schulz

Saline soils near Jumilla, Murcia province, Spain (GC-0866).

Somatic chromosome number:  $2n = 2x = 14$ .

**Sisymbrium assoanum** Loscos et Pardo

Roadsides near Calatayud, Zaragoza province, Spain (GC-3603) Material collected by Mr. E. Sobrino.

Somatic chromosome number:  $2n = 2x = 14$ .

**Iberis procumbens** Lange

Maritime sands, Ons Island, Pontevedra province, North Western Spain (GC-4135). Material collected by Mr. M. Casas-Builla.

Somatic chromosome number:  $2n = 2x = 14$ .

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