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Additional data on *Beta* in Cyprus

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Abstract. – The occurrence of three taxa of *Beta* sect. *Beta* in Cyprus has been confirmed. Apart from the well-known *B. vulgaris* subsp. *maritima*, some new data on *B. adanensis* and *B. macrocarpa* is provided.

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Introduction

Traditionally, *Beta vulgaris* subsp. *maritima* (L.) Arcang. in Cyprus has been treated in a very broad sense. Meikle (1985) states: "A polymorphic plant in Cyprus, sometimes annual, sometimes perennial, with erect or decumbent stems, glabrous or thinly hairy leaves and congested or lax infructescences. I can find no satisfactory distinctions between these variants and ecotypes …". However, many treatments published since, and dealing with the mostly annual populations of *B. vulgaris* s. l. occurring in the E Mediterranean, accept two additional taxa, *B. adanensis* Pamukç. and *B. macrocarpa* Guss. There is no consensus about their ranking (species vs. subspecies) but most authors prefer to treat them as species (Buttler 1977, Ball & Akeroyd 1993, Letschert 1993, Letschert & al. 1994, Ristow 2016). The mostly perennial *B. vulgaris* subsp. *maritima* s. str. comprises the wild populations whereas subsp. *vulgaris* encompasses the many cultivars of beet. The use of the subspecies rank for the latter taxa is another disputable point which cannot be discussed here (see Letschert & al. 1994). Both (mostly) annual taxa have already been mentioned as occurring in Cyprus in the taxonomic revision by Letschert (1993) but only a few specimens have been cited in this source. The aim of the current note is to provide further specimen data for Cyprus (including some new divisional records) and to summarise unresolved issues as regards *Beta*.

New data

The following short descriptions are based on the sources mentioned above (illustrations can be found in Buttler 1977 and Letschert 1993) and the material cited below.

B. adanensis, annual (sometimes biennial or even perennial (?) in and outside Cyprus) with thin root, inflorescence bracteate with at least the lower bracts similar in size and shape to the cauline leaves, perianth segments adpressed to the upper fruit surface, the latter convex or flat.

Division 1: Armou, valley between church and road to Pafos, open slope (cretaceous clay), alt. c. 300 m, 25.4.1999, *R. Hand 2894* (B). – Kathikas, Agiasma trail SW of village,

c. 200 m from restaurant towards valley, disturbed ground on bank, alt. 594 m, 6.5.2017, *R. Hand 8270* (B). – Marathounta, geologically varied valley 1 km S to SE, along track and eroded clay slopes, alt. c. 200 m, 24.4.1998, *R. Hand 2288* (B).
Division 3: Episkopi, at beach restaurant below Kourion ruins, flowerbeds, alt. c. 5 m, 28.10.2002, *R. Hand 3662* (B). – Pyrgos, c. 1 km SW at the road, open marl slopes, alt. c. 100 m, 4.3.2005, *R. Hand 4192* (B).
+ Division 4: entre Xylophagou et Ayia Thekla (Larnaca), alt. 5 m, 12.4.1991, *G. Alziar & al., Iter Med. 4, 084* (B).
+ Division 8: Pachyammos, area NE of Akro Pachyammos, by stream between holiday village and road, wet ground, alt. 7 m, 10.4.2014, *R. Hand 6407b* (B).

B. macrocarpa, annual with thin root, inflorescence bracteate with at least the lower bracts similar in size and shape to the cauline leaves, perianth segments erect, incurved at the apex, not adpressed to the upper fruit surface, the latter depressed.

+ Division 8: Pachyammos, area NE of Akro Pachyammos, by stream between holiday village and road, wet ground, alt. 7 m, 10.4.2014, *R. Hand 6407a* (B).

B. vulgaris **subsp.** ***maritima***, perennial (rarely annual or biennial?) with strong, woody root which is often difficult to uproot, inflorescence ebracteate or with small, inconspicuous bracts in the lower half, perianth segments incurved, attached to the fruit, surface of the latter convex.

Notes on ecology

B. vulgaris subsp. *maritima* grows mainly in coastal habitats of Cyprus, often in rock fissures, but also in salt-marshes. The two mostly annual taxa, *B. adanensis* and *B. macrocarpa*, have also been found in the coastal zone (see Letschert 1993), the former at ruderal sites such as roadsides and margins of irrigated fields as well. However, *B. adanensis* proved to be a typical plant of marly hills, namely of the Lefkara formation (Palaeogene) where mass populations can be found together with various *Medicago* and *Melilotus* species, often accompanied by *Pteranthus dichotomus*. These marls are characterized by high water absorption in winter and early spring but quickly desiccate by April, becoming strongly cracked, followed by a complete dying off of the therophytic plant community. *B. macrocarpa* seems to be the rarest of the three taxa, recorded only from a few sites thus not many details on ecology can be provided yet. Letschert (1993) documented it for an "eroding lime cliff" near to the coast. At the above mentioned new site it was found growing together with *B. adanensis*.

Research needs

Beta is rather unpopular in botanical collecting. Much more material from Cyprus is needed to elucidate the exact distribution and altitudinal range of the three taxa, as well as their life-form (perennial, biennial, annual), their growth-form (erect vs. procumbent/ascending) and the ecological characteristics. Hybridization may occur in

Cyprus as well (see Letschert 1993 on seemingly intermediate plants which proved not to be hybrids) but this needs clarification.

Specimens with fully ripe fruits should be preferred by collectors. It is also important that the life-form (perennial, biennial or annual) is always clarified in the field.

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