

## TYPIFICATION OF *CHRYSANTHEMUM ZAWADZKII* (ASTERACEAE)

ZBIGNIEW SZELAĞ & YURIY KOBIV

**Abstract.** The name *Chrysanthemum zawadzki* Herbich is typified by the illustration published in the protologue, and epitypified by the specimen collected in 1832 by F. Herbich in the Pieniny Mts, Western Carpathians, and stored at the herbarium of the Ivan Franko National University of Lviv (LW). The original spelling of the species epithet is clarified.

**Key words:** Alexander Zawadzki, Asteraceae, Carpathians, *Chrysanthemum*, *Dendranthema*, epitype, Franz Herbich, lectotype, *Tanacetum*

Zbigniew Szelağ, Institute of Botany, Jagiellonian University, Kopernika 31, 31-501 Kraków, Poland; e-mail: [aszzelag@wp.pl](mailto:aszzelag@wp.pl)  
 Yuriy Kobiv, Institute of Ecology of the Carpathians, National Academy of Sciences of Ukraine, Kozelnytska Str. 4, 79026 Lviv, Ukraine; e-mail: [ykobiv@gmail.com](mailto:ykobiv@gmail.com)

Only a few flowering plant taxa described from Poland have later been discovered over wider ranges in Europe or even shown to have a Eurasian distribution. A remarkable example is *Chrysanthemum zawadzki* Herbich [= *Dendranthema zawadzki* (Herbich) Tzvelev; = *Tanacetum zawadzki* (Herbich) Pawł.] described from specimens collected in 1829 by Franz Herbich in the Pieniny Mts in the Western Carpathians (Herbich 1831: 6, 44). In addition to its isolated locality in the Pieniny Mts, *Chrysanthemum zawadzki* occurs in a disjunct locality in the eastern part of European Russia, and over a large area of Asia, reaching Japan (Zarzycki 1976: distribution map).

Franz Herbich (1791–1865), a botanist and military medical doctor (for more details of Herbich's life see Knapp 1872), visited the Pieniny Mts in 1829, 1830 and 1832 (Herbich 1834: 572). Herbich bequeathed his herbarium to Edward Hüffel (1830–1896), a botanist and school teacher who worked in several places in Eastern Galicia (now in Ukraine) (Köhler 2008). Later, Herbich's collection passed to the Lviv Botanical Garden and finally was housed in the herbarium of the Ivan Franko National University of Lviv (LW). A significant number of Herbich's specimens are also stored in the herbarium of the Natural History Museum, National Academy of Sciences of Ukraine in Lviv (LWS), founded in 1859 as the Dzieduszycki

Family Museum, which was an important scientific center in the second half of the 19<sup>th</sup> century. Many of Herbich's specimens, mostly related to the flora of Bukovina, are kept in the herbarium of the Yuriy Fedkovych National University of Chernivtsi (CHER).

In a search of *Chrysanthemum zawadzki* original material, we checked all the mentioned herbaria as well as other important herbaria in Ukraine (KW) and Poland (KRA, KRAM, WRSL) from which some of Herbich's material was also known, and managed to find only two corresponding specimens in LW.

In 1939, Lviv (at that time it was part of Poland and called Lwów) was occupied by the Soviet Union and after World War II some of Herbich's specimens were taken to the herbarium of the V. L. Komarov Institute of Botany, Russian Academy of Sciences in Leningrad (now Sankt Petersburg in Russia) (LE), which was the main depository in the former Soviet Union.

In *Flora of the USSR*, Tzvelev (1961: 378) states that the 'type' of *C. zawadzki* is stored in Vienna, whereas the 'isotype' is deposited in Leningrad. Thanks to help from the Curators of both main herbaria of Vienna, Dr. Walter Till (WU) and Dr. Bruno Wallnöfer (W), it was established that Tzvelev apparently meant the herbarium of the Museum of Natural History in Vienna (W),

which in fact contains two specimens collected by F. Herbich in the Pieniny Mts. With the aid of Dr. Beata Paszko (KRAM) and Dr. Roman Ufimov (LE) we also managed to get access to the 'isotype' mentioned by Tzvelev as stored in LE. The efforts of Dr. Karel Sutorý (BRNM) and Professor Jan Kirschner (PRA) led to receipt of information on a specimen of *C. zawadzki* stored at the Moravian Museum in Brno (BRNM).

Unfortunately, all of the six specimens we learned of were collected by F. Herbich in 1832 during his third trip to the Pieniny Mts on July 27, when on 'Berg Gacza bei Szczawnice' (now Mt. Kacza near Szczawnica) he gathered *C. zawadzki* along with other plants (Herbich 1834: 574). As we did not find any specimens collected in 1829, here we designate the original illustration from the protologue (Fig. 1) as the lectotype of the name *C. zawadzki* and the specimen LW 214045 (Fig. 2) as its epitype.

