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## The typification of *Gundelia tournefortii* L. (Compositae)

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### Zusammenfassung

Für *Gundelia trounefortii* L. (Compositae) werden Lectotypus und Epitypus ausgewählt.

### Summary

A lectotype and epitype are chosen for *Gundelia tournefortii* L. (Compositae).

**Key Words:** Compositae, *Gundelia*, *G. tournefortii*, *G. rosea*; taxonomy, type.

### Introduction

Recently two new localities of *Gundelia* have been found in Armenia (VITEK & al. in prep.). These populations are morphologically different from the populations of *Gundelia* known up to now in Armenia, which have been called *Gundelia tournefortii* L. in the Flora of Armenia (AVETISIAN 1995 - including *G. rosea* as synonym) and Flora USSR (VASIL'CHENKO 1961). Before classifying these new entities in any way, it is necessary to fix the application of the name *Gundelia tournefortii* which has been poorly understood and often used ambiguously.

### The type of *Gundelia tournefortii* LINNÉ

*Gundelia tournefortii* was described by LINNÉ in Species plantarum (1753: 814). In the herbaria of Linné no specimen is available which could serve as type. Therefore one of the illustrations cited in the protologue must be considered. These are: "Tournef. cor. 51. Itin.", "Rauv. itin. 74, t. 74.", and "Bauh. hist. 3. p. 84". The drawing of BAUHIN is a copy of that of RAUWOLF. So in reality the choice is between two drawings.

But there are some complications: LINNÉ himself obviously had the impression that more than one entity was included within *G. tournefortii*, distinguishing "var. ?" though without giving it a name. The diagnostic characters of this variety are given as "floribus intense purpureis, capite araneosa lanugine obsito" (for var. ?) against "capite glabro". These characters are obviously based on the observations of TOURNEFORT (1703) and RAUWOLF (1583) as the geographical origin is given as "Habitat in Armenia<sup>1</sup> [based on TOURNEFORT], Syria [RAUWOLF]".

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Fig. 1: RAUWOLF 1583: t. 74.

<sup>1</sup> "Armenia" at this time was much bigger than today, including also parts of present day Turkey. Tournefort in any case passed through present day Armenia on his way from Mt. Ararat to Tiflis - his itinerary is shown in GUIRAL 1957: tab. 21.

At least for material from Armenia and Iran, the characters "flowers purple" and "leaves glabrous" seem to be correlated. Photos of Turkish material (PILS 2006) show plants with cream flowers and dense arachnoid hairs within the inflorescence. This observed correlation of characters is contrary to that mentioned by Linné - at least these characters are not exclusively connected as Linné gives in his description.

BORNMÜLLER (1939) described *G. tournefortii* f. *purpurascens* (the specimens have been distributed as "*G. purpurascens*") from Iran, and AL-TAEY & HOSSAIN (1984) described *G. rosea* M.HOSSAIN & R.A.AL-TAEY partly based on "var. ?" of LINNÉ and f. *purpurascens* of BORNMÜLLER, but with a type from Iraq. Besides fruit characters these authors give as the main distinguishing character the colour of the corolla: "bright to light yellow inside, rusty brown or sometimes purple outside" (*G. tournefortii*) versus "bright to light pink inside, never yellow, deep purple outside, never rusty brown" (*G. rosea*). Nothing is said about the hairiness of the leaves.

The present typification allows us to decide which of the two taxonomic entities should carry the name *G. tournefortii*. The figure of RAUWOLF is chosen here as the type of the Linnean name. RAUWOLF gives as the locality "Aleppo" and the flower colour as cream ("... das ganze gewächs ist unserer Eberwurz sehr ehlich / allein / daß das grösser / höher / unnd oben stechende kölbllein gewinnet. / ob denen herumb leibfarbe blümlein zusehen. ..."). In contrast the figures in TOURNEFORT show affinities to the recently described *G. rosea* and are probably based on material from Armenia.

### ***Gundelia tournefortii* L., Spec. Plant. 814 (1753).**

Lectotypus (hic designatus): (Aleppo) RAUWOLF (1583): t. 74. – Fig. 1.

Epitypus (hic designatus): (Aleppo), Rauwolf, hort. sicc. 81 [L] – Fig. 2 - 3.

