

Typification of Russian and some other species of *Astragalus* I

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Abstract:

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268 taxa of the genus *Astragalus* from Russia, which were not typified until now are here typified.

Zusammenfassung:

268 bisher nicht typifizierte Sippen der Gattung *Astragalus* aus Rußland werden hiermit typifiziert.

Most of the *Astragalus* species described in former times are not typified up to now despite the fact that a lot of floras of the former Soviet Union and parts of it have appeared in the last years. In most cases the authors of *Astragalus* taxa have not given any indication of type. Therefore all cited material must be considered as syntypes out of which a lectotype has to be chosen. In the herbarium of the Academy of Sciences in St. Petersburg (LE) thousands of such syntypes are housed and separated from the main herbarium. During April of 1994 we have selected lectotypes where ever it was possible for most of the Russian species of *Astragalus* so rich in species. In the case, that only one collection is cited with the description there are often many duplicates, so that also in this case a lectotypification is necessary. Also in cases that in the original description a holotype is indicated there are sometimes two or more sheets of the type collection without indication which sheet should be the holotype. Also in these cases we have chosen a lectotype. All types have been marked by type labels on the sheets.

A. achundovii Grossh. 1952, Fl. Kavkaza, ed. 2, 5: 447. – **Lectotype** (here designated): Azerbaidzhania, distr. Noraschen, ad radices montis Tandery prope flum. Arpa-Czai, ca. 900 m, 11.5.1947, Grossheim, Iljinskaja & Kirpicznikov (LE!; the sheet marked as Lectotypus; Iso: LE!). A holotype as indicated in the description is not designated in LE, therefore a lectotypification is necessary.

A. acormosus Basil. 1923, Bot. Mater. Gerb. Glavn. Bot. Sada RSFSR 4: 42. – Syntypes: Prov. Samarkand, Kschtut, 4000ft, 1892, Komarov; Seravschan, in monte Sauran-Kschtut, 14.6.1913, Michelson 2413 (LE!). – **Lectotype** (here designated): Prov. Samarkand, Kschtut, 4000 ft, 1892, Komarov (LE!; Iso: LE!).

A. aflatunensis B.Fedtsch. 1905, Trudy Imp. S.-Petersburgsk. Bot. Sada 24: 201. – **Lectotype** (here designated): Aflatun, Tschatkal, 7000 ft, 30.6.1899, *Litwinow* (LE: the sheet marked as Lectotypus; Iso: LE!).

A. agameticus Lipsky 1900, Trudy Imp. S.-Petersburgsk. Bot. Sada 18: 38. – **Lectotype** (here designated): Turkmenia am Weg nach Agamet, 15.4.1887, *Walter* (LE: the sheet marked as Lectotypus; Iso: LE!).

A. aiwadzhi B.Fedtsch. 1940, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 8: 166. – **Lectotype** (here designated): Tadzchikistania, in ditioe Schaartus, vallis Bischkent, inter pagos Aivadzhi et Czaschmy, 18.6.1933, *Czernov* (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. aktauensis Gontsch. 1941, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 9: 96. – **Lectotype** (here designated): jug. Aktau 3 km S traj. Chodzha-bech-ob, 2000 m, 3.7.1937, *Gontscharov & Michajlovski* 155 (LE!: the sheet marked as Lectotypus; Iso: LE!). A holotype as indicated in the description is not designated in LE, therefore a lectotypification is necessary.

A. albertoregelia Winkler & B.Fedtsch. 1905, Izv. Imp. S.-Petersburgsk. Bot. Sada 5: 42. – Syntypes: Buchara, Baldzhuan, 3000 ft, V.–VI.1883; dt. 1884, *A.Regel* (LE!). – **Lectotype** (here designated): Buchara, Baldzhuan, 3000 ft, V.–VI.1883, (LE!; Iso: BRNU!, G!, LE!).

A. alitschuri B.Fedtsch. 1903, Trudy Imp. S.-Petersburgsk. Bot. Sada 21: 317 [O. Fedtschenko, Flora Pamira: 85]. – Syntypes: Jaschil-Kul, 24.8.1878, *Kuschakewitz*; Jaschil Kul, 1892, *Nasarov*; r. Alitschur, vom Tachatyrtasch zum See Saryk, 17.7.1901, *O. & B.Fedtschenko*; – **Lectotype** (here designated): r. Alitschur, vom Tachatyrtasch zum See Saryk, 17.7.1901, *O. & B.Fedtschenko* (LE!; Iso: C!).

