©Verlag Ferdinand Berger & Söhne Ges.m.b.H., Horn, Austria, download unter www.biologiezentrum.at

Phyton (Austria)	Vol. 14	Fasc. 3—4	281—287	28. I. 1972

Problems of the species *Hesperis scabrida* Boissier

By

František Dvořák *)
Department of Botany, Brno University, Czechoslovakia

With 1 Figure

1. Introduction

The species *Hesperis scabrida* Boiss. was described from the specimen gathered by Aucher-Éloy. Two factors caused that this species was confused with other species: 1. an inaccurate determination of the place of gathering („N. 166, Mesopotamia"); 2. an incorrect infrageneric classification (Boissier 1842: 64: „Haec species *H. glutinosae* Visiani et *laciniatae* All. affinis, ...").

Thus it can be explained that already Fournier 1866:338 mentioned for the species besides the classical locality also the locality "... in Syria circa *Zebdaine* prope *Damas* (Kotschy), ...". The specimen gathered by Kotschy subsumes under the species *H. pendula* Dc. (see Dvořák 1969: 110, 113). Unfortunately also more recent publications (see for inst. Davis & al. 1965: 458) leave *H. scabrida* Boiss. among the species subsuming under *Hesperis* L. sect. *Pachycarpos* Fourn. emend. Tzvelev. And further — just as Fournier 1866 — they give for the species the localities situated west of Mesopotamia.

That is why the present paper sets as its objective to make clear the place of this critical species in the genus *Hesperis* L.

2. Material and method

The conclusions concerning the species are based on the investigation of the following specimens: *H. scabrida* Boiss., *H. Straussii* Bornm., *H. Boissieriana* Bornm., *H. pendula* Dc. (a list of investigated specimens of this species is at work: Dvořák 1969). Further on the investigation of the specimens from the

*) Dozent Dr. F. Dvořák, Institutum Botanicum Universitatis, Kotlářská 2, Brno, ČSSR.

©Verlag Ferdinand Berger & Söhne Ges.m.b.H., Horn, Austria, download unter www.biologiezentrum.at

localities in the mountain range Amanus (Amanus Dağlari) and from the surroundings of the town of Mardin.

1. *H. scabrida* Boissier 1842: 64 ac 1867: 235. — Specimens: 1. P. 2 labales: „166. *H. sp. nova.* Mesopotamia 1837"; Herb. Mus. Paris. *Hesperis scabrida* Boiss. in Ann. Asie occidentale. M. Aucher-Éloy 1837". — „G. Mesopotamia. Aucher-Éloy Herb. d'Orient Nr. 166".

2. *H. Straussii* Bornmüller 1910: 299. — Specimens: Jabal Avroman spur north of Biyara, 1600 m s. m., 7. 6. 1948 Gillett Nr. 11 816. K. — Kamarspa (on the road between Halabja and Tawilla, ca. 1840—2000 m s. m., 18. 6. 1957 Rawi Nr. 22 262, Nr. 22 263. K. — Montes Avroman ad confines Persiae in ditione pagi Tawilla in saxosis calcareis, 2000 m s. m., 15.—18. 6. 1957 K. H. Rechinger Nr. 10355. W 20597/1964. — Montes supra Režâb (= Rijab) dit. Kasr-i-Širîn, ca. 1700 m s. m., Náběłek Nr. 1292. SAV bis. — In monte Noa-Kuh ditionis opp. Kerind, 7. 6. 1906 Strauss. JE. — Noa-Kuh, Süd Seite. ca. 2400 m s. m., Strauss. JE. — In monte Noa-Kuh, Strauss. JE. — Kurdistan, Nawa Kuh, 24 km N. W. of Karind: shady places near rocks or under scrub, ca. 2220 m s. m., 14. 5. 1966 J. C. Archibald Nr. 1913 and Nr. 17018. W. — Kermanshah: Ilam, Kuh Reno, 15. 5. 1964 Mirzayan. W 25890/1964. — Durud, in clumps, ca. 1800 m s. m., 23. 5. 1940 Koelz Nr. 15771. W. — Kharon, 2200 m s. m., 5. 6. 1937 Køie Nr. 1448. K, W. — See also: Dvořák 1968.

