

Two wild hybrids of *Erica* L. (Ericaceae) from northwest Spain

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Abstract: Fagúndez, J. 2006. Two wild hybrids of *Erica* L. (Ericaceae) from northwest Spain. *Bot. Complut.* 30: 131-135.

Two hybrids of genus *Erica* L. are recorded from northwest Spain. *Erica* x *stuartii* (MacFarl.) Mast. (*E. tetralix* L. x *E. mackaiana* Bab.) is recorded from Aranga (A Coruña, NW Spain). Hitherto this hybrid was only known from Ireland and Asturias (N Spain). *Erica* x *veitchii* Bean (*E. arborea* L. x *E. lusitanica* Rudolphi) is recorded from Asturias for first time in the wild. *E. lusitanica* corresponds to the recently described subspecies *cantabrica* Fagúndez & Izco, therefore a new name for the nothosubspecies is proposed: *E. x veitchii* nothosubsp. *asturica* nothosubsp. nov.

Key words: *Erica* x *stuartii*, *Erica* x *veitchii*, *Erica* x *veitchii* nothosubsp. *asturica*, *Erica tetralix*, *Erica mackaiana*, *Erica arborea*, *Erica lusitanica* subsp. *cantabrica*, hybridisation, Spain.

Resumen: Fagúndez, J. 2006. Dos híbridos de *Erica* L. (Ericaceae) del noroeste de España. *Bot. Complut.* 30: 131-135.

Se citan dos nuevos híbridos del género *Erica* L. del noroeste de España. *Erica* x *stuartii* (MacFarl.) Mast. (*E. tetralix* L. x *E. mackaiana* Bab.) se recolectó en Aranga (A Coruña, NO España). Hasta ahora este híbrido sólo se conocía de Irlanda y Asturias (N España). *Erica* x *veitchii* Bean (*E. arborea* L. x *E. lusitanica* Rudolphi) se cita de Asturias por primera vez en el medio natural. *E. lusitanica* corresponde a la subespecie *cantabrica* Fagúndez & Izco, por lo que se propone un nombre para la nueva nothosubespecie: *E. x veitchii* nothosubsp. *asturica* nothosubsp. nov.

Palabras clave: *Erica* x *stuartii*, *Erica* x *veitchii*, *Erica* x *veitchii* nothosubsp. *asturica*, *Erica tetralix*, *Erica mackaiana*, *Erica arborea*, *Erica lusitanica* subsp. *cantabrica*, hibridación, España.

INTRODUCTION

Erica x *stuartii* (MacFarl.) Mast. is the hybrid of *E. tetralix* L. and *E. mackaiana* Bab. These two species, together with *E. andevalensis* Cabezudo & Riveira, form a closely related taxonomic group (McClintock 1989, Bayer 1993, Fagúndez & Izco 2004). *E. tetralix* has a wide distribution from central Spain to Norway while *E. mackaiana* occurs only in northern Spain and in western Ireland. The two species live together in Ireland and in certain places in Spain (Nelson & Fraga 1983, McClintock 1989). In Ireland the hybrid, plants with different levels of intermediate characters, is easily found (Nelson 1989, McClintock 1989) while in Spain the hybrid has been reported from different places in Asturias (Díaz & García 1992:

133, Díaz *et al.* 1994: 543). In Figure 1 the approximate distribution limit of *E. mackaiana* in Galicia is presented, and several localities where both species grow in close proximity.

Erica x *veitchii* Bean is the hybrid of *E. arborea* L. and *E. lusitanica* Rudolphi. Both species are the only European species of sect. *Arsace* in Europe (Bayer 1993). *E. lusitanica* occurs in the Iberian Peninsula with two subspecies, subsp. *lusitanica* from Portugal and western Spain and subsp. *cantabrica* from northern Spain and southwest France (Fagúndez & Izco 2006). *E. arborea* has a wider distribution from Turkey to the Iberian Peninsula and it is also reported in central and east Africa, Madeira and the Canary Islands (de Benito 1948, Hansen 1950). In the Iberian Peninsula both species grow together in many localities.

