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Abstract

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Edmond Boissier (1810–1885) described several taxa in the genus *Centaurea* L. (*Asteraceae*), summarized in his *Flora orientalis* account. Lectotypes are designated here for the two names *Centaurea hyalolepis* Boiss. (sect. *Calcitrapa* DC.) and *Centaurea laxa* Boiss. & Hausskn. (sect. *Ammocyanus* Boiss.). Lectotypes are kept in the G-BOIS herbarium.

Keywords

ASTERACEAE – *Cardueae* – *Centaurea* – Typification

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Introduction

Centaurea L. s.l. with c. 600 species is among the largest genera in *Asteraceae* (Hellwig, 2004). This genus of 40 sections occurs mainly in the Mediterranean and Irano-Turanian regions (López et al., 2011; Negaresh & Rahiminejad, 2014). Iraq is not rich in species of *Centaurea* if compared with the adjacent countries in the N and W Iran and Turkey. According to Wagenitz (2019) the genus *Centaurea* consists of 44 species in 15 sections of which 6 species are endemic to Iraq.

For many years Boissier (1875)'s account on *Centaurea* and its close relatives in the *Flora orientalis* was one of the most complete monograph of this genus, including most of the species and proposing a subgeneric division. Many of the taxa listed were described by Boissier, some of them with other botanists. The Boissier's herbarium related to the *Flora orientalis* account is kept in Geneva as a separate historical herbarium with the acronym G-BOIS. Duplicates of Boissier's original material in Geneva can be found either in the Candolle herbarium (G-DC) or in the general collection (G) (see Al-Shehbaz & Barriera, 2019).

After Boissier'(1875)'s *Flora Orientalis* and Rechinger (1964)'s *Flora of Lowland Iraq*, the first comprehensive revision for Iraqi *Centaurea* was conducted by Wagenitz (2006). He enumerated 40 species that are naturally found in this country. In his work many species were typified. However, neither *C. hyalolepis* Boiss. nor *C. laxa* Boiss. & Hausskn. were typified. In this brief article, we aim at designating lectotypes for both species on original material kept in G-BOIS. Scans of these lectotypes can be found in the CHG (2020) website.

Typification

Centaurea hyalolepis Boiss., Diagn. Pl. Orient. 6: 133. 1846.

≡ *Centaurea pallescens* var. *hyalolepis* (Boiss.) Boiss., Fl. Orient. 3: 691. 1875.

≡ *Centaurea pallescens* f. *hyalolepis* (Boiss.) Gugler in Ann. Hist.-Nat. Mus. Hung. 6: 209. 1908.

≡ *Calcitrapa hyalolepis* (Boiss.) Holub in Preslia 46: 227. 1974.

Type: "Hab. In *Syriâ* Aucher No. 3136, inter *Bagdad* et *Alep* Olivier, inter *Alep* et *Mossoul* Kotschy herb. Mus. Vindob.".

Lectotypus (designated here): **Iraq:** "Inter Amaner et Tschalaga", 1843, *Kotschy 360* (G-BOIS [G00758957] image seen; isolecto-: K [K000794203, K000794204] image seen). **Syntypi: Iraq:** "de Bagdad à Alep", s.d., *Olivier s.n.* (G-DC [G00472929] image seen, P [P00703822, P00703823, P00703824] image seen). **Syria:** *sine loco*, 1837, *Aucher-Eloy 3136* (G-DC [G00473282]!, K [K000794205] image seen, P [P00703825, P00703826] image seen).

Distribution. – *Centaurea hyalolepis* is widely distributed in Cyprus, Palestine, Jordan, Lebanon, S Iran, Iraq, W Syria and E Turkey (Wagenitz, 2006). It is an Irano–Turanian element and grows in sandy clay plain, riverine thicket, waste, fallow and cultivated land, especially along irrigation channels, at elevations of 50–450 m.

Notes. – Three syntypes collections were cited by Boissier (1846) in the protologue: *Aucher-Eloy 3136*, *Kotschy 360*, and *Olivier s.n.* The specimen *Kotschy 360* deposited in G-BOIS is designated here as the lectotype because it is the only original material in G-BOIS and the specimen shows all the relevant characters in regard to the protologue.

On the label of the lectotype is printed: "HRB. MUSEI PALAT. VINDOB." and handwritten the locality as above. Another label has handwritten: "*Centaurea pallescens* v. *hyalolepis* / *Centaurea hyalolepis* ! Boiss.". On the label of the isolectotype K000794203 is printed: "Pl. Mesopot., Kurdistan. & Mossul. Kotschy. 1841." and handwritten: "360 Centaurea hyalolepis Boiss.", but the specimen K000794204 has only a printed label with: "Pl. Mesopot., Kurdistan. & Mossul. Kotschy. 1841" indicated.

Centaurea laxa Boiss. & Hausskn. in Boiss., Fl. Orient. 3: 640. 1875.

Type: "Hab. in agris et desertis Mesopotamiae inter Orfa et Kharran et ad fluv. Chabur (Haussk!), in monte Gebel Belas deserti ad Palmyram (Bl!)".

Lectotypus (designated here): **Turkey:** "in agris inter Orfa & Hkarran", 10.V.1865, *Haussknecht s.n.* (G-BOIS [G00334039]!; isolecto-: E [E00383946]!, JE [JE00015651, JE00015652]!, W [W0044960]!). **Syntypi: Iraq:** "In deserto fl. Chabur", V.1867, *Haussknecht 589* (BM [BM000906196]!, G-BOIS [G00759563]!, JE [JE00015649]!, K [K000794083]!, P [P00646492, P04092726]!). **Syria:** "De Hama à Palmyre. Dauch Djebel Belas", 19.V.1857, *Blanche 3409* (G-BOIS [G00759565]!, JE [JE00015650]!, P [P00646493]!).

Distribution. – *Centaurea laxa* has a restricted distribution in SE Turkey, N Syria and as occasional in the western lower steppe region of Iraq (Wagenitz, 1975, 2006). It is an Irano–Turanian element and grows on calcareous-gypsiferous soil, at elevations of 200–700 m.

Notes. – Boissier (1875) mentioned three syntypes in the protologue: *Haussknecht s.n.*, *Haussknecht* 589 and *Blanche 3409*. Original material of all three syntype have been located in G-BOIS. *Haussknecht s.n.* is designated here as the lectotype because it is the best preserved collection.

The labels on the isolectotypes collections in E, JE, and W slightly differ from the lectotype, with the JE sheets noting "nº 458"; the E and W sheets stating "alt. 1000 ped.".

The four duplicates of the syntypus *Haussknecht 589* deposited in BM, K and P have similar label as the G-BOIS collection, but lacking collection number.

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