A. amabilis Popov 1947, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 10: 11. – illeg. [non Popov 1938]. – **Lectotype** (here designated): Kasachstanien. prope Czilik (Alatau Transiliensis), in fauce Sogoty, 2.5.1937, *Popov* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. ammophilus Kar. & Kir. 1842, Bull. Soc. Imp. Naturalistes Moscou 15: 335. – illeg. [non Besser]. – **Lectotype** (here designated): inter fontem Sassyk-pastau et montes Arganaty, *Karelin & Kirilov* 261 (LE!: the sheet marked as Lectotypus; Iso: LE!, P!) = distr. no. 1386 (BR!, G!, H!, LE!, M!, MW, W!, WU!).

A. angreni Lipsky 1910, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 166. – Syntypes: Prov. Syr-Darja, Sta. Beklar-bek nahe Tschimkent, 20.5.1878, *A.Kuschakewitz* (LE!); Karakitaj im Angren-Tal, V.1880, *Mussa*, in hb. A.REGEL (LE!); Pereval Kendyr-aus zwischen Angren und Kokand, 8.5.1880, *Mussa* in hb. A.REGEL (LE!); Parkus, im Tschirtschika Tal, 19.6.1881, *A.Regel* (LE!); zwischen Khodzhakent und dem Berg Tschimkent, 4000 ft, 20.6.1881, *A.Regel* (LE!); bei Pskema, 22.6.1897, *B.Fedtschenko* (LE!); Niaz-bek, nahe Taschkent, 30.5.1903, *Lipsky*. – **Lectotype** (here designated): Niaz-bek, nahe Taschkent, 30.5.1903, *Lipsky* (LE!; Iso: LE!).

A. antoninae Grig. 1937, in Fl. Tadzjik. 5: 673. – **Lectotype** (here designated): Vachan, in valle fl. Jamast, 3880–4150 m, 20.7.1935, *Ovczinnikov & Aphanassjev* 1330 (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designa-

ted as holotype a lectotypification is necessary.

A. apiculatus Gontsch. 1937, in Fl. Tadzhik. 5: 668. – **Lectotype** (here designated): Montes Chasret-sultan, VI.1884, *Regel* (LE!: the sheet marked as Lectotypus, foto MSB!; Iso: LE). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. atlasovi Kom. 1914, Repert. Spec. Nov. Regni Veg. 13: 229. – **Lectotype** (here designated): in peninsula Kamtschatka valli centrali in alpinis Kaschchan prope pag. Pustshina, 7.7.1909, *Komarov* 2821 (LE!: the sheet marked as Lectotypus; Iso: LE!, MW).

A. aulieatensis Popov 1926, Trudy Sredne-Aziatsk. Gosud. Univ., Ser. 8b, Bot. 14: 141. – Syntypes: prope Romanovki, Ur-Marala, 28.8.1921, *Abolin & Popov* 8676; p. Karagoina, 1.8.1922, *Korovin* 2050–2053 et 2017; Tschon-Kurgan, 3.9.1921, *Abolin & Popov* 8732. – **Lectotype** (here designated): p. Karagoina, 1.8.1922, *Korovin* (TASH-TAK; Iso: LE!).

A. badachschanicus Boriss. 1937, in Fl. Tadzhik. 5: 654 – **Lectotype** (here designated): Schugnan, in vic. tract. Jamg, 24.7.1904, *B.Fedtschenko* (LE!; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. baldshuanicus Popov 1923, Bot. Mater. Gerb. Glavn. Bot. Sada RSFSR 4: 155. – Syntypes: inter opp. Kulab et Baldshuan, 24.7.1914, *Popov*; et ad opp. Karatag, *Popov*. – **Lectotype** (here designated): inter opp. Kulab et Baldshuan, 24.7.1914, *Popov* (LE!; Iso: LE!).

A. basineri Trautv. 1886, Trudy Imp. S.-Petersburgsk. Bot. Sada 9: 444. – **Lectotype** (here designated): Turkmenistan, Kisil-Arvat, Achal-Tekke, 1883, *Becker* 36 (LE!: the sheet marked as Lectotypus; Iso: G!, LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. beckerianus Trautv. 1876, Trudy Imp. S.-Petersburgsk. Bot. Sada 4: 363. – Syntypes: in Daghestania australis prope Kurusch, 1874, *Becker*; *Faust* (in Herb. TRAUTVETTER). – **Lectotype** (here designated): in Daghestania australis prope Kurusch, 1874, *Becker* (LE!; Iso: BM!, BR!, G-BOIS!, H!, JE!, K!, LE!, M!, P!, PR!, PRC!, W!, WU!).

