

Vicia garinensis (Fabaceae), a new species from Iran

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Vicia garinensis Dehshiri (Fabaceae : Viciae), *sp. nova* of subgen. *Vicilla* is described and illustrated from the Hamadan province, west of Iran. It is similar, and probably most closely related to *V. multijuga*.

Vicia (Fabaceae : Papilionoideae : Viciae), an important component of the Iranian flora, is a genus comprising about 150 (Kupicha 1976) to 210 (Hanelt & Mettin 1989) species distributed mainly in Europe, Asia and North America, extending to the temperate regions of South America and tropical Africa (Zohary 1972, Maxted 1993). The Mediterranean area is its main centre of diversity (Naranjo *et al.* 1998). The genus is characterized by having a style pubescent all around, or bearded on the adaxial side, never twisted, and a non-winged stem. The latest complete revision (Pakravan 2000) of *Vicia* in Iran considers 40 species (45 taxa), of which two are endemic, *V. kotschyana* and *V. sojaki*. The species of *Vicia* were classified into two subgenera, *Vicia* (with six sections) and *Vicilla* (with eight sections).

During an investigation of the flora of the Garin Mountain, Hamadan province, west of Iran, one unknown population of *Vicia* was collected on slightly disturbed rocky mountain slopes (July–August 2009). After examining the morphological features and checking the relevant literature during identification (Fedchenko 1948, Tamamshyan 1954, Ball 1968, Davis &

Plitmann 1970, Zohary 1972, Townsend 1974, Chrtková-Žertová 1977a, 1977b, 1979, Pakravan 2000), we concluded that the specimens collected could not be identified using any of the keys, and they represent an hitherto undescribed species belonging to subgen. *Vicilla*. The specimens were also compared with relevant specimens in TARI. After this this addition the number of species and taxa of *Vicia* distributed in Iran is increased to 41 and 46, respectively.

Vicia garinensis Dehshiri, *sp. nova* (Fig. 1)

Inter specieb e seriei Ciceroidea et Variegata caulis tenuis (nec crassus), stipulae 2–3 dentatae (nec 0–2 dentatae), foliola 5-juga (nec. 6–15-juga vel 0–4-juga), legumen 13–17 mm longum (nec 20–40 mm longum), semina elliptica (nec. globularia, sphaeroidea vel sphaeroida-elliptica) insignis. Inter specieb e serie Variegata stipulae 2–5 mm longae (nec 6–30 mm longae), foliola 2–8 mm longa (nec 9–48 mm longa), pedunculi 8–30 mm longi (nec 40–120 mm longi), flores 6–12 mm longi (nec 18–26 mm longi), calyx 3–3.5 mm longus (nec 5.5–11 mm longus) insignis.



Fig. 1. *Vicia garinensis* (from the holotype). — **A:** Habit. — **B:** Leaf. — **C:** Stipules. — **D:** Leaflets. — **E:** Calyx. — **F:** Flower parts (from the left: standard, keel, wings, stamens, pistil, calyx). — **G:** Pod. — **H:** Seeds.

TYPE: Iran. Hamadan province: Nahavand city, Gama-siab fountain, Garin Mountain, Yal Kabud peak, 34°00'N, 48°23'E, alt. 3300–3400 m, growing on rocky places, 23.VII.2009 *M.M. Dehshiri & M. Zarrini* 53922 (holotype IRAN; isotype TARI).

ETYMOLOGY. The specific epithet refers to the Garin Mountain.

Sprawling perennial plant with intricately branched, ascending or prostrate stems, low-growing, up to 15 cm tall, indumentum moderately or densely tomentose or pilose, becoming subglabrous, with a branched rootstock. Stems slender, numerous, ascending from creeping base, 5–30 cm long, shortly tomentose or pilose,

4-angled, solid, with raised ridges, slightly intertwining, strongly branching at base. Stipules 2–5(–7) mm long, 2–4 mm broad, broadly ovate to semi-hastate or semi-sagittate, pilose to subglabrous, often completely-toothed or larger lobe entire, smaller frequently with (1–)2–3(–4) small teeth at base. Leaves paripinnate, 5–10(–20) mm long; petioles 1–5 mm, thin, leaf rachis broad, terminating in a firm, small and straight or slightly recurved mucro to simple or branched short tendril; leaflets (1–)5(–7)-paired, remote, often alternate, oblong to elliptical, short, (1–)2–8(–9) mm long, 0.7–3 mm wide, thin, obtuse or acute, mucronate, shortly tomentose or pilose to

