

21. Genus *Podlechiella* (≡ *Astragalus* sect. *Herpocaulos*)

Podlechiella Massoumi, & Kaz.Ozaloo, Pl. Syst. Evol. **242**: 22. 2003 ≡ *Astragalus* sect. *Herpocaulos* Bunge, Mém. Acad. Imp. Sci. Saint Pétersbourg **11**(16): 9. 1868. **Lectotype** (PODLECH, Mitt. Bot. Staatss. München **20**: 442. 1984): *Astragalus arabicus* Bunge.

Reference: PODLECH, D.: Revision von *Astragalus* L. sect. *Herpocaulos* Bunge, Mitt. Bot. Staatss. München **20**: 441–449. 1984.

Plants annuelle, caulescent, covered with bifurcate hairs. Stipule small, free from petiole and from each other. Racemes with a short peduncles, capitate or cylindric. Bracts small, persistent. Calyx small, campanulate. Petals glabrous, scarcely or slightly exceeding the calyx. Legumes sessile, narrowly ellipsoid, rounded ventrally, deeply grooved dorsally, unilocular; valves thin. Monotypic.

Molecular analyses have shown, that this section and species has to be excluded from *Astragalus*. It is included here because it fits so well in the morphological circumscription of this genus, that everybody would search it here.

1. **(86).** *Podlechiella vogelii* (Webb) Maassoumi & Kaz.Ozaloo, Pl. Syst. Evol. **242**: 22. 2003 ≡ *A. vogelii* (Webb) Bornm., Beih. Bot. Centralbl. **33**(2): 233. 1915 ≡ *Phaca vogelii* Webb in Hooker, Icon. Plant. tab. 763. 1848. **Syntypes:** Cape Verde Is., St. Antonio, *Vogel*; dto., 2.4.1822, *Forbes* (G!). **Lectotype** (PODLECH, Mitt. Bot. Staatss. München **20**: 444. 1984): St. Antonio, *Vogel* (K!).

Plants annuell. *Stems* mostly severly to manyy, prostrate, 10–20(–50) cm, unbranched or with short side-branched, loosely to densely covered with appressed to slightly ascending, asymmetrically bifurcate white hairs. *Stipules* 2–2.5 mm, green, narrowly triangular, free from petiole, loosely white hairy, the upper once often with black hairs mixed in. *Leaves* of the main stems 1.5–4.5 cm, with short petiole. *Leaflets* in 6–8 pairs, narrowly elliptic, 4–7(–10) × 1–3 mm, rounded, un upper side loosely covered with asymmetrically bifurcate hairs often mixed with subbasifixed hairs or sometimes

subglabrous to glabrous, on underside densely covered with $\pm$ appressed white hairs. *Leaves* of the side branches mostly up to 2 cm, with 3–4 pairs of smaller leaflets. *Peduncles* 1–3 cm, loosely covered with appressed white hairs. *Racemes* capitate or cylindric, up to two times longer than peduncle, 2–20-flowered. *Bracts* green, linear, 1–1.5 mm, white or white and black hairy. *Pedicels* c. 0.5 mm, flowers erect. *Calyx* 2.5–3 mm, campanulate, densely covered with white or white and black hairs; teeth shorter or up to as long as the tube. *Petals* greenish-white with pale blue-violet tips or rarely nearly completely pale blue-violet. *Standard* c. 3 mm, ovate, rounded to retuse, gradually narrowed at the base. *Wings* 2.5–3 mm; blades oblong, c. 1.5×0.7 mm, obtuse; auricle indistinct, claw c. 1.5 mm. *Keel* c. 2.5 mm; blades obliquely triangular-oblong, c. 1.5×1 mm; claw 1.3 mm. *Ovary* sessile, ovoid, with appressed white hairs; style short, glabrous. *Legumes* sessile, erect, oblong, 5–9 mm long, 2.5–3 mm high and wide, rounded ventrally, deeply grooved dorsally, shortly acuminate, unilocular; valves thin, greenish-yellow, loosely or mostly $\pm$ densely covered with appressed or spreading, subbasifixed hairs often sitting on little tubercles and with slightly asymmetrically bifurcate, appressed hairs. *Seeds* 4–6, blackish-brown, 2×1.2 mm.

The species can be divided into 2 subspecies:

