

20. (31). *A. stella* L., Syst. Nat., ed. 12, 2: 734. 1767≡ *Tragacantha stella* („Gouan“ L.) Kuntze, Revis. Gen. 2: 948. 1891. **Original Elements**: „Europae australis potissimum maritimis, *D. Gouan*“, Herb. Linn. 926.23 (LINN); „*Astragalus hirsutus* corniculis stelliformiter adaptis“, Plukenet, Phytographia: t. 79, f. 4. 1691; Plukenet description reference: Almag. bot.: 60. 1696. **Lectotype** (PODLECH in TURLAND & JARVIS, Taxon 46: 465. 1997): „Europae australis potissimum maritimis, *D. Gouan*“, Herb. Linn. 926.23 (LINN!). Note: The authorship of this name has been incorrectly attributed to Gouan, Obs. Bot.: 50. 1773, who published a specific epithet and diagnostic phrase name identical to those of Linnaeus.
- = *A. stella* var. *acutifolius* DC., Astragal.: 105. 1802≡ *Tragacantha acutifolia* (DC.) Kuntze, Revis. Gen. 2: 940. 1891. Typonym: *A. stella* Desf., Fl. Atl. 2: 187. **Holotype**: Desfontaines (P-DESF!).
- = *A. arenicola* Pomel, Bull. Soc. Sci. Phys. Algérie 11: 184. 1874. **Syntypes**: Arbaouat, Pomel (MPU); Brezina, *A.N. Pomel* (MPU); Maia, *A.N. Pomel* (MPU); Mechaïgnen, *Pomel* (MPU). **Lectotype** (PODLECH, Sendtnera 6: 176. 1999): [Algeria] Arbaouat, *A.N. Pomel* (MPU!).
- = *A. sesameus* L. var. *ambiguus* Rouy, in Rouy & Foucaud, Fl. France 5: 163. 1899 ≡ *A. ambiguus* (Rouy) Sennen in schedis imprim. ad F. Sennen, Plantes d'Espagne no. 4334. 1922, **illeg.** [non Pallas nec Bunge] ≡ *A. stella* var. *minor* Sennen & Pau, in schedis imprim. ad Sennen, Pl. d'Espagne 57. 1906?, **illegit.** [the varietal epithet of ROUY had to be used]. **Syntypes**: Aspremont et La Batie-Monsaléon, *Giroud* (in hb. Rouy); Saint-Siméon sur le Pech Auriol, *Biche*; env. de Béziers, *frère Liobérius*.
- = *A. cruciatus* Link var. *polyactinus* Hochreut., Ann. Conserv. Jardin bot. Genève 7-8: 170. 1904 ≡ *A. asterias* Hohen. subsp. *polyactinus* ("Boiss" Hochreut.) Greuter, Willdenowia 15: 427. 1986. **Holotype**: [Algeria] Oran, Tiloula près Ain Sefra, 18.5.1901, *B.P.G. Hochreutiner* 308 (G!: foto MSB!).
- = *A. tribuloides* Delile var. *medians* Maire, Bull. Soc. Hist. Nat. Afr. Nord 27: 222. 1936. **Syntypes**: Anti-Atlas, Igherm, *M.L. Emberger & Maire*; Grand-Atlas, Goundafa, *H. Reese*; Siroua, iv. 1939, *Peltier*. **Lectotype** (GAZER, l.c. 132. 1993): [Morocco] Siroua, iv. 1939, *Peltier* (MPU!: foto MSB!; iso: P!).
- = *A. cruciatus* var. *algeriensis* Širj., Repert. Spec. Nov. Regni Veg. 53: 228. 1944. **Syntypes**: près de Timetlas, cercle de Saïda, 25.5.1852, *B. Balansa* 446 (P!); *ibid.*, 1853, *B. Balansa s.n.*; Tunisie, Gabès (Metrech), iii. 1907, *J.C. Pitard* 85 (PRC!). **Lectotype** (GAZER, l.c. 132. 1993): [Algeria] près Timetlas, 1853, *B. Balansa*, Pl. d'Algérie *s.n.* (W!: foto MSB!; iso: G!, P!).
- = *A. cruciatus* var. *canariensis* Širj., Repert. Spec. Nov. Regni Veg. 53: 228. 1944. **Lectotype** (GAZER, l.c. 132. 1993): [Canary Islands] Insula Fuerteventura, pr. Gran Tarajal, *O. Burchard* 348 (W!: foto MSB!; iso: K!, M!).
- = *A. castroviejoi* Talavera & Sánchez-Gómez, Anales Jard. Bot. Madrid 67: 42. 2010. **Holotype**: Spain, Murcia, Lorca, Alcoluche, 780 m, 2.5.2009, *D. López, P. Sánchez-Gómez, J.F. Jiménez & J.F. Mota* (SEV; iso: MUB, SEV).

