

## TYPIFICATION OF *CARLINA ACANTHIFOLIA* VAR. *SPATHULATA* (ASTERACEAE) AND NEW AUTHORSHIP FOR *C. ONOPORDIFOLIA*

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**Abstract.** A name *Carlina acanthifolia* var. *spathulata* Łapcz. is lectotypified. The historical taxonomy of *C. onopordifolia* Besser ex Szafer is briefly provided.

**Key words:** *Carlina onopordifolia*, *Carlina acanthifolia* var. *spathulata*, *Carlina acanthifolia* subsp. *utzka*, taxonomy, typification

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While preparing a comprehensive paper on the taxonomic history of *Carlina onopordifolia* (E. Cieślak & W. Paul, in prep.), we discovered that several issues, including typification and authorship citation, were not addressed properly (e.g., Klokov 1962; Jasiewicz 1972; Meusel & Kästner 1994; Mirek *et al.* 2002; Shiyan *et al.* 2010). This paper represents an effort to clarify the situation.

This taxon, distributed from SE Poland to Central Ukraine, is traditionally regarded as a subendemic in both countries, where it is one of the rarest plants. Within the widely treated taxon *C. acanthifolia* All. *s.l.* it constitutes an eastern wing of the aggregate. It occupies only calcareous, thermophilous swards.

Willibald Besser first used the name *C. onopordifolia* for a taxon found in Podolia (Ukraine) in a 1832 letter to the editor (Besser 1832). He did not provide a description, so the name was only a *nomen nudum* in spite of its wide use in later times (e.g., Shmal'gauzen 1897; Szafer 1923; Szafer *et al.* 1924, 1953; Mirek *et al.* 2002). In 1837, Candolle treated this name, with Besser as its author, as a synonym of *C. acanthifolia* All. [var.]  $\beta$ . *cynara* DC.; according to Art. 34.1c of the International Code of Botanical Nomenclature (ICBN) (McNeill *et al.* 2006), this does not constitute valid publication of the name *C. onopordifolia*. Nevertheless, botanists who did not agree with

this synonymization still used it at species rank with Besser's authorship (e.g., Knapp 1891; Szafer 1923; Jasiewicz & Pawłowski 1956).

In 1881, a Warsaw-based botanist, Kazimierz Łapczyński, described as a new variety the taxon *Carlina acanthifolia* All. [var.]  $\gamma$ . *spathulata* (Łapczyński 1881). He prepared a protologue based on specimens collected by Maria Hempel in 1880 from a newly discovered station at Stawska Góra hill near Chełm (E Poland). He did not provide evidence of the location of the relevant herbarium specimens. A year after the original description, Łapczyński (1882) published a new paper on the taxon, repeating but slightly changing the description, which he prepared based on another set of specimens collected in 1881 (to which, as mentioned below, the KRAM collection may have belonged). He wrote that part of the description and some figures in his previous article had depicted an early stage of development, thus not showing all typical features, and provided an improved description of these features in Polish and Latin. Then he repeated the whole Latin description, similar to the one published in 1881 but changed in two places. One included the supplemented characters of involucre bract spines, and the other concerned the pubescence of the rosette leaf; in this passage the pubescence of the upper face of the leaf is described, while in the 1881

protologue it was that of the lower face. As this new description evidently was prepared for the purpose of making the original one more precise, and not to reject the previously described specimens as belonging to another taxon (in particular, not rejecting the type, as he did not designate it), Art. 48.1 of the ICBN, which would make the second description the protologue of a new taxon with the same name (i.e., a later homonym), is not applicable here.

Not having at his disposal specimens from the area (Podolia) where Besser's *C. onopordifolia* was reported, and convinced that Candollean synonymization of it with *C. acanthifolia* var. *cynara* was correct, he evidently did not suspect that the two taxa might be identical (Łapczyński 1881, 1882).

As the type of *C. acanthifolia* var. *spathulata* Łapcz. has not been designated previously, we decided to search for the available original material (ICBN Art. 9.2 Rem. 2a). The relevant herbarium specimens were mainly those preserved in Łapczyński's collection, now incorporated into the herbarium of the Institute of Botany of Warsaw University (WA). It turned out that none of the preserved specimens he determined as *C. acanthifolia* var. *spathulata* bear a date earlier than 15 June 1881, the date (according to a notation of the Russian censor's office) of the closing of the volume in which Łapczyński's (1881) protologue appeared. Only one of the seven sheets preserved in WA is dated (not legibly: 1884 or 1887). Another collection, five specimens mounted on three separate sheets, is housed in the herbarium of the Institute of Botany of the Polish Academy of Sciences in Kraków (KRAM no. 160494a–c). It was most probably labeled by Łapczyński himself, without a collection site given, but with Maria Hempel given as collector, dated August 1881, and thus probably being a part of the collection Łapczyński mentioned in his 1882 article. However, the specimen on the sheet to which the handwritten label is now attached (KRAM 160494a), seems not to be the one to which it was affixed originally. On the label it states that 'the specimen had not formed a flower head', but the one on the sheet has a well-developed capitulum; the one that the label really

belonged to may be one of the specimens mounted on sheets KRAM 160494b or c, which are only barren leaf rosettes. We found no other specimen labeled *C. acanthifolia* var. *spathulata* during queries in other herbaria where such specimens were likely to have been deposited (incl. KRA, KW, LW, POZ, WR).

