



Typification of three Iraqi endemic taxa  
of *Centaurea* L. (Asteraceae, Cardueae)

Kazem NEGARESH

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# Typification of three Iraqi endemic taxa of *Centaurea* L. (Asteraceae, Cardueae)

**Kazem NEGARESH**

Department of Horticulture, Faculty of Agriculture, Agricultural Sciences and Natural Resources  
University of Khuzestan, Mollasani, Ahvaz (Iran)  
[negararesh@asnrukh.ac.ir](mailto:negararesh@asnrukh.ac.ir)

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## ABSTRACT

Three Iraqi endemic taxa of *Centaurea* L. (Asteraceae) are typified, namely *Centaurea foveolata* Blake-lock, *C. fusiformis* Blakelock, and *C. longipedunculata* Sch. Bip. ex Boiss.

## RÉSUMÉ

*Typification de trois taxons endémiques irakiens de* *Centaurea* L. (Asteraceae, Cardueae).  
Trois taxons endémiques irakiens de *Centaurea* L. (Asteraceae) sont lectotypifiés, à savoir *Centaurea foveolata* Blakelock, *C. fusiformis* Blakelock, et *C. longipedunculata* Sch. Bip. ex Boiss.

## INTRODUCTION

*Centaurea* L. is the largest genus in the family Asteraceae in Iraq. According to Wagenitz (2019), the genus contains 44 species in 15 sections. Iraq is not rich in species of *Centaurea* if compared with the countries adjacent in the N and W Iran and Turkey and there are only six species endemic to Iraq, namely *C. foveolata* Blakelock, *C. fusiformis* Blakelock, *C. singarensis* Boiss. & Hausskn., *C. gudrunensis* Boiss. & Hausskn., *C. longipedunculata* Sch. Bip. ex Boiss., and *C. hadacii* Wagenitz. More than half of the 44 native species of genus are restricted to the mountainous area in the northern and western parts of this country (Wagenitz 2006, 2019).

During a nomenclatural revision of the genus *Centaurea* in Iraq, the author identified problems in typification of three names, i.e. *C. foveolata*, *C. fusiformis*, and *C. longipedunculata*. The problems in typification are discussed and erroneous earlier lectotypifications (first-step) are rectified by selecting lectotypes (second-step) for *C. foveolata* and *C. fusiformis* and also lectotypification is designated for *C. longipedunculata* conforming to the latest Code (Turland *et al.* 2018). This is a continuation of earlier typifications in *Centaurea* (Ranjbar *et al.* 2013; Ranjbar & Negaresh 2014a, b; Negaresh *et al.* 2014; Negaresh & Rahiminejad 2015, 2018; Negaresh 2018a, b, 2019, 2020).

## TYPIFICATIONS

### *Centaurea foveolata* Blakelock (Fig. 1)

*Kew Bulletin* 4 (1): 46 (1949).

TYPE. — Iraq. Amadia, Kurdistan, Mazurka Gorge above Sulaf, 1500 m, 2.VIII.1933, *E. R. Guest 3773* (lecto-, first-step designated by Wagenitz [1980: 341] K!; second-step lecto-, designated here, K[K000794077]!; isolecto-, K[K000794076]!).

#### REMARKS

Blakelock (1949) described *Centaurea faveolata* based on collections of *Guest 3773* from Mazurka, Amadia, but did not mention any specific sheet as the holotype nor the name of the herbarium where the specimens were housed. Two herbarium specimens of collection number 3773 of Guest from Mazurka were found at herbarium K (K000794076 and K000794077). Although Wagenitz (1980) indicated that the lectotype (as “type K”) is at K, he did not specify nor annotate any of the two sheets there, and a second-step lectotypification is needed. The sheet K000794077 is selected here as the lectotype, because it clearly shows the characters mentioned in the protologue.

### *Centaurea fusiformis* Blakelock (Fig. 2)

*Kew Bulletin* 4 (1): 47 (1949).

