

# Two new endemic species of *Alchemilla* from Iraq

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# Two new endemic species of *Alchemilla* from Iraq

(Nachträge zur "Flora Iranica" Nr. 3)

Sigurd Fröhner

## RÉSUMÉ

FRÖHNER, S. (1979). Deux nouvelles espèces d'*Alchemilla* endémique de l'Iraq. *Candollea* 34: 273-278. En anglais, résumé français.

Deux nouvelles espèces du genre *Alchemilla* sont décrites. Elles peuvent être considérées comme endémiques des monts Helgurd (Iraq). Leur morphologie présente une certaine parenté, génétique avec la section *Pentaphylleae* Buser, jusqu'ici endémique des Alpes. *A. kurdica* Rothm. et *A. persica* Rothm. sont en outre signalées.

## ABSTRACT

FRÖHNER, S. (1979). Two new endemic species of *Alchemilla* from Iraq. *Candollea* 34: 273-278. In English, French abstract.

The author describes two new species of *Alchemilla*, which seem to be endemic to the Helgurd mountains in Iraq. Their morphology shows genetic influences of the section *Pentaphylleae* Buser, restricted so far to the Alps. Besides the new described species, the following species were collected: *A. kurdica* Rothm., *A. persica* Rothm.

The material of *Alchemilla*, collected by E. Hadač on Helgurd in the Iraqi Kurdistan (Zagros mountains) contains two well defined species which seem to be endemic to this mountain group. Their description follows.

***Alchemilla helgurdica* Fröhner, spec. nov.**

Species ex affinitate *Vulgares Hirsutae Imberbes Retropilosae* (sec. JUZEPCZUK, 1941), ut videtur in temporibus praeteritis hybridogena e gregibus *Elatae*, *Alchemilla* (= *Vulgares*), *Pentaphylleae*. Ob formam foliorum et indumentum in memoriam revocans *A. subglobosam* Westerlund.

Planta parva ad mediocris. Rhizoma in diametro 3-7 mm, ut videtur annulos perpauca producendo paulum lignosum. Petioli 1-2 mm crassi, diametro laminae vel aequilongi vel usque ad multo longiores, omnes pilosi pilis sive reflexis sive horizontaliter patentibus, 1-1.5 mm longis. Stipularum basium longitudo 10-15% longitudinis caulum, earum auriculae (fig. 1a) versus petiolum ut videtur numquam coalitae, celeriter exsiccatae, virides nonnisi in nervis, ceterum pallidae vel dilute fuscae, in apice seu rotundatae seu emarginatae seu breviter bilobae, vel integrae vel dentibus ad 4 parvis instructae. Nervi in folii basi 5. Laminae in diametro 2-7 cm, lobis extremis angulum 360°-420° cingentes, circulares, incisae usque ad 23-33% earum radii. Lobi 7-9 leviter arcuati vel semicirculati-parabolici. Lobus medius angulum 45°-60° formans. Incisurae integrae inter lobos sitae 0-15% longitudinis loborum. Dentes in lobis mediis 11-15, mediocres vel crassiores, semicirculares usque ad latissime mamilliformes, incurvi sive directi, obtusiusculi usque ad obtusi, 1-2.5 mm longi, 1-3 mm lati. Laminae supra vel minime in plicis et in margine (in foliis vernalibus) vel totaliter et dense, supra densius (semper modice sive dense) pilosae. Caules 8-30 cm longi, folia ad duplo superantes, erecti vel breviter adscendentes, per totam longitudinem dense et reflexe pilosi. Foliorum caulinarum maximorum diameter 10-20% longitudinis caulis attingens. Stipulae caulinae infimae laterales (id est: non oppositae), erectae vel leviter falcatae, dentibus 4-5 vel pluribus instructae. Stipulae foliorum caulinarum supremorum (fig. 2a) 5-7 mm longae, dentibus 5-8 instructae, incisae usque ad 30-60% earum longitudinis, supra glabrae. Synflorescentia habitu racemoso vel racemoso-umbellato, angusta, non squarrosa, ramis longis constructa. Ramificatio inflorescentiarum contracte cymosa, glomeruli habitu cymoso vel dense umbellato. Flores terminales (= pseudobasales inter ramis stantes) umbellate positi: 1-4. Pedicelli vel omnes glabri vel inferiores pilosi, floribus breviores vel aequilongi. Flores (fig. 3a, 4a) 2-3.5 mm longi, 3-4.5 mm lati, flavovirides, ut videtur semper tetrameri. Carpellum unicum. Hypanthia ad basin sparsim pilosa vel omnino glabra, matura (fig. 3a) longe obconica, sub sepalis latissima, nervis prominulis instructa. Sepalorum longitudo 80-100% longitudinis hypanthii. Sepala paulo vel dimidio longiora quam lata, in apice sparsissime pilosa vel glabra, post anthesin divaricata vel erecto-divaricata. Longitudo episepalorum 83-100% longitudinis hypanthii, id est 90-110% longitudinis sepalorum. Latitudo episepalorum (30-)40-100% latitudinis sepalorum. Episepala semper adsentia, interdum biloba.