Since no undoubted original herbarium material seems to be preserved, the illustration (Figure 8 of Figures 7–11 in Łapczyński's 1881 article) depicting, as the author himself stated, several of the main differentiating features: the shape of the bract from the next-to-internal row of the involucre, as well as the size, shape and position of the spines on its margins, should be regarded as the only available original material connected with the protologue of the name *C. acanthifolia* var. *spathulata* (Fig. 1). We believe that this makes the mentioned figure the obvious choice for a lectotype. Unfortunately, no material is known on which the lectotype illustration was based and which, according to Rec. 8A.1. of the ICBN, can be used to help determine the use of the name (although it cannot automatically be a type itself).

To differentiate closely related taxa, modern taxonomic elaborations (e.g., Meusel & Kästner 1994) consider not only the features depicted on the lectotype illustration, so this figure cannot be unequivocally identified for the purpose of precisely applying the name. In view of this practice, we decided to designate a herbarium specimen as epitype (Art. 9.7 of ICBN). As all of the WA specimens (and probably also the KRAM spec-

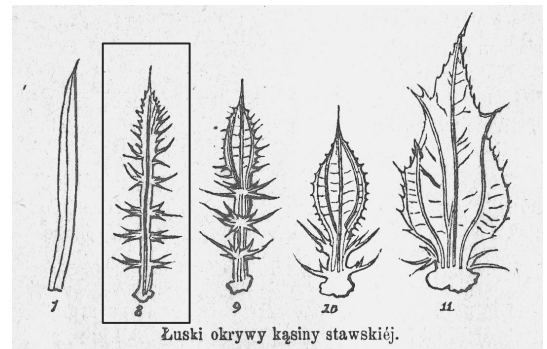


Fig. 1. The lectotype figure (framed) of *Carlina acanthifolia* var. *spathulata* Łapcz. (Łapczyński 1881: 204, fig. 8).



Fig. 2. The epitype of *Carlina acanthifolia* var. *spathulata* Łapcz. (M. Hempel, WA 17786).

imen) come from the same locality mentioned in the protologue, this was an excellent opportunity to choose the best-preserved and most complete specimen, showing all the key features, from among the ones collected at the *locus classicus* and determined by the author of the name. After a critical examination we designated as epitype the specimen mounted on sheet WA 17786 (also bearing no. 073067 from the previous numbering scheme) (Fig. 2).

As early as mid 1883, in a lecture on the work of Łapczyński (1881) delivered at the monthly meeting of the Imperial and Royal Zoological-Botanical Society in Vienna (K. K. Zoologisch-Botanische Gesellschaft zu Wien), J. A. Knapp, based on the distribution of *C. acanthifolia*, stated that *C. acanthifolia* [var.] *γ. spathulata* is identical with *C. onopordifolia* Besser (Přihoda 1883). He confirmed this view eight years later (Knapp 1891). Neither of the cited papers can be regarded as valid publication of the name *C. onopordifolia*, as it was mentioned there as a synonym of *C. acanthifolia* var. *spathulata* rather than the other way round.

In the mid 20<sup>th</sup> century the lack of a protologue for *C. onopordifolia* became known and the validating description was deemed to be a detailed characterization in a field key by Szafer *et al.* (1924). This solution was adopted by many authors, among them the monographers of the genus *Carlina*, Meusel and Kästner (1994). Already in 1923, however, Szafer had published a paper on a newly discovered locality of *C. onopordifolia*. Szafer ascribed this taxon to Besser, as was widely done at that time, so he also apparently did not know that the name had not been validly published. As he unequivocally assigned the validly described name '*Carlina acanthifolia* All. v[ar]. *spat[h]ulata* Łap. (1881)' as a synonym of '*C. onopordifolia* Besser' in this article, however, he fulfilled the requirements of Art. 32.1d of the ICBN for the latter name validation. This reference was unequivocal, although indirect (no full citation of Łapczyński's work was given), but this was allowed for pre-1953 papers (Art. 32.5 and 32.6 of the ICBN). Thus, the correct name and authorship of this taxon should read: *Carlina onopordifolia* Besser *ex* Szafer.

According to Art. 7.7 of the ICBN, the type(s) of a validated name (*C. onopordifolia*) will be the same as of the taxon that served for validation (i.e., *C. acanthifolia* var. *spathulata*). This renders superfluous the 'lectotypifications' (actually neotypifications) done by Meusel and Kästner (1994) and Shiyan *et al.* (2010). Another place where the *C. onopordifolia* type was mentioned was in a paper of Klokov (1962), who declared that he saw a 'type' found in a vicinity of Ol'gopil' (SE Podolia, Ukraine) but did not provide data for the place where the specimen was conserved, nor specify why, when and by whom this 'type' had been designated. One sheet from that locality is preserved in the herbarium of the M. G. Kholodny Institute of Botany in Kiev (KW), but it bears no annotations as being designated as a (lecto/neo) type, or even of being seen by Klokov.