Figures: BONNIER, Fl. compl. ill. France, Suisse, Belgique vol. 3: pl. 144, fig. 781. 1914; TALAVERA, S. & al., Anales Jard. Bot. Madrid 67: 43, fig. 1 (as *A. castroviejoi*). 2010.

Plants unbranched or branched at the base, covered with white, at the nodes, stipules and in the inflorescence also with black hairs 0.3–1.9 mm. *Stems* 4–36(–50) cm, prostrate to ascending, finely sulcate, covered with appressed to ascending, sometimes also with spreading hairs, often more densely toward the nodes. *Stipules* green, (2.5–)3–6(–7) mm, narrowly triangular, acuminate or sometimes long cuspidate, adnate to the petiole for 0.8–1.5(–2) mm, otherwise free, densely white hairy, with black hairs mixed in. *Leaves* 2–7.5(–9) cm; petiole 0.2–1 cm, like the rachis covered with appressed to ascending hairs, *Leaflets* in (5–)7–11 pairs, narrowly elliptic, 2.5–10(–16) × 1.5–3.5(–5) mm, obtuse

to slightly retuse, on both sides appressed hairy, mostly more densely on underside. *Peduncles* 2–11.5 cm, hairy like the stem but more densely and with more black hairs toward the raceme. *Racemes* rather densely 4–11(–15)-flowered. *Bracts* membranous, 1.5–3(–3.5) mm, narrowly triangular, with white and black hairs. *Flowers* subsessile. *Calyx* campanulate, 5–7 mm, covered with appressed to subappressed white and black hairs; teeth subulate, 1.5–3(–3.8) mm. *Petals* yellow or violet. *Standard* (5.5–)7–10(–11) × 2–4 mm, narrowly elliptic, emarginate, contracted into a narrow claw. *Wings* (5–)6–8 mm; blades narrowly oblong, obliquely bilobed to nearly rounded, (2–)3–4 × c. 1 mm; auricle 0.8–1 mm, claw (2.5–)3–4 mm. *Keel* (4–)5–6 mm; blades obovate-triangular, with widely curved lower edge and slightly curves upper edge, acute, 1.5–2 × 1–1.3 mm; auricle minute, claw (2–)2.5–3 mm. *Stamen-tube* truncate at the mouth. *Ovary* sessile or subsessile, hairy; style short, glabrous. *Legumes* sessile or with a stipe up to 1 mm, star-like spreading or obliquely erect, narrowly ovate, straight or slightly upcurved, rounded and very slightly widened at the base, 10–15 mm long, 2.5–3 mm high and 3–4 mm wide, keeled ventrally, deeply and narrowly grooved dorsally, with a short and nearly straight beak or with an upcurved to nearly hooked beak 1–2 mm, bilocular; valves coriaceous, covered with two kinds of hairs (double indumentum); densely with short appressed hairs 0.05–0.2 mm and more loosely with ascending to spreading, sometimes curved hairs up to 1.9 mm. *Seeds* 4–7 in each locule, 2–3 × 1.5–2 mm, brown, smooth.

Flowering time: 1–6. *Distribution*: Portugal; Spain (incl. Mallorca); France; Italy; Canary Islands; Morocco; Algeria; Tunisia; Libya; Egypt; Turkey (Ankara, Antalya, Burdur, Kütahya).

