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Source: *Candollea*, 75(1) : 145-147

Published By: The Conservatory and Botanical Garden of the City of Geneva (CJBG)

URL: <https://doi.org/10.15553/c2020v751a13>

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Lectotypification of Boissier's names *Centaurea hyalolepis* and *C. laxa* (Asteraceae, Cardueae)

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Abstract

NEGARESH, K. (2020). Lectotypification of Boissier's names *Centaurea hyalolepis* and *C. laxa* (Asteraceae, Cardueae). *Candollea* 75: 145–147. In English, English abstract. DOI: <http://dx.doi.org/10.15553/c2020v751a13>

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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Submitted on February 27, 2020. Accepted on May 15, 2020.

First published online on June 17, 2020.

ISSN: 0373-2967 – Online ISSN: 2235-3658 – *Candollea* 75(1): 145–147 (2020)

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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 monographs 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 Syria 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 syntype 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 “n° 458”; the E and W sheets stating “alt. 1000 ped.”.

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

Acknowledgements

I am indebted to the personnel of the following herbaria: BM, E, G, JE, K, P, and W, for their contribution during the revision of material and for providing the images of types. I would also like to thank the Agricultural Sciences and Natural Resources University of Khuzestan for financial support. I am finally grateful to Gabrielle Barriera for her help in improving an earlier version of this manuscript.

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