**Typus.** Iraq. ad viam inter Sarcal et Nowanda, ad rivulum, 13.6.1960, *Hadač* 2478, PR 596 338 (commixta cum *A. hadacii* Fröhner). Paratypi:

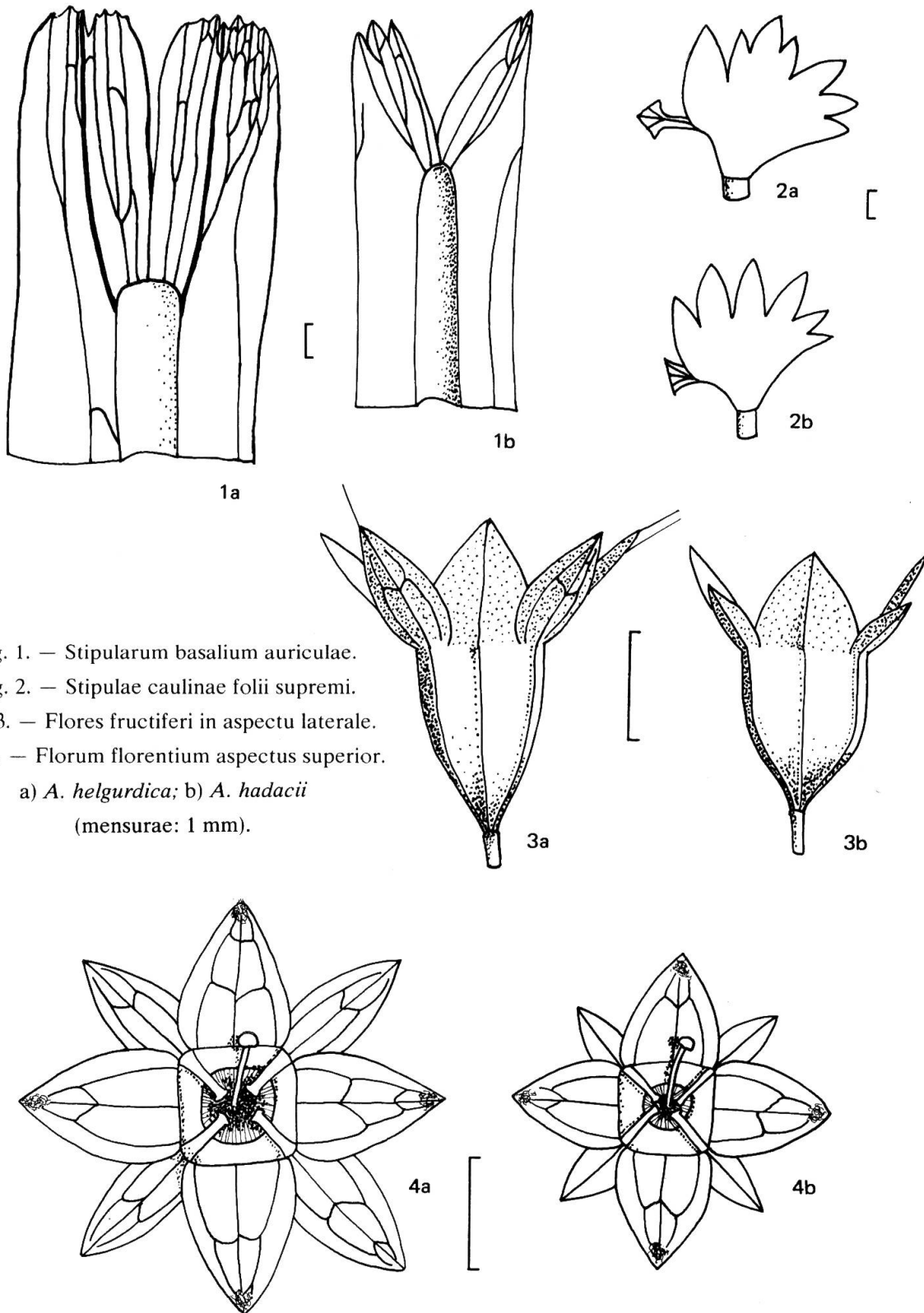


Fig. 1. — Stipularum basaliū auriculae.

Fig. 2. — Stipulae caulinae folii supremi.

Fig. 3. — Flores fructiferi in aspectu laterale.

Fig. 4. — Florum florentium aspectus superior.

a) *A. helgurdica*; b) *A. hadacii*

(mensurae: 1 mm).

Sarcal, ripa rivuli ad pedem montis Helgurd, 2190 m alt., 5.6.1960, *Hadač* 2138, PR 596 333; Sarcal, ad rivulum, pes montis Helgurd, 2190 m, 5.6.1960, *Hadač* 3131, PR 596 334; Sarcal, pes montis Helgurd, 2200 m, 7.6.1960, *Hadač* 2160, PR 596 336 (commixta cum *A. hadacii* Fröhner); Sirzava, pes merid. montis Helgurd, 11.6.1960, *Hadač* 2458, PR 596 335 (commixta cum *A. kurdica* Rothm.).

**Specimina visa.** 16.

Species denominata "*helgurdica*" crescendi causa ut videtur endemici in montibus Helgurd.

***Alchemilla hadacii* Fröhner, spec. nov.**

Species ex affinitate *Vulgares Hirsutae Imberbes Nemorales* (sec. JUZEPCZUK, 1941), ut videtur hybridogena in temporibus praeteritis e gregibus *Alchemilla* (= *Vulgares*) et *Pentaphylleae*.

Planta parva. Rhizoma in diametro 4-7 mm, vix lignosum. Petioli 1-2 mm crassi, diametro laminae non multo longiores, virides, omnes pilosi pilis horizontaliter patentibus vel paulo reflexis, fere 1.5 mm longis. Stipulae basales satis magnae, earum longitudo 17-20% longitudinis caulum attingens, earum auriculae (fig. 1b) versus petiolum non coalitae, totaliter recentes, nonnisi in nervis vel ad apicem paulum virides, ceterum pallidae, dentibus parvis sive crassis usque