3. *H. Boissieriana* Bornmüller 1910: 300. — Syn.: *H. glabra* Boiss. & Noë in Boissier 1856: 22, non Royle 1839. — Typus: „Herbarium Noëanum. Nr. 160. *H. glabra* sp. n. Kurdistan. Juni 1849. Zwischen Van und Ischri." G. Lectotypus: planta dextra.

4. Specimens from the "Amanus" mountain range. — Theodor Kotschy: Pl. Syriae bor. ex Amano prope Bailan 1862. 28. *Hesperis matronalis* L. var. *runcinata* Boiss. In sylvis Abietum ad fauces subhumidas subalpinas Daas Dagh. Alt. 5500' 17. Junii. BP 144286, K, W 58144, W. — Manoog Haradjian: Plantae Syriae borealis cura Herbarii Delessertiani editae. Nr. 3704. Amanus: mont. de Dümanly, 700—1200 m s. m. VII. 1911. K, W 1959/2147. — Manoog Haradjian: Plantae Syriae borealis cura Herbarii Delessertiani editae. Nr. 2518. Mons Amanus. ? Kusliji Dagh, 5000—6500'. VIII 1908. W 1959/21649, E. — Manoog Haradjian: Plantae Syriae borealis cura Herbarii Delessertiani editae. Nr. 344. Mons Amanus, 5000'. VII. 1900. E, K, W 1959/20176. — Amanus. VII. 1903. Nr. 27. ? Shepard (ex Herb. Postian.). K. — Jab. Nuşayriyyah (Post & Dinsmore 1932: 76).

I used a morphological-geographical method. The figures are drawn by a drafting apparatus.

The abbreviations of the herbaria are established according to Lanjouw & Stafleu 1956.

3. The study of the species *Hesperis scabrida* Boiss.

The description of the species *H. scabrida* Boiss. (Boissier 1842: 64) is accurate. I specify only the kind of the hairs: vestimentum eglandulosum, pili ramosi bifurci dichotomique (according to the terminology of Bischoff 1833). Let's compare the description with that of the species *H. Straussii* Bornm. Despite Bornmüller's 1910: 299 description of the flowering

©Verlag Ferdinand Berger & Söhne Ges.m.b.H., Horn, Austria, download unter www.biologiezentrum.at

plants with siliquae not more than 2 cm long, the comparison shows a coincidence. It follows from the following survey:

H. scabrida Boissier 1842: 64	*H. Straussii* Bornmüller 1910: 299
1. H. caule erecto ramoso, ...	1. ... caulibus ... paniculatim ramosis ...
2. caulis ... glaber, infernè violaceus ...	2. ... caulibus ... glabris ... plerumque violaceo-tinctis ...
3. caulis ... pars superior ramique pilis ramosis brevissimis sparsis scabridi.	3. ... pedicellis ... adpresse furcato-pilosis, ...
4. ... folia ... oblonga ...	4. ... foliis radicalibus caulinisque infimis late oblongis ...
5. ... foliis petiolatis ... folia ... infima ... in petiolum attenuata ...	5. foliis radicalibus ... in petiolum longiusculum ... attenuatis ...
6. ... foliis ... grossè dentatis aut repandis, ...	6. ... foliis radicalibus caulinisque infimis ... subintegris vel runcinato-lobulatis ...
7. ... folia ... caulina superiora basi rotundata ... summa minima sessilia lanceolata.	7. ... foliis ... ceteris sessilibus cordato-ovatis ... vel cordato-oblongis ...
8. foliis ... summis sessilibus, ...	8. ... foliis ... ceteris sessilibus ...
9. ... foliis ... glabriusculis ... folia ... praeter pilos secùs marginem rarissimos glaberrima, ...	9. Viridis ... glaberrima, vel foliis pilis simplicibus longis sparsis subglabra ...
10. ... racemis fructiferis laxis ...	10. ... racemo ... demum elongato ...
11. ... calyce parcè hirsuto, ... calyx ... sparsim pilis patulis hirsutus.	11. ... calyce ... subglabro vel pilis albis latiusculis crispatulis pilosis ...
12. ... siliquae pedunculo ferè patulo ...	12. ... siliqua ... pedicello patente ...
13. ... siliquis breviter petiolatis ... siliquae pedunculo ... 3—4 lineas longo, ...	13. pedicellis calyce florifero subduplo brevioribus ... calyce 8—9 mm longo, ...
14. siliquis ... scabridis eglandulosis ... siliquae ... eisdem pilis scabridae, sed omnino eglandulosae ...	14. siliqua ... pilis brevissimis et papillis crispulis ... dense obtecta.
15. ... siliquae, ... stigmate acutiusculo bilobo terminatae.	15. ... stigmate bilobo siliquae latitudine angustiore; ...