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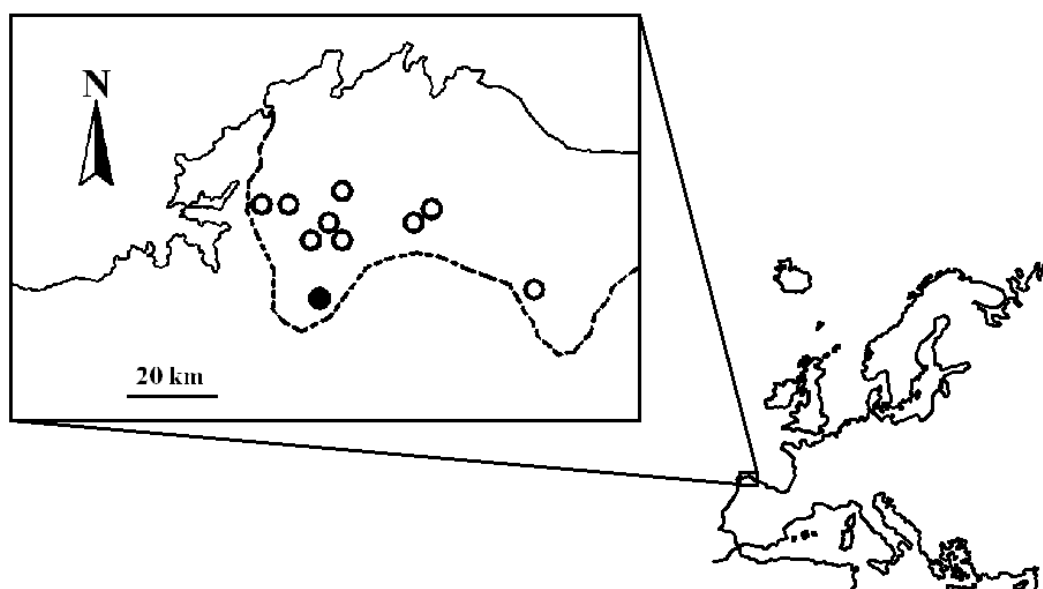


Fig. 1— Western and southern distribution limit of *E. mackaiana* in northwest Spain (dotted line). White circles are localities where *E. tetralix* and *E. mackaiana* occur together (from Fraga 1982, Nelson & Fraga 1983, Soñora 1995 and personal observations). Black circle is the hybrid locality.

RESULTS AND DISCUSSION

Erica x stuartii (MacFarl.) Mast.

This hybrid was collected on the 2 August 2005 at Aranga, Cambás, at 660 m altitude in Serra da Loba (A Coruña) UTM 29TNH8792. Voucher specimens have been deposited at the herbarium of Santiago de Compostela (SANT). Only one plant was found. It formed a very low shrub, about 15 cm in height, spreading over one square metre. Flowering started in mid July, sometime after *E. tetralix* but at the same time as *E. mackaiana*. 15 capsules were examined, but no mature seed was found. The locality where *E. x stuartii* was discovered is a peat bog in the Serra da Loba that separate A Coruña and Lugo Province in the north of Galicia (Fig. 1). It was growing with *E. tetralix*, *E. mackaiana*, *E. ciliaris*, *Calluna vulgaris*, *Genista berberidea*, *Ulex gallii* subsp. *breogani* and other herbaceous species. The vegetation community is *Genisto berberideae-Ericetum tetralicis* (*Calluno-Ulicetea*).

The main differences between *E. x stuartii* and its parents are shown in Table 1; the descriptions were compiled from specimens collected at Aranga. Close to the

place where the hybrid grows other heathers were noted such as *E. ciliaris* and other species of drier soils that are *E. umbellata*, *E. cinerea*, *E. arborea* and *E. australis* subsp. *aragonensis*. However, there is no doubt of the parents as no characters relate the plant with any of the other species.

The plant was intermediate in almost every character, especially in ovary hairiness (Fig. 2). The leaves resemble those of *E. mackaiana* although they have some woolly hairs on the petioles as in *E. tetralix*, and some hairs on the side of the midrib on the lower surface.

E. stuartii was discovered in 1890 in Connemara (Ireland) and found again in the same locality in July 2000 (Nelson 2001). It was first published by MacFarlane (1893) as a subspecies of *E. tetralix*, but this plant is now known to be a teratological clone of the hybrid of *E. tetralix* and *E. mackaiana* and is still in cultivation under the name *E. x stuartii* 'Stuartii' (McClintock 1979, 1980). Later, Linton (1902) considered it to be a hybrid between *E. mackaiana* and *E. mediterranea* (= *E. erigena*). Ostenfeld (1912) described *E. x praegeri* as the hybrid of *E. mackayi* (= *E. mackaiana*) and *E. tetralix*, and this binomial was used until the late 1970's for

Tabla 1

Differences between *E. x stuartii* and its parents; the descriptions are derived from plants collected by the author at the hybrid locality (*E. tetralix*: J. Fagúndez SANT 53650, *E. mackaiana*: J. Fagúndez, SANT 53652).