ad 5 et angustis et plus minusve acutis instructae, in apice vel acutae vel rotundatae. Nervi in folii basi 5. Laminae 2.5-7 cm in diametro, lobis extremis angulum 300°-400° cingentes, reniformes vel circulares, divisae usque ad 33-50% earum radii. Lobi 9-11 breviter parabolici usque ad triangulari-ovati. Lobus medius angulum 45° formans. Incisura integra inter lobos 10-50% longitudinis loborum attingens. Dentes in lobo medio 13-15 mediocres, triangulari-ovati usque ad anguste et incurve triangulares, directi vel incurvi, acuti, 1-2 mm longi et lati. Laminae utraque pilosae sive modo in margine et plicis sive totaliter et dense. Caules 10-15 cm longi, folia nullo vel usque ad longo (triplo) superantes, procumbentes sive adscendentes, pilosi similiter quam petioli per 70-90% eorum longitudinis. Foliorum caulinarum maximorum diametrus 10-20% longitudinis caulis attingens. Stipulae caulinae infimae laterales (id est: non oppositae), erectae, dentibus 4-5 dentatae. Stipulae foliorum caulinarum supremorum (fig. 2b) 5-7 mm longae, dentibus 5-9 instructae, incisae usque ad 25-40% earum longitudinis. Synflorescentia squarrosa, brachyclada, glomerulis paucis et parvis et dense umbelliformibus composita. Ramificatio inflorescentiarum contracte cymosa. Flores terminales (= pseudobasales inter monochasiis siti) umbellate positi 1-5. Pedicelli glabri, floribus vix aequilongi. Flores (fig. 3b, 4b) 2-3 mm longi, 2.5-4 mm lati, virides, tetrameri vel singuli pentameri. Carpellum unicum. Hypanthia glabra, matura (fig. 3b) obconice cylindrica. Sepalorum longitudo 67-80% longitudinis hypanthii. Sepala aequae longa ac lata vel usque ad 50%