### *Chrysanthemum zawadzki* Herbich Figs 1–3

Addit. ad Fl. Galic.: 44. 1831. – *Tanacetum zawadzki* (Herbich) Pawł., Ochrona Przyrody 14: 64. 1934. – *Dendranthema zawadzki* (Herbich) Tzvelev, Fl. USSR 26: 376. 1961. – TYPE LOCALITY: 'In cacuminibus montium Pienninorum et in rupibus calcareis prope Krościenko ad ripas fluvii Dunajec (bei der Uiberfahrt) ad Szczawnice'. – LECTOTYPE (designated here): [icon in] F. Herbich, Addit. ad Fl. Galic.: Tab. 1831. – EPITYPE (designated here): In cacumine montis Gacza Pienninorum. Circuli Sandecien[sis] Galiciae legit August 1832 Auctor [F. Herbich] (LW 214045). – ISOEPITYPES: BRNM s.n., LE s.n., LW 214046, W 7789, W 49071.

EXSICCATE SERIES: Fl. Polonica Exs., no. 182 (1894); Fl. Exs. Austro-Hung., no. 2673 (1896); Pl. Poloniae Exs., no. 272 (1936); Fl. Exs. Reipubl. Bohem. Slov., no. 1098 (1936); Fl. Poloniae Exs., no. 87 (1970).

NOTES. A misspelling of the species epithet as 'zawadskii' first used by Tzvelev in *Flora of the USSR* (1961: 376) repeatedly occurs in the literature. Another erroneous version is 'zavadskii' (cf. *Flora exsiccata Republicae Bohemicae Slovenicae*, no. 1098). The species name *Chrysanthemum zawadzki* was given in honor of Alexander Zawadzki (1798–1868), a botanist and professor at the University of Lviv in 1847–1852. The misspell-

ing was adopted by such distinguished sources as *Flora Europaea* (Heywood 1976: 169), *The Names of Plants* (Gledhill 2006: 411), and *The International Plant Names Index* (<http://www.ipni.org> [accessed 30 November 2013]). Obviously the authors of these compendia were not familiar with the protologue of *C. zawadzki*; therefore we present its original (Fig. 3).

Although *Additamentum ad floram Galiciae* (Herbich 1831) is a very rare publication, we happened to get access to a copy, in which pages 43 and 44 are transposed. In that copy the description of *Chrysanthemum zawadzki* is placed on page 43 (no. 65) instead of page 44 (no. 67). Obviously it is a misprint, because the book's table of contents indicates page 44 for the description of this species. That copy is available at the library

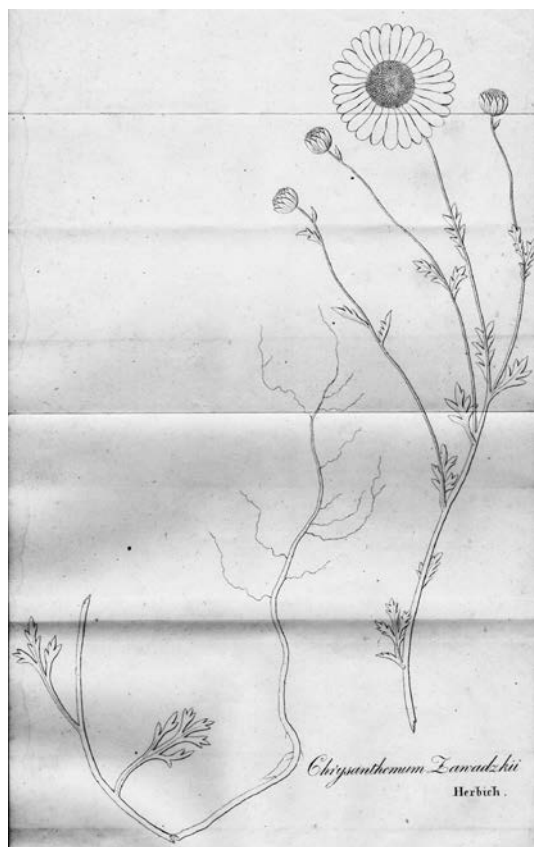


Fig. 1. Original illustration of *Chrysanthemum zawadzki* Herbich (Herbich 1831: Tab.) selected as the lectotype.