	<i>E. tetralix</i>	<i>E. x stuartii</i>	<i>E. mackaiana</i>
Habit	Low, about 50 cm. Branches few	Very low, about 15 cm. Branches few	Up to 80 cm. Branches numerous
Stem	Woolly, with long, thin eglandular hairs of 1mm	Slightly woolly	Hirsute, with short erect hairs of 0.1mm and long eglandular hairs of 1mm
Leaves arrangement in flowering stems	Erect. Internodes increase in length gradually below inflorescence	Erect-patent. Internodes increase slightly in length below inflorescence	Patent. Internodes all equal
Leaves	Revolute, woolly with some long glandular or eglandular multicellular hairs	Similar to the <i>E. mackaiana</i> type but with some woolly hairs on the pedicel and short hairs on the sides of the midrib	Very slightly revolute. Glabrous with about 12 long glandular or eglandular multicellular hairs
Inflorescence	Pendant and erect in fruit	Less pendant	Less pendant
Corolla	About 7 mm. Hairy at the top and with some sparse hairs in upper half	About 7 mm. Hairy at the top and with some sparse hairs in upper half	About 6 mm. Glabrous or with some hairs at the top
Anthers	Light brown. Anther appendages with slightly toothed margin	Dark brown, with appendages broader with toothed or lacinate margin	Dark brown, with appendages with toothed or lacinate margin
Ovary and fruit	Very hairy with long, thin hairs	Some shorter hairs on the apex	Glabrous

E. mackaiana x *E. tetralix*, but McClintock (1979) pointed out that the correct name for the hybrid should be *E. x stuartii*. Nelson (1995) discussed the authority for the name for this hybrid and established that it should be *E. x stuartii* (MacFarl.) Mast. originally published by Masters (1901). In Ireland this hybrid is very abundant, it always accompanies *E. mackaiana* and it has now been reported from four widely separate localities (Nelson 2005). In western and central Asturias, the hybrid is rare and occurs in humid heathlands and peat bogs (Díaz & García 1992: 133).

Erica x veitchii Bean

In the course of a wider study in *E. lusitanica* (Fagúndez & Izco 2006) material was studied from different herbaria. Two herbarium sheets (SANT 47856, LISI no number) that were sent as part of an exiccata from the Iberian and Macaronesian Herbaria Association (AHIM) in 2002 from Candamo (Asturias) labelled *E. arborea*, collected by J. J. Lastra in April 2002, were found to be the hybrid between *E. arborea* and *E. lusitanica*.

Tabla 2

Main differences of *E. x veitchii* and its parents. Parents descriptions from Fagúndez & Izco (2006).

	<i>E. arborea</i>	<i>E. x veitchii</i>	<i>E. lusitanica</i> subsp. <i>cantabrica</i>
Echinate hairs	Present	Absent	Absent
Staminal filaments	Glabrous	Glabrous	Hairy at base
Bract and bracteoles	Variable; at base, middle or top of the pedicel	Basal	Half way of the pedicel, rarely basal
Stigma	Broadly capitate, disk-like	Obconic to capitate	Obconic to capitate
Corolla length (mm)	2-3	3-3.5	3.5-5
Corolla lobes (mm)	0.4-0.8 (1.5)	1-1.5	0.8-1
Anther size (mm)	0.7-1.1	0.8-1	0.6-0.9
Anther appendages (mm)	0.3-0.7 Toothed	0.2-0.4 Spinulose	0.5-0.7 Coarsely spinulose