1a. *P. vogelii* subsp. *vogelii*

- = *Astragalus prolixus* Bunge, Mém. Acad. Imp. Sci. Saint Pétersbourg **11**(16): 9 in clave. 1868 [et l.c. **15**(1): 6. 1869]. **Syntypes**: in Aegypto inferiore et superiore, 1837, *P.M.R. Aucher-Eloy 1018* (P!); in Aegypto inferiore, 1836, *Th. Kotschy 950* (CGE!, G!, K!, LE!, P!, W!, WU!); pr. Esneh, 18.1.1848, *J.-L. Kralik* in Soc. Dauph. no. 2432 (FI!, G!, P!, PAD!); et 19.1.1848, *J.-L. Kralik* (FI!, FI-W!, K!, P, W!); Waadi-Kuser Denderah, Rossafah, *G.A. Schweinfurth 1827, 1829, 1831* [Wüste zwischen Keneh und Kosser, Wady Kuser bei Alt Kosser, 25.3.1865, *G.A. Schweinfurth 1829* (P!); zwischen Cairo und Keneh, Denderah nahe Keneh, 12.3.1864, *G.A. Schweinfurth* (LE!, P!, PAD!)]; et in Dongola, 1820–1826, *C.G. Ehrenberg* (L!, LE!, P!); pr. Wadi Gamuhs, *F.W. Sieber*. **Lectotype** (PODLECH, Mitt. Bot. Staatss. München **20**: 444. 1984): [Egypt] Wadi Gamuhs, *F.W. Sieber* (P!; iso: BP!, BR!, BRNM!, C!, CGE!, FI!, G!, GOET!, H!, HAL!, JE!, K!, L!, LE!, M!, OXF!, P!, PR!, PRC!, REG!, W!, WU!).
- = *A. gautieri* Batt. & Trabut, Bull. Soc. Bot. France **53**: xxvi. 1907. **Type**: [Algeria] Oued Silet, Chudeau (non vidi).

Figures: HOOKER, Icon. Plant., tab. 763. 1848; HOOKER, Niger Flora, tab. 8. 1849.

Leaflets on upper side partly with subbasifixed hairs. Calyx with white and black hairs, teeth shorter to as long as the tube. Racemes cylindric, upper flowers crowded, lower flowers remote. Legumes erect.

Distribution: Cape Verde is.; Mauretania; Mali, southern Algeria; Libya; Egypt; Sudan; Ethiopia; Eritrea; Saudi Arabia.

Specimens examined (only selected specimens; other specimens see PODLECH, Mitt. Bot. Staatss. München **20**: 445–447. 1984).

Cap Verde Is.: St. Antonio, *Vogel* (K); dto., 2.4.1822, *Forbes* (G); Sal, in Ribeira de Palha Verde, 4.11.1980, *Lobin* (MSB)-

Mauritania: Atar to Choum, 10.1.1963, *Arvidsson 308* (K).

Mali: Tanezrouft méridional, 25.11.1927, *Mission Saharienne Augieras Draper 321, 322* (P).

Algeria. Tamanrasset: Monts du Mouydir, Guelta Tiguelguemine nahe der alten Piste von Arak nach In Salah, 330 m, 8.4.1982, *Podlech 37056* (G, MSB); Tefedest Gebirge, 29 km NNW der Abzweigung an der Piste nach Mertoutek, 1420 m, 27.3.1982, *Podlech 36837* (MSB); Hoggar Massiv, 15 km N Amguel an der Straße nach In Ekker, 1010 m, *Podlech 36909* (G, MSB).

Libya. Fezzan: Fezzan occidentale, U. Tanezzuft, 675 m, 7.5.1933, *Corti 1097, 1102* (FI). – Tripolitania: Tripoli, 1847, *Parlatore* (K).

Egypt. Egypt: prope Assuan, *Kotschy* it. nubic. 13 (W); Esneh, 18.1.1848, *Kralik* in Soc. Dauph. 2432 (FI, G, P, PAD); Ain Masaruja, Dakhla Oasis, 13.4.1928, *Simpson 6059* (K). – Sinai: Sharm-el-Sheikh, 3.2.1980, *Schmid* (MSB).

Sudan: Isalnds 2nd. cataract, Wady Halfa, *Scott Elliot* 3340 (E, G); El Mecherif (Berber, N Chartûm), 15.2.1866, *Schweinfurth* 1832 (P).

Ethiopia: Oculè Cusai, Deca-Merè, 2000 m, 6.9.1902, *Pappi* 90 (FI).

Eritrea: Sambar region, da Emheremi a Abassana, 10 m, 9.2.1909, *Fiori* 1123 (FI).

Saudi Arabia: Djedda, 20.1.1936, *Schimper* 882 (FI); Taifa, 1838, *Botta* (P).

1b. *Podlechiella vogelii* subsp. *fatimensis* (Maire) Maassoumi & Kaz.Ozalo, Pl. Syst. Evol. **242: 22. 2003 = *A. vogelii* subsp. *fatimensis* Maire, Mém. Soc. Hist. Nat. Afr. Nord **3**: 126. 1933 = *A. fatimensis* Chiov., Ann. Reale Ist. Bot. Roma **8** (Pirotta, Fl. Eritrea I, fasc. 1): 95. 1903 = *A. arabicus* Bunge 1868, Mém. Acad. Imp. Sci. Saint Pétersbourg **11**(16): 9 in clave [et l.c. **15**(1): 6. 1869], **illeg.** [non Kotschy]. **Syntypes:** in Arabia ad El Gidon, *C.G. Ehrenberg*; in valle Fatme ad pagum Unsert prope Meccam, *G.W. Schimper* 843 (BP!, CGE!, E!, HAL!, L!, LE!, MSB!, P!, PR!, PRC!, ZT!); in Lodania Pentapotamiae, *M.P. Edgeworth* (K!); sine loci indicatione, *P.M.R. Aucher-Eloy* 4452. **Lectotype** (PODLECH, Mitt. Bot. Staatss. München **20**: 447. 1984): Arabia, El Gidon, I.1825, *C.G. Ehrenberg* (P!; iso: BR!, C!, K!, L!, LE!, MSB!, P!).**

Leaflets on upper side with medifixed to slightly asymmetrically bifurcate hairs. Calyx with white hairs or with few black hairs mixed in, teeth as long or longer than the tube. Racemes capitate to shortly ovoid, densely flowered. Legumes star-like spreading in all directions.