A. bifidus Ledeb. 1843, Fl. Ross. 1: 605. – Syntypes: Sibiria baicalensi ad fl. Irkut pr. Tor, 1828, *Turczanninov*; dto., 1830, *Turczanninov*. – **Lectotype** (here designated): Sibiria baicalensi ad fl. Irkut pr. Tor, 1828, *Turczanninov* (LE!; Iso: H!).

A. borissianus Gontsch. 1947, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 10: 35. – **Lectotype** (here designated): Montae Alaj, ad fontes fl. Schachimardan, opp. Scobelev, 22.5.1916, *Drobov* 1020 (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. borissovae Grossh. 1948, Dokl. Akad. Nauk Azerbajdzhansk. SSR 4: 26. – **Lectotype** (here designated): Prov. et distr. Tiflis, secus rivum Dabachanka supra Hortum Botanicum Tifliensis, 17.5.1914, *Woronow* in Herb. Fl. Cauc. 371 (LE!; Iso: LE!). As there is no holotype designated a lectotypification is necessary.

A. borodinii Krassn. 1887, Enum. pl. Tian-schan Or.: 46. – **Lectotype** (here designated): reg. Tian Schan, prope fl. Tscharyn, 1886, *Krassnow* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. bossuensis Popov 1928, Trudy Sredne-Aziatsk. Gosud. Univ., Ser. 8b, Bot. 3: 20. – **Lectotype** (here designated): Tian-Schan occid., in loco Kaplanbek prope Taschkent, 19.4.1927 (flor.) et 1.5.1928 (fruct.), *Popov & Vvedensky* in Herb. Fl. As. Med. 353 (LE!: the sheet marked as Lectotypus; Iso: B!, BP!, BR!, BRNU!, G!, K!, LE!, MW, P!, PR!, W!).

A. brachycarpus M.Bieb. 1808, Fl. Taur.-cauc. 2: 201. – Syntypes: in promontorio caucasico, circa thermas constantinomontanas (H!); et ad latere montis Beschtau. – **Lectotype** (here designated): ad latere montis Beschtau, *Steven* (H!; Iso: W!, [LE!: ex Caucaso, hb. BIEBERSTEIN]).

A. brachypetalus Trautv. 1886, Trudy Imp. S.-Petersburgsk. Bot. Sada 9: 446. – **Lectotype** (here designated): [Kasikibaran distr. Karabach: locality erroneus, the species does not occur in the caucasus], *Smirnow* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. brachypus Schrenk 1841, in Fischer & C.A.Meyer, Enum. Pl. Nov. 1: 79. – **Lectotype** (here designated): ad lacum Balchasch, 6.6.1840, *Schrenk* (LE!; Iso: GOET!, LE!: many sheets, P!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. brevifolius Ledeb. 1831, Fl. Altaica 3: 334. – **Lectotype** (here designated): juxta fl. Tschuja, *Bunge* (LE!: the sheet marked as Lectotypus; Iso: BR!, LE!, P!, TUB!).

A. bucharicus Regel 1886, Trudy Imp. S.-Petersburgsk. Bot. Sada 9: 605. – **Lectotype** (here designated): regio bucharica, apud declivia orientalia montium Gasi-Mailik, 4000–5000 ft, 13.–25.5.1883, *A.Regel* (LE!: the sheet marked as Lectotypus; Iso: BR!, G!, GOET!, K, LE!, M!, P!, W!, WU!).

A. bungei C.Winkl. & B.Fedtsch. 1905, Trudy Imp. S.-Petersburgsk. Bot. Sada 24: 198. – Syntypes: Usgent, 28.5.1880, *A.Regel*; Jassy bei Urgent, 4000 ft, 28.5.1880, *A.Regel* (LE!). – **Lectotype** (here designated): Usgent, 28.5.1880, *A.Regel* (LE!).

A. buschiorum Galushko 1970, Novosti Sist. Vyssh. Rast. 6: 215. – **Lectotype** (here designated): Caucasus borealis, Balcaria, Chysny-Su in regione jug. Skalistyi, 3.8.1965, *Galushko* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. calycinus M.Bieb. 1808, Fl. Taur.-Cauc. 2: 199. – **Lectotype** (here designated): ad rivum Kumam, circa Maschar, *Bieberstein* (LE!: the sheet marked as Lectotypus; Iso: H!, LE!).