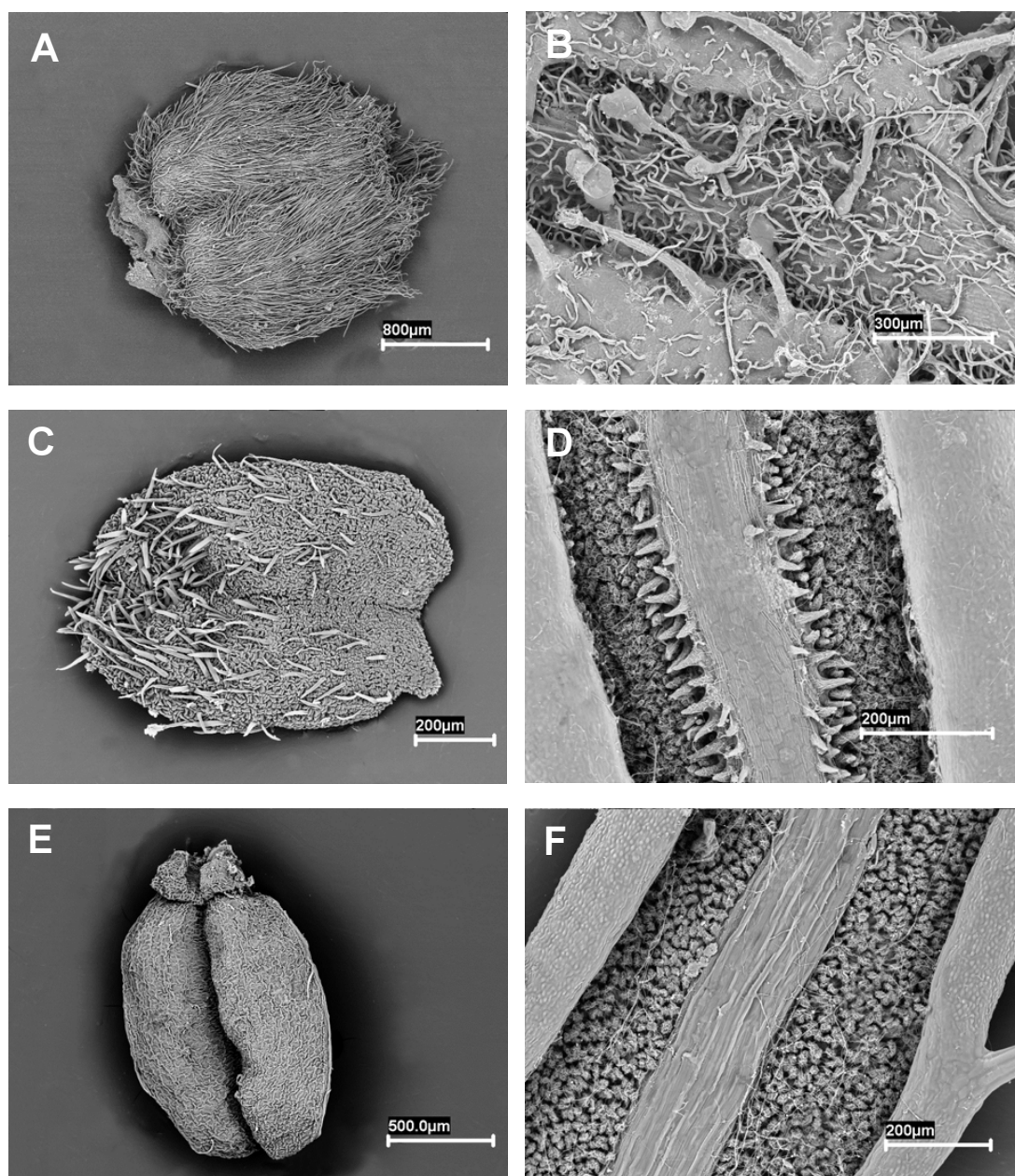


Fig. 2— Fruit valves (A, C, E) and lower surface of the leaf (B, D, F) of *E. tetralix* (A, B), *E. x stuartii* (C, D) and *E. mackaiana* (E, F). From plants collected at the hybrid locality. For SEM pictures, fruits and leaves were dried with silica-gel and mounted on metal stubs using double-stick tape and gold-coated.

The difference between *E. x veitchii* and its parents are shown in Table 2. The main difference with *E. arboorea* is the lack of divided hairs, the larger corolla with distinct lobes and the stigma not broadly capitate, while it may be distinguished from *E. lusitanica* by the absence

of hairs at the base of the staminal filaments and the size and shape of the corolla. The parents are clear as no characters that could resemble other *Erica* species are found. Pollen grains appeared to be normal under the light microscope, not irregular as reported by Bean

(1905). *Erica* x *veitchii* was described by William Jackson Bean in 1905 based on a plant discovered in Messrs Robert Veitch & Sons' nursery, Exeter, Devon (UK). The parent species do grow together within the natural geographic range of *E. lusitanica*, yet the only published reference to an intermediate occurring in the wild is a note by Laguna (1883: 73) about plants found in San Sebastián (Basque country, north Spain). Laguna did not provide a description nor did he propose a name for the hybrid.

E. lusitanica subsp. *cantabrica* Fagúndez & Izco has been recently described by us for the populations of *E. lusitanica* from north Spain and south west France (Fagúndez & Izco 2006). We do not know which subspecies of *E. lusitanica* was the parent of the hybrid originally described by Bean (1905), but corolla shape and style exertion shown in the illustrations correspond to

the type of *E. lusitanica* subsp. *lusitanica*. Therefore, a new name should be given to the new nothosubspecies:

***Erica* x *veitchii* Bean nothosubsp. *asturica* Fagúndez nothosubsp. nova**

(*E. arborea* L. x *E. lusitanica* Rudolphi subsp. *cantabrica* Fagúndez & Izco).

Type: HS: Oviedo, Candamo, Laracha, 29TQJ4010, 105 m, J. J. Lastra, 8-4-2002, SANT 47856. (Labelled as *Erica arborea* L.).
Isotype: Same data. LISI (no number).

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