## **Discussion**

Analysing the collections is difficult because the flowers close during the drying process and very rarely information on the flower colours are given. Additionally, though they are common, the plants are not often collected as a result of their spininess. The following hypothesis may be a basis for further investigations:

*Gundelia tournefortii* and *G. rosea* are two well defined species with different flower shape, different pollinators (VITEK et al., in prep.) and different distribution areas. The leaf shape, as well as the form and length of the involucre bracts, is very variable in both species. They have the same chromosome number (AL-TAEY & HOSSAIN 1984) and, in contact zones, hybrid populations may occur.

The distribution map in AL-TAEY & HOSSAIN (1984) shows, within Iraq, a distribution of *G. tournefortii* in the (western) central part, and of *G. rosea* along the (northern to northwestern) border to Iran. Based on a quick inspection of the available specimens this distribution can be extended in the following way.

In Israel and the Near Orient only *G. tournefortii* can be found.

In the Flora of Turkey (KUPICHA 1984), only *G. tournefortii* is recognised giving the flower colour as "green, yellow, white, maroon or red", and the hairiness as "glabrous or arachnoid". Very probably both species exist in Turkey; *G. tournefortii* widespread,



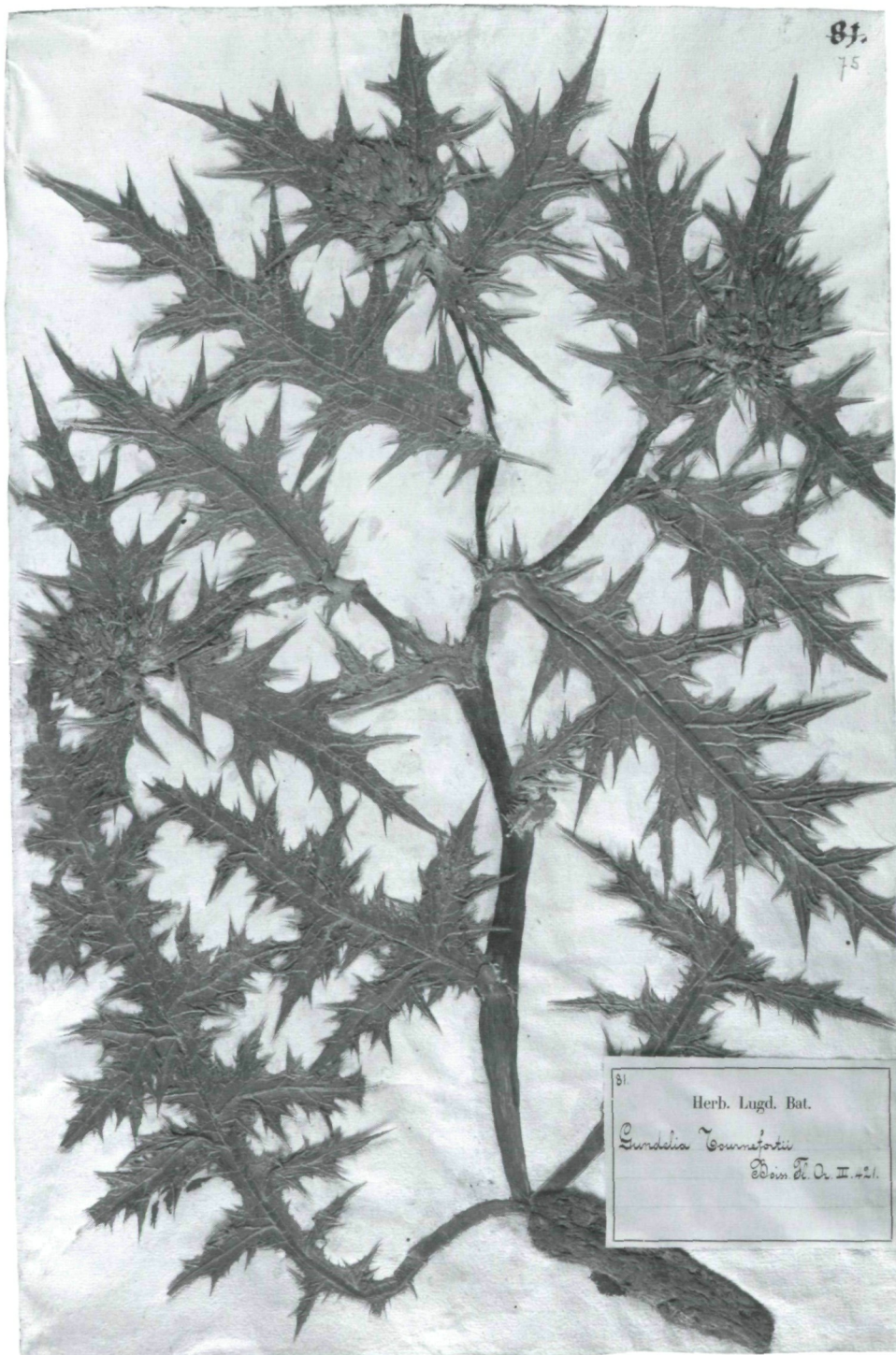


Fig. 2: Epitype: Rauwolf, hort. sicc. 81. – Photo Nationaal Herbarium Nederland (L).

Fig. 3: Epitype: Rauwolf, hort. sicc. 81.  
Inflorescence, showing the indumentum. –  
Photo Nationaal Herbarium Nederland (L).



*G. rosea* possibly restricted to the area near the Iranian and Armenian borders.

In Flora Iranica (RECHINGER 1989), only *G. tournefortii* is treated, with the remark, that the author could not see any differences between it and *G. rosea*. A quick inspection of the Iranian collections leads to the supposition that all collections from the Flora Iranica area could, in reality, belong to *G. rosea*.