In the indumentum of the stem there is no difference between the described taxa. For both is typical mostly glabrous and lilac-tinged lower part of the stem. Rarely could I find on this part of the stem also single glandular hairs (pili eramosi simplices phragmigeri).

The leaves of both described taxa are mostly glabrous; more rarely is their margin grown with scattered non-glandular hairs (pili simplices subulati with an addition of pili ramosi bifurci). Sometimes, however, is

©Verlag Ferdinand Berger & Söhne Ges.m.b.H., Horn, Austria, download unter www.biologiezentrum.at

also the whole surface of the leaves covered in a scattered way with these hairs.

H. Straussii BORNM. has young siliquae either glabrous or ± densely puberulae with non-glandular mostly dichotomicaly branched hairs. A similar variability in the indumentum of the siliquae can be found for inst. in *H. matronalis* L. — growing in Europe. *H. scabrida* BOISS. has siliquae densely puberulae.

The year of the gathering of the specimen deposited at P: 1837. The specimen both from P and G has the same determination of place: „Mesopotamia". BOISSIER 1867: XXIII, XXVII wrote about AUCHER-ÉLOY's journey: "... en 1835, il se rend d'Alep à Bagdad, pour entrer de là en Perse ... En 1837, il entra en Perse par Khoi et Tabriz ..." I infer from it that the gathering comes most probably from the area of the later described *H. Straussii* BORNM.

The investigation made so far has not shown that there grows in Mesopotamia, besides *H. Straussii* BORNM. another species from the genus *Hesperis* L., subsuming, according to the formation of the siliquae, under *Hesperis* L. sect. *Hesperis*. I identify, therefore, the later described *H. Straussii* BORNM. with the earlier described *H. scabrida* BOISS.:

Hesperis scabrida BOISSIER 1842: 64 et 1867: 235. — Syn.: *Hesperis Straussii* BORNMÜLLER 1910: 299. — *H. matronalis* L. var. *runcinata* NÁBĚLEK 1923: 28, non BOISSIER 1867. — *H.* aff. *matronali* BLAKELOCK 1955: 541 p. p., non LINNAEUS 1753.

The area of the species *H. scabrida* BOISS. (Fig. 1) includes mountainous regions of the south-western part of Iran and adjoining parts of Iraq. CULLEN 1965: 458 gave for the species also localities from the surroundings of the town of Mardin. All species from this locality, revised by the author, subsume under the species *H. Novakii* DVOŘÁK. This species subsumes by the shape of siliquae, non-separating valves, by the formation of the stigma, venation of the sepals and petals under another section. CULLEN 1965: 458 subsumed under the species *H. scabrida* BOISS. the specimens from the Amanus mountain range. Namely the specimen: "MANOOG HARADJIAN. Plantae Syriae borealis cura Herbarii Delessertiani editae. Nr. 344. Mons Amanus. Nr. 344" (sub *H. matronalis* L.). I deal with it in chapter 4.3.

4. Relationship of *Hesperis scabrida* BOISS. to other species

4.1. Subsumption under the section

According to the formation of siliquae ("... siliquisque multo angustioribus remotè seminiferis, inter semina valdè strangulatis ..." BOISSIER 1842:64) *H. scabrida* BOISS. subsumes under *Hesperis* L. subg. *Hesperis* sect. *Hesperis*. It coincides with the species also in further characters: easily separating siliqua valves, a not dense venation of the sepals and petals.

©Verlag Ferdinand Berger & Söhne Ges.m.b.H., Horn, Austria, download unter www.biologiezentrum.at

4.2. Relationship to *Hesperis Boissieriana* Bornm.

The area of *H. Boissieriana* Bornm. (Fig. 1) extends north-west of the area of *H. scabrida* Boiss. I note that I join to the classical locality also the locality published by Cullen 1965: 460: "... prov. Urfa (d. Siverek, Karacadağ, 1050 m, D. 28283)".

