

## TAXONOMY AND VARIABILITY OF SOME PLANT SPECIES IN THE ROMANIAN FLORA

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**Summary:** the author has analyzed the variability at 3 (three) plant species, namely: *Silene supina* Bieb., *Alkanna tinctoria* Tausch, *Himantoglossum hircinum* (L.) Spreng. After this analyze, there are two new subspecies, depicted here for the first time: *Silene supina* Bieb. subsp. *longicarpa* Ciocârlan subsp. nova și *Alkanna tinctoria* Tausch subsp. *petrosa* Ciocârlan subsp. nova. As concerning *Himantoglossum*, there is a mention that in the flora of Romania is growing *H. hircinum* subsp. *caprinum* (Bieb.) Sunderm., and not *H. hircinum* subsp. *hircinum*. In this paper, is showed that a synonymization of the species *S. supina* Bieb. with *S. spergulifolia* (Willd.) Bieb. is an error ! The same is the situation of the synonymy between *Himantoglossum hircinum* (L.) Spreng. și *H. caprinum* (Bieb.) Sunderm.

**Key words:** variability - *Silene supina* - *Alkanna tinctoria* - *Himantoglossum hircinum* – Romania.

The infraspecifically variability at the vascular plant species in the Romanian flora, has been relied, in a large measure, on the leaf features, i. e. just on that organ which is the most plastic one, as well as the most variable one. The fruit's features, as well as the seed's features, are more constantly, having a larger sistematic value, but they have been less used. It has been described a very large number of varieties and forms of plant species. In the lately *Floras*, often, the infraspecifically variability is stopped at the level of subspecies and, rarely, at varieties.

In this paper, it has been analyzed the variability at 3 (three) plant species, namely: *Silene supina* Bieb., *Alkanna tinctoria* Tausch, and *Himantoglossum hircinum* (L.) Spreng.. The results are the next ones:

1. *Silene supina* Bieb.

This species has been described, more or less unitary in all the *Floras*; only the calyx is depicted, within great differences, thus:

- Schischkin (Flora of U. R. S. S., 1936): the calyx has a longer of 14-20 mm;
- Klovov (Flora of Ukraine, 1952): the calyx has a longer of 17-24 mm;
- Chater & Walters (Flora Europaea, 1964): the calyx has a longer of 17-20 mm;
- Chater, Walters & Akeroyd (Flora Europaea, 1993): the calyx has a longer of 11-20 mm;
- Jordanov & Panov (Flora of Bulgaria, 1966): the calyx has a longer of 12,5-14,5 mm.

In all the references sources, the capsule is more or less equally in length, having a pubescent carpophore.

Our samples has been collected from Dealul Pietros – Agighiol, Tulcea county; the calyx is of 17-23 mm in length, the capsule is of 8-10 mm in length, equally in length with the carpophore, which is of 7-12 mm in length; it means that all of these data are alike with those ones from the reference material.

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In change, the samples from the Flora Romaniae Exsiccata, No. 1933, collected from Muntele Iacob-Deal, Tulcea county, has smaller flowers, with the calyx of 18 mm in length, and the capsule is twice as longer as the carpophore. The same type of samples exist also on Muntele Suluc, Tulcea county (Herb. Univ. București).

At a careful and comparatively investigation over the two samples, there are other differences, which led us to describe a new plant subspecies. Here are the differences of those 2 (two) plant subspecies:

1.a. *Silene supina* Bieb. subsp. *supina*

The capsule is of 8-10 mm in length, and 3 mm in wide, equally to the carpophore in length, and equally to the calyx. The capsule is opened through 6 (six) teeth.

1.b. *Silene supina* Bieb. subsp. *longicarpa* Ciocârlan subsp. nova

The capsule is of 10-12 mm in length, and 4 mm in wide, twice as longer as the carpophore, which is of 5-6 mm in length. The capsule is exerted from the calyx with 2-4 mm in length, is opened by 3 (three) teeth, which, rarely is splitting down.

Habitat: The Mountains of Pricopan, Tulcea county; the altitude is ca. 350 m. s. l.

(*Capsula* 10-12 mm longa et 4 mm lata, *dupla longior quam carpophorum* 5-6 mm longum. *Capsula exserta calycis* 2-4 mm. *Dehiscentia capsulae tridentibus; dentes rarior bifidis*).

Habitat: Montes Pricopan, districtus Tulcea, alt. cca. 350 m s.m.

**Affinities:** *Silene supina* Bieb. subsp. *longicarpa* is closed to *S. cretacea* Fisch. from Ukraine, but it has the stem glabrous in the upper part, the calyx is hairy only on the nerves, and the carpophore is glabrous.

**Comment:** *Silene supina* Bieb. has been synonymized with *S. spergulifolia* (Willd.) Bieb. (in Chater, Walters & Akeroyd, 1933); this synonymization has been taken over in the romanian reference material. But, we think this synonymization is an error!. Schischkin (1936), Coode & Cullen (1966), show that the two taxa are separated, the main difference is at the level of calyx (5-12 mm, cf. Schischkin, 1936), towards 11 mm (cf. Coode & Cullen, 1966) for *S. spergulifolia*, while *S. supina* has the calyx of 17-24 mm in length. The smaller lengths of the calyx, 12.5-14.5 mm at *S. supina* (Jordanov & Panov, 1966), is possible to refer to *S. supina* subsp. *pruinosa* (Boiss.) Chowdh.