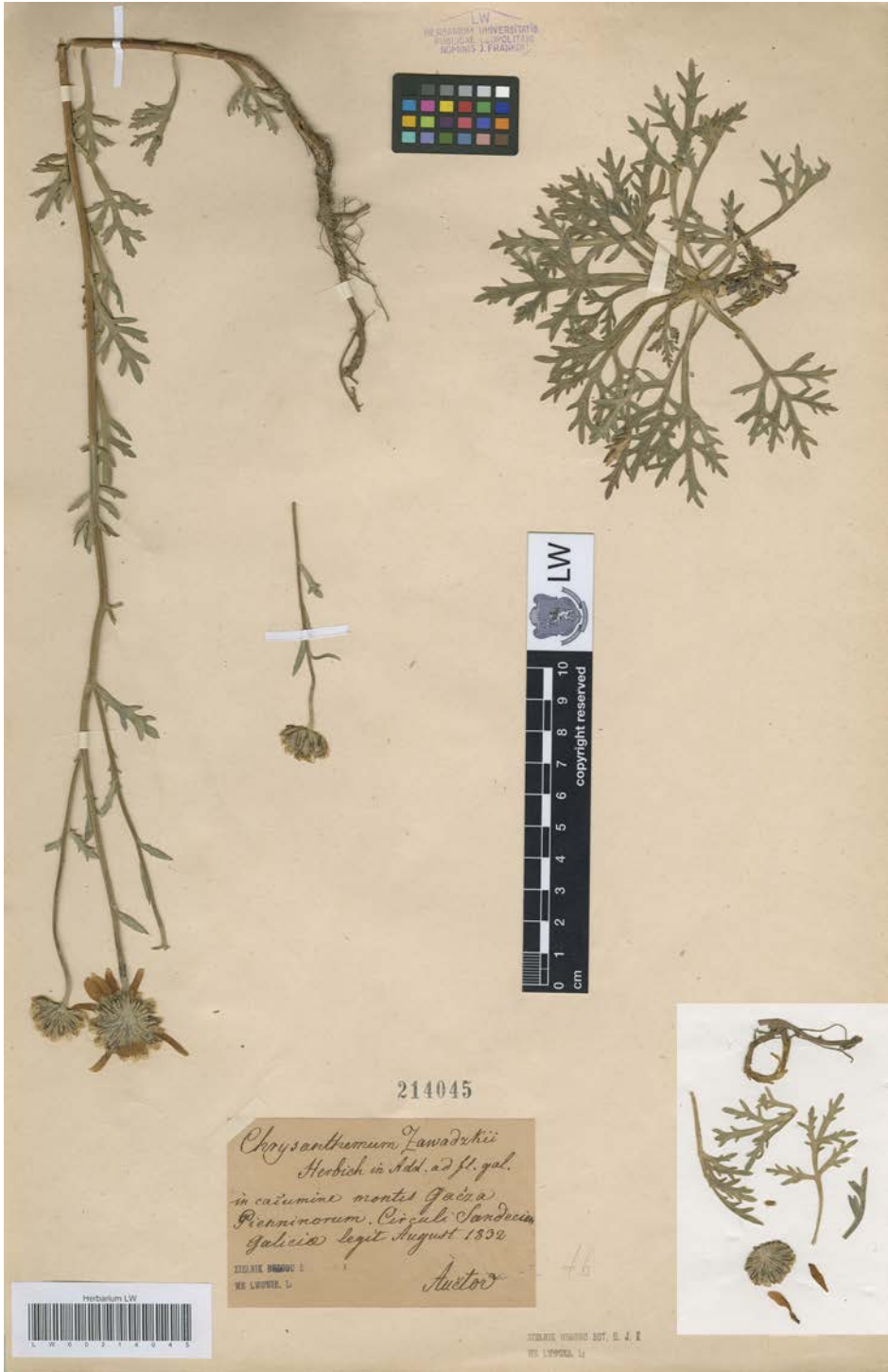


Fig. 2. Epitype of *Chrysanthemum zawadzki* Herbich (LW 214045).

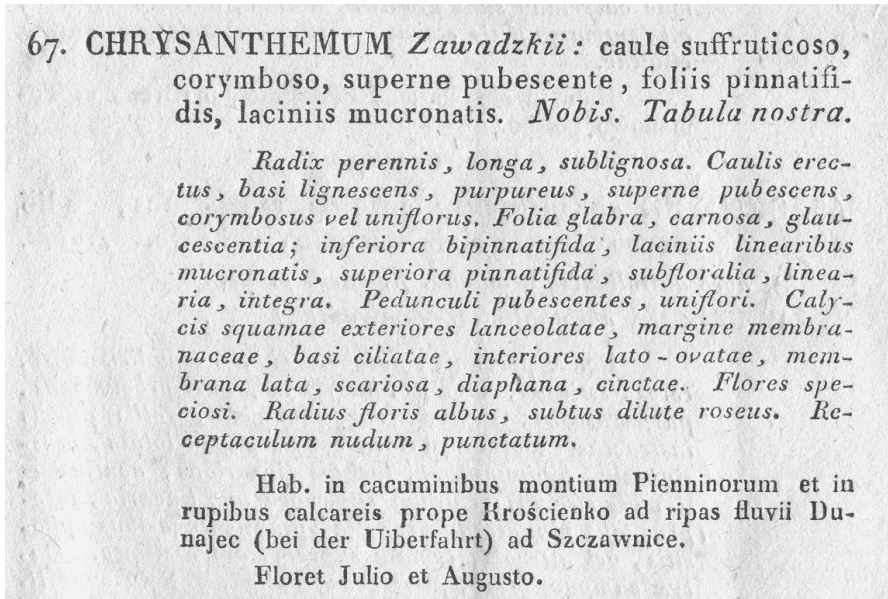


Fig. 3. Protologue of *Chrysanthemum zawadzkii* Herbich (Herbich 1831: 44).

of Vienna University. Most likely some other remaining copies contain the same error.

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