Distribution: Southern Algeria; Egypt; Sudan; Eritrea; Saudi Arabia, Yemen; Oman, Iraq, Iran; Pakistan, India.

Specimens examined:

Algeria. Tamanrasset: Hoggar Massif, Im Laoulouene NE Tamanrasset am Weg zum Assekrem, 1510 m, 24.3.1980, *Podlech* 33308 (M, MSB); Imarera, 1950–2000 m, 23-3-1928, *Maire* 500 (G, P); tezzeit, 1700–1800 m, 4.4.1928, *Maire* 315 (P); 35 km N Tahifet an der Piste nach Idelès, 2000 m, 18.3.1981, *Podlech* 34865 (MSB); Teleghteba Massif, In Sâkâne, 1500–1600 m, 14.3.1981, *Podlech* 34700 (M, MSB).

Egypt. Egypt: Gebel Hadarba, 1925–1926, *Murray* 3877 (K); Wadi Serimtai, *Murray* 3715 (K).

Sudan: near the Red Sea, one camel day from Port Sudan, 4.5.1928, *Khatab* 6463 (K).

Eritrea: Saganeiti, coté nord vers Selet, 2000–2200 m, 12.3.1892, *Schweinfurth & Riva* 933 (P); dto., 7.3.1909, *Fiori* 1121 (FI).

Saudi Arabia: Wadi Ferran, 8.3.1835, *Schimper* 238 (P); El-Gidon, i.1825, *Ehrenberg* (K, P, W); in valle Fatmo ad pagum Unsert, 12.2.1836, *Schimper* 843 (E, FI, K, M, P, W, WU); in valle Fatme, 1837, *Fischer* 86 (K, M; W); Jeddah, viii.1881, *Zohrab* 129 (P); dto., New Airport, 18.2.1980, *Collenette* 1883 (E, K); 12 km E of Jeddah, 17.3.1979, *Collenette* 1050 (E); Wadi Delè, Abha, Hedjas, 25.5.1944, *Khatab* (G); 10 km S of Hadda (W of Mecca), 2100–2300 m, 24.3.1980, *Labranos & Collenette* 18496 (E); Asir, SW of Al Haddah, near Taif, 1900 m, 26.3.1979, *Collenette* 1124 (K); Asir, Wadi Dalaghan, 33 km SE Abha, 2100 m, 29.2.1980, *Nasher* 116 (E); Asir, Hijda, 14 km E Abha, 19.2.1980, *Nasher* 32 (E); Aqiq Airport, Baha, 1420 m, 12.8.1981, *Collenette* 2763 (E,K); Jebel near Wadi Intan, Tanoumah, 15 km S An Nimas, 2450 m, 10.4.1977, *Collenette* 318 (K); Khamis, 17.6.1980, *Chaudhary* 592 (E).

Yemen: S of Huth, 200 m, 11.5.1918, *Wood* 1608 (K); 14 km NE Alran an der Straße nach Huth, 2200 m, 27.9.1981, *Podlech* 35893 (G, M, MSB); 18 km NNW Sana'a zwischen dem Wadi Dar und der Straße Sana'a – Alram, 2260 m, 26.9.1981, *Podlech* 35852 (G, HUI, LG, M, MSB); track from Marashi to Al Batan, 16°42' N, 44°16' E, 2060 m, 27.5.1979, *Heckel & Wood* 1258 (E).

Oman: Ruwi, 1.3.1976, *Radcliff-Smith* 3744 (K); Sohar Agric. Exper. Stat., sea level, 31.3.1976, *Radcliffe-Smith* 4074; Muladah, Batina coast, near Musna'ah, SW side of road Muscat – Sohar, 30 m, 20.12.1979, *Whitcombe* 610 (E); Khanura Durham farm, 10 m, 9.4.1980, *Whitcombe* 825 (E).

Iran. Hormozgan: ad oppidum Mináb, 19.5.1973, *Soják* 4732 (PR); prope pagum Jelani, 41 km NE Bandar Abbas, 16.5.1973, *Soják* 4624 (PR).

Pakistan: Karachi, Clifton, 2.5.1956, *Jafri* 1390 (K); coast of Beluchistan, Kohi Shimsh, xi.1880, *Piere* (K); Lahore, *Brandis* 2916 (K); Punjab, Sandal bar, *Edgeworth* 2020 (E).

India: Punjab, Lodiana [Ludhiana], *Edgeworth* (K); dto., prope Jaqpur, ii.1885, *Drummond* 4417 (K); Maughian (Ludhiana), 1883, *Drummond* (K).