subglabrous, with inconspicuous nerves; secondary nerves 2–4-paired. Peduncles 0.8–3 cm long, equal to or longer than leaves, pilose. Inflorescence composed of (2–)5–10-flowered axillary racemes; bracts very minute or absent. Flowers 6–12 mm long, milk-coloured with violet-tips. Calyx often virescent, 3–3.5 mm long, campanulate, appressed-pilose, hairs short; teeth unequal, upper shorter than lower, shorter than tube, upper pair of teeth broad and short, abruptly apiculate, lower teeth lanceolate or linear-lanceolate. Corolla glabrous, 10–11.5 mm long, ca. 3 times as long as calyx, standard a little longer than wings, keel shorter than wings, wings and standard much paler than keel; standard 9–10.5 mm long, 4.5–5.5 mm wide, lamina oblong-obovate, apex deeply emarginated, lamina ± as long as or a little shorter than claw; wings 8.5–9.5 mm, lamina obovate, blunt, lamina ± as long as or a little shorter than claw, with long acute auricles; keel 7–7.5 mm, lamina broadly oblong, apex blunt or minutely apiculate, ± as long as claw, violet on top. Ovary 4–6 mm long, 1–2 mm wide, narrowing at base into a slender stipe about 1–1.5 mm long, 1–3(–4) ovulate; style laterally compressed, hairy all round at apex. Pods pale brown or yellowish brown, 13–17 mm long, 4–6.5 mm wide, stipitate, oblong to rhombic, cuneate at base, shortly acuminate at apex, sparsely appressed hairy, hairs white; stipe 2–2.5 mm long. Seeds 1(–2), dull, brownish green, often spotted with dark dots, seldom dark brown to black, elliptical, smooth, slightly compressed, 2.6–3.3 mm thick, 3.8–5.4 mm long, 3–3.6 mm wide.

DISTRIBUTION. *Vicia garinensis* is known only from alpine area on the Garin Mountain in Hamadan province (W Iran), where the species is very rare and occurs in few patches.

HABITAT ECOLOGY AND PHENOLOGY. *Vicia garinensis* grows on gravelly mountain slopes with limestone as substrate, on steep alpine taluses, among rocks between 3300 and 3400 m altitude. It is known from only one population. Flowering occurs in July and Fruiting in August.

Vicia garinensis, with a slender stem, 2–3-dentate stipules, 5-paired leaflets, short pods, and elliptical or oblong seeds is distinguishable from all known species within the *V. ciceroidea* group, as well as from those within the *V. variegata* group (Table 1).

Table 1. Comparison of *Vicia garinensis* with the *V. ciceroidea* group¹ and *V. variegata* group².

Characters	<i>V. garinensis</i>	<i>V. sojaki</i> ¹	<i>V. ciceroidea</i> ¹	<i>V. multifluga</i> ¹	<i>V. aucheri</i> ²	<i>V. gregaria</i> ²	<i>V. afghanica</i> ²	<i>V. rechingeri</i> ²	<i>V. akhmaganica</i> ²	<i>V. variegata</i> ²	<i>V. armena</i> ²	<i>V. persica</i> ²
Stems	slender	thick	thick	thick	thick	thick	thick	thick	thick	thick	thick	thick
Number of leaflet pairs	5	0–2	1–4	6–10	7–11	7–12	8–12	6–9	6–8	6–9	10–15	6–10
Length (mm)												
Stipule	2–5	1–3	1.5–5	2–3	8–15	15–30	13–18	6–8	8–11	9–14	10–20	10–15
Leaflet	2–8	3–5	2–6	2–5	9–22	20–48	12–25	11–25	9–32	9–28	11–28	10–33
Peduncle	8–30	5–25	35–50	23–45	70–88	40–120	80–90	70–90	70–100	40–50	40–80	50–90
Flower	6–12	10–12	11–15	5–17	25–26	15–22	23–26	20–23	18–20	20–25	18–20	22–24
Calyx	3–3.5	3–5	3–4	3–4	8–10	8–10	9–10	6–8	5.5–6.5	8–10	7–9	9–11
Legume	13–17	25	25–30	25–32	25–35	24–35	28–35	25–26	20–34	32–35	35–40	22–34
Seed shape	oblong	spheroid	spheroid-elliptical	globular	globular-spheroid	spheroid	globular-spheroid	globular-spheroid	globular	globular-spheroid	globular-spheroid	globular

SPECIMENS EXAMINED. — *Vicia multijuga*. **Iran**. Semnan province, ca. 20 km NW of Shahrud, Shahvar mountain, 3000–3700 m, *Assadi & Mozaffarian 40844* (TARI). Semnan province, ca. 30 km NW Shahrud, Shahvar mountain, 3200 m, *Assadi & Maassoumi 211119* (TARI).

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