STUDIES ON CRUCIFERAE: XI. ERUCASTRUM IFNIENSE
GÓMEZ CAMPO, SP. NOV., AND ITS ALLIES

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Abstract

A new taxon from East Morocco (Sidi Ifni region in the Atlantic coast) is described as Erucastrum ifniense Gómez-Campo, sp. nov. One of its allies, Erucastrum varium subsp. brevirostre Maire is given specific rank as Erucastrum brevirostre (Maire) Gómez-Campo.

Resumen

Se describe el Erucastrum ifniense Gómez-Campo, un nuevo taxon de Marruecos occidental (región de Sidi Ifni en la costa atlántica). Se propone asimismo el rango específico para el relacionado Erucastrum varium subsp. brevirostre Maire, que pasa a ser Erucastrum brevirostre (Maire) Gómez-Campo.

In a botanical expedition through the area of Tiznit-Goulumine, in the Atlantic coast of Morocco south of Agadir, a specimen was collected whose facies was that of an annual Erucastrum (of the type of E. varium sensu lato). Viable seeds were also collected and stored in the seed bank of our laboratory (GC-2979).

The seeds exhibited a deep dormancy, so that for a time we were unable to obtain living plants; treatments with gibberellic acid were later effective in breaking such dormancy. During several seasons we cultivated this plant side by side with other possible relatives. Soon it became apparent that its affinities were much more on the side of Canarian Erucastrum species (E. cardaminoides and E. canariense) than toward continental E. varium subspecies (with the exception of subsp. brevirostre).

The chromosome number of the new plant was 2n=18 (Harberd pers. communication), the same which has been found in the Canarian species. The range of variation of the annual E. varium between Algeria and Morocco has been shown to have 2n=14, again with the only exception of the morphologically distinct E. varium subsp. brevirostre from Western Morocco which has 2n=18.

The most distinctive character of the Sidi Ifni plant is the presence of a gynophore approx. 1 mm long at the base of the silique. A developed gynophore exists in some Diploptaxis species (D. harra, D. tenuifolia) and also in some Brassica species (B. elongata) but it had been never reported before for Erucastrum. It is usually regarded as a primitive character.

Seed color is black in E. canariense and E. cardaminoides but pale brown to ocher in the Sidi Ifni specimens. This can be interpreted as a mimetic adaptation to soil color which is most often black in the volcanic lavas of the Canary Islands and much lighter in the sub-desertic coastal plains of the continent.

Distinctive characters with respect to E. cardaminoides are summarized in table I.

<table>
<thead>
<tr>
<th>TABLE I</th>
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<tr>
<td>DIFFERENTIAL CHARACTERS BETWEEN E. CARDAMINOIDES AND E. IFNIENSE</td>
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<table>
<thead>
<tr>
<th>E. cardaminoides</th>
<th>E. ifniense</th>
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<tbody>
<tr>
<td>Gynophore inconspicuous, less than 0,3 mm</td>
<td>Gynophore approx. 1 mm</td>
</tr>
<tr>
<td>Seeds black</td>
<td>Seeds pale brown</td>
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<tr>
<td>Leaf sinuses never reaching the mid-nerve</td>
<td>Leaf sinuses often reaching the mid-nerve</td>
</tr>
<tr>
<td>Trichomes 1 mm long</td>
<td>Trichomes 0,3 mm long</td>
</tr>
<tr>
<td>Cotyledons deeply emarginate</td>
<td>Cotyledons only shallowly emarginate</td>
</tr>
<tr>
<td>Volcanic soils in the Canary Islands</td>
<td>Subdesertic plains in Southwestern Morocco</td>
</tr>
<tr>
<td>Mature seeds deeply dormant</td>
<td>Mature seeds will easily germinate</td>
</tr>
</tbody>
</table>

In our opinion, the differences are important enough (specially the presence of a developed gynophore) to propose a new species as follows:

**Erucastrum ifniense** Gómez-Campo, sp. nov.

*Planta annua, ramosa, habitu Erucastrii cardaminoididis sed foliis saepe profunde partitis et leviter hispidis, pilis brevioribus. Gynophorus praesens, 1 mm longus. Semina fusca cotyledonibus leviter emarginatis.*


The new species might be viewed as a continental vicariant of the insular E. canariense or E. cardaminoides; it is no wonder that it has been found in the «Macaronesian» floristic region of Morocco. In the vegetative and floral stages it can be easily confused with some other herbs which are present along the Moroccan Atlantic coast (i.e. Diploptaxis virgata or Diploptaxis tenuifolia). A record by Christ of E. cardaminoides «between Mazagan and Casablanca» is too far to the north and should probably be referred to D. tenuifolia.

We take this opportunity to propose a specific status for the plant described under *Erucastrum varium* subsp. *brevirostre* Maire, once it has appeared clear to us that it shows closer morphological and karyological
affinities toward the Macaronesian group. This group is mainly defined by its short style (less than 2 mm) which either contains no seeds or is rarely 1-seeded.

**Erucastrum brevirostre** (Maire) Gómez-Campo, **stat. & comb. nov.**


**A KEY TO THE ANNUAL SHORT STYLED n=9 Erucastrum species**

1. Inflorescence axis in zig-zag. ................. *E. brevirostre* (Maire) Gómez-Campo, Central & Western Morocco

1. Inflorescence axis straight ................. 2

2. Upper leaves sessile. ................................. *E. canariense* Webb & Berth., Fuerteventura, Canary Islands

2. Upper leaves petiolate. ................................. 3

3. Fruit with gynophore 1 mm long. Seeds pale brown ................................. *E. ifniense* Gómez-Campo, Sidi Ifni (Morocco)

3. Fruit without or with an inconspicuous gynophore. Seeds black ...................... *E. cardaminoides* (Webb) O. E. Schulz, Canary Islands

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