longiora, acuta vel obtusa, in apice pilifera vel glabra, post anthesin erecta. Longitudo episepalorum 33-75% longitudinis hypanthii, id est 50-80% longitudinis sepalorum. Latitudo episepalorum (15-)20-50% latitudinis sepalorum. In floribus singulis episepala non raro vel singula vel omnia totaliter absentia.

**Typus.** Iraq, ad viam inter Sarcal et Nowanda, ad rivulum, 13.6.1960, *Hadač* 2478, PR 596 338 (commixta cum *A. helgurdica* Fröhner). Paratypi: Sarcal, pes montis Helgurd, 2200 m, 7.6.1960, *Hadač* 2160, PR 596 336 (commixta cum *A. helgurdica* Fröhner).

**Specimina visa.** 5, praeterea 3 fragmenta.

Species denominata "*hadacii*" ad honorem Prof. Dr. Emil Hadač, qui collegit et investigavit *Alchemillas* per multos annos et terras.

The two new species of *Alchemilla*, *A. helgurdica* and *A. hadacii*, enlarge the number of local endemic species known from the "Flora Iranica" region. Endemic species and "microspecies" of this region are of great value to study the phylogenesis of the genus *Alchemilla*. They originate from the area where also other genera comprise (paleo)endemic species. Characteristic features in their morphology are of no little interest. Some of them show genetic influence of the section *Pentaphylleae* Buser, at present known only from the Alps, e.g. the small size of plants and decumbent stems (*A. hadacii*), or very broad leaf lobes (*A. helgurdica*), deep incised leaves (*A. hadacii*), many umbell-like terminal flowers (*A. hadacii*, *A. helgurdica*), or occasionally lacking episepala (*A. hadacii*). The presence of such "West European" combinations of morphological characteristics in Near East plants is surprising only prima vista. Several examples of the genetic influence of the section *Pentaphylleae* in the *Alchemilla* Flora of Caucasus and the Near East (FRÖHNER, 1975: 133) are known. This section is at present monotypic and restricted to the Alps. Although no member of this group is known outside the Alps, we should reconstruct this section to include many species from the Near East (e.g. *A. dura* Buser, *A. retinervis* Buser, *A. surculosa* Fröhner or *A. pseudocartalinica* Juz.) because of their characteristic features.

The collections of *Alchemilla* in the Near East are therefore of no little interest. They should be thoroughly studied and not only labelled with the name of the nearest probable similar species. Fresh material of the year, whose seeds could be used for cultivation, would be extremely useful.

Besides the new described species, the two following species were collected.

*Alchemilla kurdica* Rothm.: Shirzawa, pes merid. montis Helgurd, 11.6.1960, *Hadač* 2458 p.p., PR 596 335; Sarcal, ad pedem montis Helgurd, 4.6.1960, *Hadač* 2095, PR 596 332; Sarcal, vallis Nowandae ripa dextra alt. 2230 m, 10.6.1960, *Hadač* 2401, PR 596 331.

*Alchemilla persica* Rothm.: declivio orientali montis Pira Magrun locis humidis, alt. 1900 m, 23.10.1960, *Hadač* 2889, PR 596 337; distr. Rowanduz: in valle Hassar-i-Sakran, 7.6.1960, *Hadač & Faisal abd'el Kader* 5725, PR 596 340; ad vicum Sakri Sakran, ad rivum, ca. 1900 m, 6.6.1960, *Hadač & Faisal abd'el Kader* 5615, PR 396 341; ad vicum Sakri Sakran, alt. supra 2000 m, 6.6.1961, *Hadač & Faisal abd'el Kader* 5565, PR 596 414.

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