In comparison with *H. scabrida* Boiss. has this species the following different characters:

1. pedicelli in the flowering time (9) — 14 — (19) mm longi — *H. scabrida* Boiss.: (4) — 5 — (6) mm longi —;

2. in the indumentum of leaves there are along the whole surface very

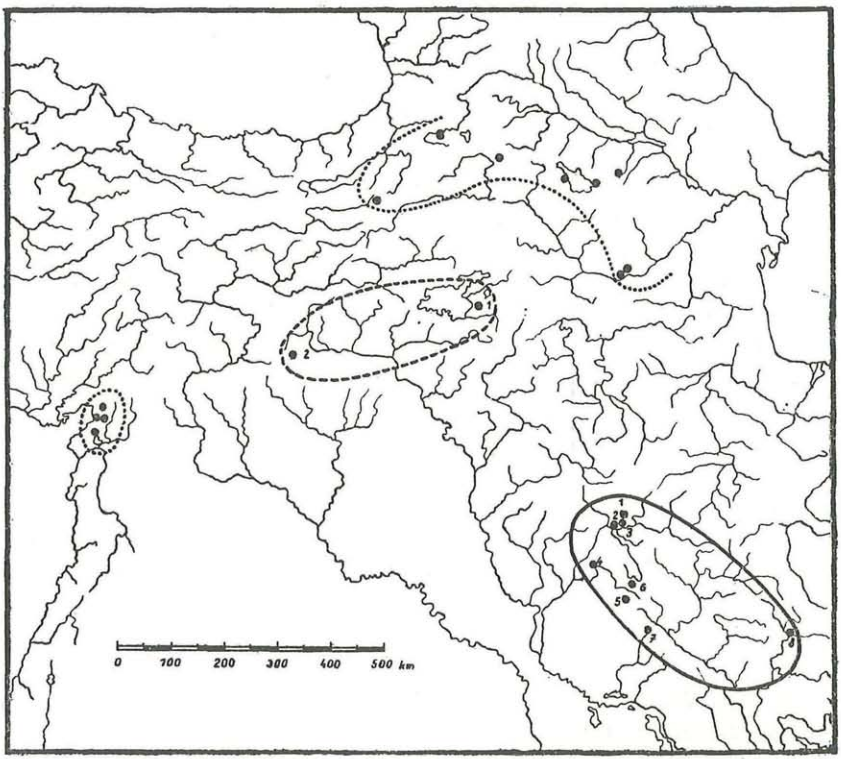


Fig. 1. Distribution of some species subsuming under *Hesperis* L. subg. *Hesperis* sect. *Hesperis*: – – – – – area of the species *H. scabrida* Boiss. 1 — Jabal Avroman; 2, 3 — Kamarspa, inter Halabja et Tawilla; in ditione pagi Tawilla; 4 — Kasr-i-Širîn (Qasr Shirin); 5 — Noa Kuh (= Kūh-e Nūah = Kuh-e Nevoh); 6 — NW of Karind; 7 — Ilam, Kuh Reno; 8 — Dorud (Dow Rud). — — — — area of the species *H. Boissieriana* Bornm. 1 — Inter Van et Ischri; 2 — 2 — Karacadăg. ..... boundary of the area of the species *H. unguicularis* Boiss. — Drawn by F. Dvořák.

©Verlag Ferdinand Berger & Söhne Ges.m.b.H., Horn, Austria, download unter www.biologiezentrum.at

fine, not more than 0,1 mm high eglandular hairs (pili eramosi simplices subulati, pili ramosi bifurci). *H. scabrida* Boiss. has hairs circ. 0,5 mm high.

Cytological investigation and hybridization experiments can determine whether *H. Boissieriana* Bornm. is species or only a subspecies of the species *H. scabrida* Boiss.

4.3. Relationship to the plants from the Amanus mountain range

The plants differ both from *H. scabrida* Boiss. and from *H. Boissieriana* Bornm. by the indumentum of the lower part of the stem; it has a glandular indumentum (numerous pili eramosi simplices phragmigeri) and non-glandular indumentum (pili eramosi simplices subulati usque 2 mm longi). In the upper part of the stem glandular hairs are less frequent, on the contrary there appear pili ramosi bifurci. Equally in the indumentum of leaves there is usually an admixture of a glandular indumentum. In contrast to *H. scabrida* Boiss. have the plants from the Amanus mountain range the middle and upper cauline leaves lanceolate or even narrow lanceolate with an contracted or even very shortly stipitate base. The plants subsume both according to the indumentum and to the shape of the leaves under *H. unguicularis* Boiss. They form an isolated part of its area. By the indumentum of the upper part of the stem and of the pedicels they coincide with *H. unguicularis* Boiss. subsp. *hyrcana* (Bornm. & Gauba) Dvořák. Further study must prove, wether it is an isolated part of the area of this subspecies or another subspecies of the species *H. unguicularis* Boiss.