In a paper that was basically a comparative checklist of the scientific names traditionally used in Polish literature and their equivalents in current use at that time, Jasiewicz (1986) used the name '*Carlina onopordifolia* Besser *ex* Szafer, Kulczyński, Pawłowski (1924)' in an attempt to validate his new combination *C. acanthifolia* All. subsp. *onopordifolia* (Bess.) Jas. His citation of the basionym was incomplete (according to Art. 33.4 of ICBN); he did not give the page number of the cited work, so this combination is not validly published. Moreover, he did not acknowledge the names of the authors validating (according to him) the basionym in the authorship phrase of his combination – only Besser was cited in brackets before his name.

In their monograph of the genus *Carlina*, Meusel and Kästner (1994) synonymized the name *C. onopordifolia* with *C. acanthifolia* All. subsp. *utzka* (Hacq.) Meusel & Kästner, a new combination they validly published there. In the chapter devoted to its taxonomy they made several errors in citations. Besides the many typos in quotations from Polish sources, rendering it virtually impossible for a non-Polish-speaking person to decipher some locations and journal titles, they gave Besser's 1822 paper as the place of first publication of the name; that is not only incorrect but also contrary to their own explanations further

on. They missed Łapczyński's 1881 paper and wrongly attributed to him a short note by Karo from the same year (1881) in which the latter only informed readers of the new variety described by Łapczyński, with no description of the taxon. Consequently, they treated the name '*C. acanthifolia* var. *spat[h]ulata*' as a *nomen nudum*, an error that would be understandable except that they properly cited Łapczyński's second paper (1882) in which the Latin diagnosis was repeated. Nor did they cite Szafer (1923) or Jasiewicz (1986).

### *Carlina onopordifolia* Besser ex Szafer

Acta Soc. Bot. Poloniae **1**(1): 55. 1923

≡ *Carlina acanthifolia* All. [var.] γ *spathulata* Łapcz., Pam. Fyzyogr. **1**: 206. 1881. (synonymized by W. Szafer in Acta Soc. Bot. Poloniae **1**(1): 55. 1923, validating the name *Carlina onopordifolia*)

INDICATIO LOCOTYPICA (pro *C. acanthifolia* [var.] γ *spathulata*): '...we wsi Stawie, położonej od Chełma w kierunku północno-zachodnim o 7 kilometrów. ... zaraz za wsią Stawem po prawej stronie drogi, idącej w kierunku Krobonoszy, ... wzgórze ... 'górá stawską' nazwane. Jest ono wapienne ... od strony Stawu, ... Blizko już szczytu téj góry ale na spadku strony wapiennej rośnie obficie...'

LECTOTYPUS (pro *C. acanthifolia* var. *spathulata*, ergo et pro *Carlina onopordifolia*, hoc loco designatus): Łapczyński K., Pamiętn. Fyzyogr. **1**: 204, fig. 8. 1881.

EPITYPUS (hoc loco designatus): 'Staw pod Chełmem / na górze wapiennej, wyniosłej, odkrytej / [leg.] Marya Hempel', sine die, WA 17786.

– *Carlina onopordifolia* Besser, Flora **15**(2) Beibl. **1**: 23. 1832, *nom. nud.*

– *Carlina onopordifolia* Besser ex Szafer, Kulczyński & Pawłowski, Rośliny polskie: 641. 1924 (since the mid 20<sup>th</sup> century this paper has been regarded by many authors as the validating description for *C. onopordifolia* Bess.), *isonymum*; in Webb, Fl. Europ. **4**: 210. 1976, pro syn.: *C. acanthifolia* All.; in Meusel & Käßtner,

Lebensgeschichte der Gold- und Silberdisteln **2**: 374. 1994, pro syn.: *Carlina acanthifolia* subsp. *utzka* (Hacq.) Meusel & Käßtner.

– *Carlina acanthifolia* subsp. *onopordifolia* (Bess.) Jas., Fragm. Florist. Geobot. **30**(3): 266. 1986, *nom. inval.*

NOTE. In Łapczyński (1882), in two of three places, including the new version of the description of his *C. acanthifolia* [var.] *spathulata*, an alternative spelling of the variety epithet was used: '*spatulata*' without '*h*'. This was an evident (linguistically incorrect) misspelling, as in one of these two places Łapczyński expressly treats the 'changed' name as a quotation of the name from his 1881 work, where it was spelled correctly.

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\* Annotated translation: '...in Stawie [correctly: Staw] village, located 7 km NW of Chełm [E Poland]... directly past Staw village on the right side of the road to Krobonosza [now: Krobonosz village, N of Staw] ... a hill named 'górá stawska' ... it is calcareous ... on the Staw side ... close to the summit of the hill, but on the slope of the calcareous side [i.e. on the S slope] [the plant] grows abundantly...'

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