2. *Alkanna tinctoria* Tausch is present in the Romanian flora on psammosoils, being cited from the South of Moldavia, accordingly older data (Grințescu I., 1960), from where this species seems to be extinct nowadays (Răvăruț M., 1949), and from the South and South-West of Oltenia, where the populations of *A. tinctoria* are in regress. We have identified this plant species in Dobrudja (Ciocârlan, 1970), on stony substratum, partly grassed. This new population is different from the one from the sands of Oltenia; this led us to describe a new plant subspecies. Here are the difference features of the two plant subspecies:

2.a. *Alkanna tinctoria* Tausch subsp. *tinctoria* (Fig. No 1A)

Plants having dense bristles, which give them a white-grey-greenish colour. The stem is branched out from the base of it, with branches more or less spreading on the ground. The form of the fruit, as well as the adornment, are characteristic. The surface of the pericarp is strong reticulate-tuberculated.

Habitat: on sands

2.b. *Alkanna tinctoria* Tausch subsp. *petrosa* Ciocârlan subsp. nova (Fig. No. 1B)

Plant greenish, having rare bristles. The stem is slightly branched, ascendent-upright. The form of the fruit, as well as the adornment, are characteristic. The surface of the pericarp is reticulate-tuberculated, with dense and slender tubercles.

Habitat: on rocks, in Constanța county, at: Valea Șipote, near the village of Șipote.  
? Endemit.

The holotype is conserved in Herb. Univ. Șt. Agron. București (BUAG).

*Planta subviridis, cum setis raris. Caulis ascendens-erectus. Forma fructus et ornatio pericarpri specificae. Superficies pericarpri reticulato-tuberculatus cum tuberculis coniformis, densis, gracilibus.*

*Habitat: in saxosis, districtus Constanța, Vallis Șipote, prope Pagum Șipote. Alt. cca. 100 m s.m. ? Endemit.*

*Holotipus in Herb. Univ. Șt. Agron. (BUAG) conservatur.*

### 3. *Himantoglossum hircinum* (L.) Spreng.

In the Flora of Romania (Paucă, 1972), this plant species has in synonymy *H. caprinum* (Bieb.) Spreng. (accurate is *H. caprinum*), not having an infraspecific variability. Sundermann H. (1973) has published the variability of *H. hircinum* in Europe, with 3 (three) subspecies. All of those data have been taken over in the European reference material (Flora Europaea, Moore, 1980). Analyzing the herbarium samples, led me at the conclusion that, in the Romanian flora, is growing *H. hircinum* subsp. *caprinum* (Bieb.) Sunderm., not *H. hircinum* subsp. *hircinum*. Thus, the synonymization in the Flora of Romania is an error !.

Between those two plant subspecies are only few morphologic features which are different; at these features we must add the spreading area of them.

#### 3.a. *H. hircinum* (L.) Spreng. subsp. *hircinum*

This subspecies has ellipsoidal tubercles, inflorescence with 15-80 flowers, the side-lobes of the labellum are of 5-10 mm in length, and the median lobe is slightly notched or bidentate; the spur is conical, of ca. 4 mm in length.

Central and South-West Europe.

#### 3.b. *H. hircinum* (L.) Spreng. subsp. *caprinum* (Bieb.) Sunderm.

This subspecies has ovoid-globulose tubercles, inflorescence with 10-24 (-40) flowers, the side-lobes of the labellum are of 8-16 mm in length, and the median lobe is divided into two linear lobes of 12-25 mm in length.

South-East Europe.

The 3<sup>rd</sup> subspecies, *H. hircinum* subsp. *calcaratum* (G. Beck) Soó has the side-lobes of the labellum of 12-20 mm in length and the spur is of 7-12 mm in length.

The description in the "Flora of Romania", as well as the iconography, are more alike of *H. hircinum* subsp. *caprinum*.

We make a mention, that all the three plant species presented here are registered in the so-called "red lists". *Silene supina* is a rare plant species, and the other two are endangered.

## Conclusions

1. It is described a new subspecies, *Silene supina* Bieb. subsp. *longicarpa* Ciocârlan; it is showed that the synonymization of the species *S. supina* with *S. spergulifolia* (Willd.) Bieb. is an error; also, there is added a new locality for *S. supina*, namely Dealul Pietros-Agighiol, Tulcea county;
2. It is described a new subspecies, *Alkanna tinctoria* Tausch subsp. *petrosa* Ciocârlan, from Dobrogea, on rocky substratum;

3. It is showed that the synonymization of the species *Himantoglossum hircinum* with *H. caprinum* is an error (Paucă, 1972); more, in the Romanian flora is growing *H. hircinum* subsp. *caprinum*, and not *H. hircinum* subsp. *hircinum*.

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**Fig. 1A** Fructul la *Alkanna tinctoria* subsp. *tinctoria* (orig.)



**Fig. 1B** Fructul la *Alkanna tinctoria* subsp. *petrosa* (orig.)