5. Summary

1. I consider the name *Hesperis Straussii* Bornm. to be a synonym of the species *H. scabrida* Boiss.

2. *H. scabrida* Boiss. subsumes under *Hesperis* L. subg. *Hesperis* sect. *Hesperis*. According to morphological characters nearest to it stands *H. Boissieriana* Bornm.

6. Zusammenfassung

1. Den Namen *Hesperis Straussii* Bornm. halte ich für ein Synonym der Art *H. scabrida* Boiss.

2. *H. scabrida* Boiss. gehört zu *Hesperis* L. subg. *Hesperis* sect. *Hesperis*. Nach den morphologischen Merkmalen steht ihr *H. Boissieriana* Bornm. am nächsten.

7. References

Blakelock R. A. 1955. Notes on the Flora of Iraq with Keys. Part II. — Kew Bull. 10: 497–565.

Bischoff G. W. 1833. Handbuch der botanischen Terminologie und Systemkunde. 1. — Nürnberg.

©Verlag Ferdinand Berger & Söhne Ges.m.b.H., Horn, Austria, download unter www.biologiezentrum.at

Boissier P. E. 1842. Plantae Aucherianae orientales enumeratae, cum novarum specierum descriptione. — Ann. Sci. nat. ser. 2, 17: 45—91.

— 1856. Diagnoses plantarum novarum praesertim orientalium nonnullis europaeis boreali-africanisque additis. 3 (5). — Lipsiae.

— 1867. Flora orientalis. 1. — Basileae et Genevae.

Bornmüller J. 1910. Collectiones Straussianae novae. Weitere Beiträge zur Kenntnis der Flora West-Persiens. — Beih. bot. Cbl. 27 (2): 288—347.

Cullen J. 1965. *Hesperis* L. — In Davis P. H. & al. Flora of Turkey and the East Aegean Islands 1: 452—460. — Edinburgh.

Davis P. H., Cullen J. & Coode M. J. E. 1965. Flora of Turkey and the East Aegean Islands. 1. — Edinburgh.

Dvořák F. 1968. *Hesperis*. — In: Rechinger K. H. Flora iranica, cont. 57/28. 2. 1968: 266—274. — Graz.

— 1969. Results of the Study of the Species *Hesperis pendula* Dc. Syst. nat. 2, 457, 1821. — Publ. Fac. Sci. Univ. (Brno), L 33 (1969): 101—124, tab. 1—5.

Fournier M. E. 1866. Monographie du genre *Hesperis*. — Bull. Soc. bot. France 13: 326—362.

Lanjouw J. & Stafleu F. A. 1956. Index herbariorum. Part 1. The herbaria of the world. — Regn. veg. 6, ed. 3. — Utrecht.

Linnaeus C. 1753. Species plantarum, ed. 1. — Holmiae.

Náběłek F. 1923. Iter Turcico-Persicum. Pars 1. Plantarum collectarum enumeratio (*Ranunculaceae* — *Dipsacaceae*). — Publ. Fac. Sci. Univ. (Brno), Nr. 35.

Post G. E. & Dinsmore J. E. 1932. Flora of Syria, Palestine and Sinai, ed. 2. 1. — Beirut.

Royle J. F. 1839. Illustrations of the botany and other branches of the natural history of the Himalayan mountains and of the Flora of Cashmere. 2. — London.

ZOBODAT - www.zobodat.at

Zoologisch-Botanische Datenbank/Zoological-Botanical Database

Digitale Literatur/Digital Literature

Zeitschrift/Journal: Phyton, Annales Rei Botanicae, Horn

Jahr/Year: 1972

Band/Volume: 14_3_4

Autor(en)/Author(s): Dvorak Frantisek

Artikel/Article: Problems of the species Hesperis scabrida BOISSIER. 281-287