In Flora Armenii (AVETISIAN 1995), *G. rosea* is given as a synonym of *G. tournefortii*. The earlier known populations around Garni (NW of Yerevan) have to be included in *G. rosea*; the two recently found populations need further investigation.

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#### References

- AL-TAEY R.A., HOSSAIN M., 1984: Studies in *Gundelia*: 1. A new species from Iraq. – Notes Roy. Bot. Gard. Edinb. 42: 39-44.
- AVETISIAN V.E., 1995: Gundelieae. – In: AVETISIAN V.E., OGANESIAN M.E. (eds.): Flora Armenii 9: 212-216.
- BAUHIN J., CHERLER J.H., 1650-51: Historia plantarum universalis. – Ebroduni.
- BORNMÜLLER J., 1939: Iter Persico-turcicum 1892-1893. Beiträge zur Flora von Persien, Babylonien, Assyrien, Arabien. Fortsetzung III. – Beih. Bot. Centrbl., B, 60: 181-228.
- GUIRAL P., 1957: Tournefort et son voyage au Levant. – In HEIM R. (ed.) Tournefort. – Les Grands Naturalistes Français 2: 77-96.
- KUPICHA F.K., 1984: *Gundelia*. – In: DAVIS P.H., MATTHEWS V.A., KUPICHA F.K., PARRIS B.S. (eds.): Flora of Turkey and the East Aegean Islands 5: 325-326.
- LINNÉ C., 1753: Species Plantarum, 2.
- PILS G., 2006: Flowers of Turkey. A photo guide. – Linz: Pils.
- RAUWOLF L., 1583: Aigentliche beschreibung der Raiß, so er vor diser zeit gegen Auffgang inn die Morgenländer, fürnemlich Syriam, Judaeam, Arabiam, Mesopotamiam, Babyloniam,

Assyriam, Armeniam u. nicht ohne geringe mühe unnd grosse gefahr selbs volbracht: neben vermeldung vil anderer seltsamer und denckwürdiger sachen, die alle er auff solcher erkundiget, gesehen und observiert hat. – Laugingen.

RECHINGER K.H., 1989: Tribus Arctotidae "Arctoteae" CASS. – In: DITTRICH M., NORDENSTAM B., RECHINGER K.H.: *Flora Iranica* 164: 107-109.

TOURNEFORT J.P. DE, 1703: *Corollarium institutionem rei herbarii*. – Paris.

VASIL'CHENKO I.T., 1961: *Gundelia* L. – In: SHISHKIN B.K. & BOBROV E.G. (eds.) *Flora SSSR* 26: 862. – Moscow - Leningrad: Academia Scientiarum URSS.

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