Map: GAZER, M., Sendtnera 1: 134, map 18. 1993.

Specimens examined: only selected specimens; other specimens see GAZER, M., Sendtnera 1: 133–137. 1993.

Portugal. Algarve: Farom pr. Catro Marim, 1848, *Welwitsch* 380 (BM, G).

Spain. Alava: Ribazas, 520 m, 30.5.1985, *Alejandro* (MA). – **Albacete**: prope La Grajuela, iv.1854, *Guirao* (G). – **Alicante**: Peña de Jijona, 7.7.1959, *Rigual* (MA). – **Almeria**: Fiñana, 4.5.1951, *Simpson* 51.511 (BM); Huercal-Overa, 22.4.1960, *Huber* (M). – **Barcelona**: Barcelona, Tibidabo, 26.5.1915, *Sennen* in Soc. France, exs. *Duffour* 1664 (BM, G, MA). – **Burgos**: Bujedo, 14.7.1921, *Elias* in *Sennen* 4334 (MA). – **Cadiz**: Puerto di Santa Maria, 2.5.1973, *Hurtado* (MA). – **Castellón**: La Lorna, Segorbe, 18.5.1885, *Pau* (MA). – **Ciudad Real**: Ciudad-Real, vi.1879, *Laguna* (K). – **Cuenca**: Hito, 19.6.1975, *Santos Cirnjano* (MA). – **Gerona**: Penedès, 12.5.1951, *Palau* (MA). – **Granada**: Alicún de Ortega, 11.6.1971, *Fernández-Casas* (MA). – **Guadalajara**: Jadraque, 4.6.1970, *Bellot & al.* (MA). – **Huesca**: Castiello di Jaca, 920 m, 29.6.1971, *Montserrat* (B, G, MA). – **Jaen**: Larva, 500 m, 15.6.1971, *Fernández-Casas* (MA). – **Lerida**: 2 km E Alfarras an der Straße nach Balaguer, 330 m, 2.6.1988, *Podlech* 44290 (MSB). – **Madrid**: Madrid, Cerro Negro, 24.5.1824, *Rodriguez* (MA). – **Malaga**: Bobadilla, 8.4.1908, *Nicholson* (BM). – **Murcia**: Cartagena, 6.4.1851, *Bourgeau* 1141 (G, K); Alcantarilla, 13.4.1960, *Huber* (M). – **Navarra**: Ribazo, 340 m, 28.5.1985, *Alejandro* 1611.85 (MA). – **Salamanca**: Cabrerizos, 7.6.1979, *Rico* (MA). – **Soria**: Ambrona, 1100 m, 4.6.1977, *Segura Zubizarreta* (G). – **Teruel**: Camarena, 1500 m, vi.1892, *Reverchon* 30 (G). – **Toledo**: Algodor, v.1925, *Caballero* (MA). – **Valladolid**: Valladolid, 10.5.1965, *Reuter* (G). – **Zaragoza**: Bujaraloz, 350 m, 18.5.1972, *Charpin* (G).

France. Alpes de Haute Provence: prope Noizelles, 400 m, 15.5.1969, *Charpin & Greuter* 8348 (G). – **Ardèche**: Vogué, vi.1891, *Girod* (G). – **Aude**: Moux, 30.5.1898, *Delpont* (G). – **Bouche-du-Rhône**: Miramas, 30.5.1876, *Autheman* (G). – **Gard**: à Beaucaire, v.1886, *Neyra* in *Schultz*, Herb. norm. 2323 (B, G, K, W). – **Hautes-Alpes**: Gap, 5.6.1900, *Girod* (G). – **Hérault**: Umgebung von Montpellier, 14.6.1957, *Patzke* (MSB). – **Var**: Draguignan, 1839, *Perreymond* (G, K). – **Vaucluse**: Avignon, 3.6.1871, *Willmott* (K).

