

Short communication

## Lectotypification of the Linnaean name *Bryonia cretica* (Cucurbitaceae)

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**Abstract** – The typification of the name *Bryonia cretica* is investigated and discussed. A specimen from the Clifford Herbarium is designated as the lectotype. The morphology of the species, notes on its cytology and geographical distribution and ecological features are also treated.

**Key words:** *Bryonia* L., Eastern Mediterranean, typification

### Introduction

*Bryonia* L. (Bryonieae Dumort., Cucurbitales Juss. ex Brecht et J. Presl) is a genus of 10 species distributed in Europe, Africa and Central Asia (SCHAEFER and RENNER 2011). Carolus Linnaeus published 8 names under *Bryonia* (JARVIS 2007), six of which refer to other genera on the basis of the current circumscription in Cucurbitaceae Juss. The others (*B. alba* and *B. dioica*) are included in the genus *Bryonia* according to the current nomenclatural and taxonomic point of view, (SCHAEFER and RENNER 2011, APG III 2009) and appear to be as yet untypified. The aim of this study is to investigate the typification of the name *Bryonia cretica* (a species of the Eastern Mediterranean area) and to provide morphological, cytological, ecological and chorological notes about the taxon.

### Materials and methods

The investigation of the typification of the name *B. cretica* included all the available literature (LINNAEUS 1738, 1753; ROYEN 1740; BAUHIN 1620, 1623, 1651) as well as research of the Linnaean Herbarium (LINN) and the Clifford Herbarium in BM. For the

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morphology, geographical distribution and cytology, we followed TUTIN et al. (1968), DAVIS et al. (1972), GREUTER et al. (1986) and VOLZ and RENNER (2008, 2009). Authors' field data were used for the description of the plant communities in which *B. cretica* participates while for the habitat types, the codes and description of the European Nature Information System (EUNIS 2012) and those of Annex I of the Council Directive 92/43/EEC (EUR25 2003) were also used. Information concerning ecological preferences of the species with respect to different indicators such as light, humidity and soil, follows BÖHLING et al. (2002).

## Results and discussion

### Typification

Linnaeus' protologue (LINNAEUS 1753: 1013) consisted of a diagnosis (»6. *BRYONIA foliis palmatis supra callosopunctatis*«), with five synonyms cited from LINNAEUS (1738: 453), ROYEN (1740: 264) and BAUHIN (1620: 135, 1623: 297, 1651: 146) and the provenance (»Habitat in Creta«). None of these references include an illustration of *B. cretica*. In the Linnaean Herbarium (LINN) there are no sheets of *B. cretica* and we have been unable to trace any further original material in any of the other Linnaean and Linnaean-linked herbaria (see JARVIS 2007).

In the Clifford Herbarium there is one sheet (original material coded as BM000647452) that bears a plant identifiable as *B. cretica* according to the Linnaeus description, both in the shape of the leaves (palmate) and in the surface of the leaves (punctate). The Clifford phrase (»*Bryonia cretica maculata*«) refers to the descriptions by BAUHIN (1620, 1623). A label on this sheet reports »*Bryonia cretica* L. lectotypus det. C. Jeffrey 2.I.1979«. However, no typification of *B. cretica* appears in the manuscripts published post 1978 by JEFFREY (1978, 1980, 1982). So this can be considered an informal typification and it is not effective. As a sheet from the Clifford Herbarium is the only extant original material, and it has long been considered representative of the species, it is here designated as the lectotype of *B. cretica*:

*Bryonia cretica* L., Sp. Pl. 2, 1013 (1753) – Type (designated): Herb. Clifford: 453 *Bryonia* 2 (lectotype BM). Retrieved July 07, 2012 from <http://www.nhm.ac.uk/resources/research-curation/projects/clifford-herbarium/lgimages/BM000647452.JPG>

### Description

Perennial dioecious, up to 4 m. Leaves 5–10 cm long, 5-lobed, each lobe entire or with few obtuse teeth, the central slightly longer than the lateral lobes; young leaves with irregular whitish markings. Inflorescence usually eglandular; calyx campanulate, 5-dentate, corolla rotate, stigma hairy; stamens 3; fruit in berry, red coloured, 6–10 mm in diameter. *B. cretica* is a hexaploid species ( $2n = 6x = 60$ ) and probably of hybrid origin between *B. dioica* Jacq. and *B. syriaca* Boiss. and/or *B. multiflora* Boiss et Heldr. (VOLZ and RENNER 2008).