TYPE. — Iraq. Kurdistan, Dohuk [Duhok], Rustam, 450 m, 10.X.1931, *E. R. Guest 1589* (lecto-, first-step designated by Wagenitz [2006: 349] K!; second-step lecto-, designated here, K[K000794106]!; isolecto-, K[K000794107]!).

#### REMARKS

Blakelock (1949) in the protologue of *Centaurea fusiformis* cited “Iraq, Dohuk, 450 m, 10.X.31, *E. R. Guest 1589* (type)”. In *Flora Iranica*, Wagenitz (1980) cited “type: *Guest 1589*, K, fragm. W!”. There is no specimen of *Centaurea* in Guest’s collection at W. Wagenitz (2006) cited “Type: Kurdistan, Dohuk, 1500 fr., 10.X.1931, *Guest 1589* (K)”. Pertaining to the type specification provided in the protologue, two specimens of *Guest 1589* were traced at K (K000794106 and K000794107). As there is no evidence that Blakelock used only one specimen for describing the species, the type citation by Wagenitz (2006) has to be accepted as the first-step lectotype as it cannot be ascertained which of the specimens at K was selected by him as lectotype. Thus a second-step lectotype has to be designated following Turland *et al.* (2018: art. 9.15). The best one and better preserved sheet, K000794106, is designated here as the lectotype, because it is in better condition than another specimen and shows all relevant characters with the protologue.

### *Centaurea longipedunculata* Sch. Bip. ex Boiss. (Fig. 3)

*Flora Orientalis* 3: 668 (1875) “*longepedunculata*”. — *Colymbada longipedunculata* (Boiss.) Holub, *Folia Geobotanica et Phytotaxonomica* 7: 316 (1972).

LECTOTYPE (DESIGNATED HERE). — Iraq. In proclivibus orientem versus sitis pr. pagum Gara Kurdist. [Assyricae supra Mossul], 5.VIII.1841, Th. Kotschy, *Pl. Alepp. Kurd.* 374 (lecto-, P[P02585330]!; isolecto-, FI[FI006606]!, FI012678]!, GOET[GOET001278]!, HAL[HAL0112768]!, H[H1034886]!, JE[JE00015706]!, K[K000794200, K000794201, K000794202]!, M[M0030573]!, P[P00730220, P00730221, P00730222, P00730223, P00730224, P02585331]!, S[S10-6688]!, US[US00289164]!, W[W1889-0065801, W1889-0294071, W0056442, W0056443, W0056444, W0056445], WAG[WAG0004184]!).

#### REMARKS

Twenty-six duplicates of the type of *Centaurea longipedunculata* were found at FI, GOET, HAL, H, JE, K, M, P, S, US, W and WAG, which had to be treated as syntypes (Art. 40, Note 1 of the International Code of Nomenclature; Turland *et al.* 2018). According to McNeill (2014), the existence of a holotype cannot be established in this case, as there were more than one specimen for this species, housed in more than one institution. P00730226, P02585330, HAL0112768 and W0056442 show the roots and therefore the perennial habit. The specimen P00730226 is not suitable as lectotype because it has a handwritten label with a wrong number “74”, though it is probably from the same collection. HAL0112768 is fragmentary. W0056442 does not show the leaves very well. But most of the syntypes are even worse or has also as an



Fig. 1. — Lectotype (second-step) of *Centaurea foveolata* Blakelock, Guest 3773 (K000794077).



FIG. 2. — Lectotype (second-step) of *Centaurea fusiformis* Blakelock, Guest 1589 (K000794106).



FIG. 3. — Lectotype of *Centaurea longipedunculata* Sch. Bip. ex Boiss., Kotschy 374 (P02585330).

notation the field book number of Kotschy “451”. The sheet P02585330 is better preserved and more complete than the other duplicates and best represents the species description given in the protologue; hence, it is designated here as the lectotype.

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