Canary Islands. Fuerteventura: Casillas del Angel, 22.3.1976, *Kunkel* 18906 (G). – **Gran Canaria**: Baio del Confital, ii.1905, *Pitard* 144 (G). – **Lanzarote**: Costa Rubicon bei Yaiza, ii.1897, *Andreas* (M).

Morocco. Boulemane: 15 km WSW Missour an der Straße nach Ksabi, 1000 m, 14.4.1987, *Podlech* 42386 (G, MSB). – **Er-Rachidia**: 12 km E Tinejdad an der Straße nach Erfoud, 980 m, 16.4.1987, *Rechtsteiner* (MSB). – **Goulmime**: 5 km E Bou-Izakarne an der Straße nach Akka, 600 m, 13.4.1986, *Podlech* 40695 (G, MA, MSB, TARI). – **Layoune**: 2 km N Laoune, 11.4.1986, *Podlech* 40496 (MSB). – **Marrakech**: Asni, 23.4.1936, *Simpson* 36.397 (BM). – **Nador**: 5 km N Selouane, 4.5.1979, *Pasquier* 134 (G). – **Ouarzazate**: Anti-Atlas, 2 km E Taliouine, 1130 m, 16.4.1986, *Podlech* 40944 (MSB). – **Taroudant**: S'Seite des Tizi-n-Test, 1000 m, 14.4.1967, *Merxmüller & Oberwinkler* 22439 (M). – **Tata**: 3 km N Souk Khemissé an der Straße von Tata nach Iggherm, 1110 m, 28.4.1989, *Podlech* 45384 (MSB). – **Tiznit**: 4 km W Souk-el-Had-de-Tahala an der Straße von Tafraoute nach Tiznit, 22.4.1987, *Podlech* 42934 (MSB).

Algeria. Batna: Aurès-Gebirge, N Tighanimine, Oued Abiod, 14.4.1982, *Podlech* 37245 (MSB). – **Bechar**: 33 km E Ain Sefra an der Straße nach El Bayadh, 1150 m, 5.4.1980, *Podlech* 33921 (G, M, MSB). – **Biskra**:

Biskra, iv.1888, *Girod* (G). – Djelfa: 38 km NW Kaghout an der Straße nach Aflou, 930 m, 6.4.1980, *Podlech 34049* (M, MSB). – Laghout: Sidi-Makhlouf près Laghouat, v.1854, *Reboud* (P). – Oran: Oran, *Munby* (G). – Quargla: Plateau du Tinrhert, 70 km N In Amenas an der Straße nach Hassi Bel Gebbour, 670 m, 12.3.1980, *Podlech 32941* (G, HUI, M, MSB). – Saïda: près de Timetlas, 25.5.1852, *Balansa 446* (G, K, P, W). – Tamanrasset: Hoggar, Guelta Afilale, 2000–2050 m, 24.3.1980, *Podlech 33339* (CAI, G, HUI, LG, MSB).

Tunisie. Gabès: 9 km S Gabès, 3.3.1968, *Leippert 7021* (B). – Gafsa: 18 km NNE Bir El Afey an der Straße nach Kairouan, 410 m, 10.4.1980, *Podlech 34271* (MSB). – Kasserine: Feriana, 25.5.1884, *Robert* (P). – Kairouan: Haffouz, 19.1.1971, *Röthlisberger* (G). – Médénine: 6 km W Médinine, 18.3.1971, *Röthlisberger* (G). – Sfax: Sfax, 1856, *Ducouret* (P). – Tozeur: Hazoua, Grenzstation nach Algerien, 40 m, 10.3.1980, *Podlech 32852* (G, MSB).

Libya. Cyrenaica: 36 km S of Agheila to Marada, 5.3.1958, *Guichard 54/58* (BM). – Tripolitania: near Pisida towards Zuwarah, 25.3.1939m *Sandwith 2848* (K).

Egypt. Egypt: Wadi Hof, iii.1978, *Merxmüller* (M).

Note: The characters by which *A. castroviejoii* should be different from *A. stella*, can be found commonly in plants of all parts of the distribution of *A. stella*.