### Geographical distribution

*Bryonia cretica* is an eastern Mediterranean species. It is distributed in Greece, on the East Aegean Islands, Crete and Karpathos, Asiatic Turkey, Cyprus, Egypt, Israel and Jordan, Libya, Lebanon and Syria (GREUTER et al. 1986). Recently, VOLZ and RENNER (2009) gave new sites of *B. cretica* indicating DNA number and chloroplast haplotype for indi-

viduals from different areas of Greece such as the Peloponnesian peninsula, Kythera Island and Crete. JEFFREY (1969: 448) noted that *B. cretica* has several morphological variants, a typical one from southern Greece, Crete, and the Aegean Islands and another that occurs in Cyprus, Syria, Turkey, and Palestine. TUTIN et al. (1968) distinguished *B. cretica* subsp. *cretica* as an Aegean endemic taxon based on the characteristic irregular whitish markings on leaves and young fruits, as well as on the eglandular -or very nearly so- male inflorescence. This taxon is also mentioned for the South and the East Aegean area by BÖHLING et al. (2002) and PANITSA and TZANOUDAKIS (2010).

### Ecology

This taxon includes rhizomatose geophytes growing in bushes and hedges, between sea level and 550 m (DAVIS et al. 1972). On the basis of the correspondence between the habitat codes of the European Nature Information System (EUNIS 2012) and those of Annex I of the Council Directive 92/43/EEC (EUR25 2003), habitat types where *B. cretica* has mostly been registered as a native species are: Coastal dune thickets (EUNIS code B1.61), East Mediterranean phrygana (EUNIS code F7.3, Annex I code 5420), Thermo-Mediterranean and pre-desert scrub (EUNIS code F5.5, Annex I code 5330), *Olea europaea*-*Ceratonía siliqua* woodland (EUNIS code G2.4, Annex I code 9320), Southern riparian galleries and thickets (EUNIS code F9.3, Annex I code 92D0).

*B. cretica* mainly grows in association with the following taxa: *Pistacia lentiscus* L., *Olea europaea* L. subsp. *oleaster* (Hoffm. et Link) Negodi, *Calicotome villosa* (Poir.) Link, *Prasium majus* L., *Juniperus phoenicea* L. subsp. *phoenicea*, *Rhamnus lycioides* L. subsp. *oleoides* (L.) Jahand. et Maire, *Quercus coccifera* L., *Ceratonía siliqua* L., *Osyris alba* L., *Euphorbia dendroides* L., *Juniperus oxycedrus* L. subsp. *macrocarpa* (Sibth. et Sm.) Neilr., *Clematis cirrhosa* L., *Prunus webbii* (Spach) Vierh. and *Rubia tenuifolia* D'Urv. It is found in communities mainly belonging to the class *Quercetea ilicis* Br.-Bl. ex A. de Bolos 1950 and the order *Pistacio lentisci-Rhamnetalia alaterni* Rivas-Mart. 1975 but also in plant communities of the class *Cisto-Micromerietea julianae* Oberd. 1954 and the order *Cisto-Micromerietalia* Oberd. 1954.

According to BÖHLING et al. (2002), *B. cretica* is a semi-shade to semi-light plant of fairly hot to hot sites with a centre of occurrence between 50 and 300 m a. s. l., characterized by a mean annual temperature of 18.5 °C. It is also a fresh-sites indicator, found at moderately developed, temporarily wet places, in poorly irrigated land. It prefers mostly basic soils (pH 7.2–7.6) and it is an indicator of sites more or less rich in nutrient, on soils with narrow C/N 8–11 and a mostly narrow C/P <1.

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