



## Typification of the Linnaean name *Centaurea crocodylium* (Asteraceae)

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*Centaurea crocodylium* Linnaeus (1753: 919) is found in Mediterranean woodlands and shrublands, in Palestine, Jordan, Syria, Israel and Lebanon (see Greuter 2006 onwards), and is currently sometimes accepted under the illegitimate name *Crocodylium syriacum* Cass. in Cuvier (1819: 19, as *Crocodylium syriacum*) (see Garcia-Jacas *et al.* 2001; Font *et al.* 2002; Wang *et al.* 2013), the correct name for which is *Crocodylium crocodylium* (Linnaeus 1753: 919) Hill (1769: 63). This species is an annual plant with the simple, entire basal leaves and the upper leaves pinnatisect with 2–3 pairs of lateral segments and larger terminal segment with dentate margin, long-pedunculate capitula and bracts with hyaline appendages and ending in simple spines.

*Centaurea crocodylium* has not yet been typified (Jarvis 2007: 400), so this paper proposes the designation of a lectotype based on the protologue and consultation of Linnaeus's original material.

### Typification

Linnaeus's protologue (1753: 919) of *Centaurea crocodylium* consists of a diagnosis "*CENTAUREA calycibus simplicissime spinosis, foliis pinnatifidis integerrimis: lacinia extima majore dentata*" followed by only one synonym cited from Barrelier (1714: 83, t. 503) "*Cyanus purpureus, capite spinoso, syriacus*", and with the indicated locality "*Habitat in Syria*".

According to Jarvis (2007: 400), original material are Barrelier's illustration (1714: t. 503) (image available at: <http://bibdigital.rjb.csic.es/ing/Libro.php?Libro=1394>) and the herbarium specimen at LINN "Herb. Linnaeus no. 1030.73" (image available at <http://linnean-online.org/10678/>). This specimen bears Linnaeus's annotation "49 *crocodylium*", where "49" explicitly refers to the number of the species account of *Centaurea crocodylium* in *Species Plantarum* (Linnaeus 1753: 919) (see Stearn 1957; Turland 2006; Turland & Jarvis 1997; Jarvis 2007). The specimen bears a fragment with leaves and inflorescences. We have been unable to locate any further original material in any Linnaean or Linnaean-linked herbaria (Jarvis 2007).

Both original elements possess certain features that match the original diagnosis, in particular the appendages of involucre bracts with simple spines ("*calycibus simplicissime spinosis*"). The illustration in Barrelier (1714: t. 503) is congruent with the protologue "*foliis pinnatifidis integerrimis: lacinia extima majore dentata*", showing pinnatifid leaves with 2–3 pairs of lateral segments and a larger terminal segment with dentate margin. On the other hand, the specimen at LINN (Herb. Linnaeus no. 1030.73) is in agreement with the Linnaean diagnosis except for the pinnatifid leaves ("*foliis pinnatifidis*"), a characteristic that cannot be seen in this material, but was probably taken from the illustration.

Both original elements, the illustration in Barrelier (1714: t. 503) and the herbarium specimen at LINN, are definitely congruent with the traditional concept (Linnaeus 1753; Cassini 1819) and current use (see e.g., Post & Dinsmore 1932, Wagenitz 1975, 1981, Dostál 1976) of the Linnaean name *Centaurea crocodylium*. The specimen Herb. Linnaeus no. 1030.73 at LINN is better suited as lectotype of the Linnaean name, because any specimen provides a large number of additional characters, including molecular, chemical, micromorphological, etc., that cannot be observed on an illustration. We therefore choose the specimen in the Linnaean herbarium at LINN as the lectotype of *Centaurea crocodylium*.

***Crocodylium crocodylium*** (Linnaeus 1753: 919) Hill (1769: 63)

Bas.: *Centaurea crocodylium* L. (1753: 919)

**Type** (lectotype, designated here):—Herb. Linnaeus no. 1030.73 (LINN! [digital image], image of the lectotype is available at <http://linnean-online.org/10678/>).