A. candidissimus Ledeb. 1831, Fl. Altaica 3: 309. – **Lectotype** (here designated): ad fl. Irtysch inter fl. Kurtschum et Narym, 6.Juni, *Meyer* (LE!: the sheet marked as Lectotypus; Iso: LE!, MSB!, P!; PRC! – more presumable isotypes without exact locality: BM!, GOET!, REG!, TUB!, W).

A. chaetodon Bunge 1852, Beitr. Fl. Russl.: 96.

– var. *samarcandicus* Basil. 1923, Bot. Mater. Gerb. Glavn. Bot. Sada RSFSR 4: 47.
– Syntypes: Samarkandsk. obl., Dasht, 28.3.1914, *Michelson* 3286; Khodzentsk. Distr., bei Tschaschma-Arzanak, 28.3.1914, *Michelson* (LE!). – **Lectotype** (here designated) Samarkandsk. obl., Dasht, 28.3.1914, *Michelson* 3286 (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. chalilovii Grossh. 1952, Fl. Kavkaza, ed. 2, 5: 445 – **Lectotype** (here designated): Azerbaidzhania, in distr. Nachiczewan prope fontem Alma-bulagh, in monte Karaghut, 1980–2000 m, 10.6.1947, *Grossheim & Chalilov* (LE!; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. chionanthus Popov 1928, Trudy Sredne-Aziatsk. Gosud. Univ., Ser. 8b, Bot. 3: 21.
– **Lectotype** (here designated): Tian-schan occid., sub cacumine montis Tschimgan Majoris, 11.8.1926, *Rajkova* in Herb. As. Med. 354a (LE!: the sheet marked as Lectotypus; Iso: B!, BP!, BR!, BRNU!, G!, LE!, MA!, MW, P!, PR!).

A. chiwensis Bunge 1880, Izv. Imp. Obshch. Ljubit. Estestv. Moskovsk. Univ. 26, 2: 247. – Syntypes: prope Chiwa inter Karak-aty et Adam-Ulgan, 30.4.1873, *Krause & Korolkov*; and near Tschinaktschika, 19.6.1963 *Krause & Korolkov* (LE!). – **Lectotype** (here designated): prope Chiwa inter Karak-aty et Adam-Ulgan, 30.4.1873, *Krause & Korolkov* (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. chodshenticus B.Fedtsch. 1936, Trudy Tadzhiksk. Bazy 2: 152. – Syntypes: Chodshent, in monte Tschaur, decl. or. jugi Kara-tepe, 23.3. (5.4.) 1914, *Michelson* 3326; prope Chodshent ad fl. Syr-darja, 10.5. (23.5.) 1914, *Knorring* 155; in jugo australi montis Ak-bel, ad ripam dextram fluvii Syr-darja, 35 km a Chodshent, 17.5.1916, *W.Drobov* 983 (LE!). – **Lectotype** (here designated): prope Chodshent ad fl. Syr-darja, 10.5. (23.5.) 1914, *Knorring* 155 (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. chorgosicus Lipsky 1907, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 257. – **Lectotype** (here designated): Prov. Semirtsch., Dzharkant, in monte Alatau prope Basch-kuntschi ad fl. Khorghos, 3.5.1907, *Divnogorskaja* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. chrysopterus Bunge 1877, Bull. Acad. Imp. Sci. Saint-Pétersbourg 24: 32. – **Lectotype** (here designated): China prov. Kansu, 1.-15.6.1873, *Przewalski* 164 (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. cinereus Turcz. 1842, Bull. Soc. Imp. Naturalistes Moscou 15: 766 et in Fl. Baical.-Dahur. 1: 322. 1842–1845. – illeg. [non DC., Willd.] – **Lectotype** (here designated): insula Olchon, *Turczanninov* (LE!: the sheet marked as Lectotypus; Iso: BR!, G!, K!, LE!, M!, MSB!, MW, P!, WU!).

A. circassicus Grossh. 1939, Izv. Azerbajdzhansk. Fil. nos. 1–2: 115. – **Lectotype** (here designated): in jugo Markhot pr. Novorossisk, 19.6.1926, *Dzevanovsky* 76 (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. cisdarvasicus Gontsch. 1947, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 10: 36, 102. – **Lectotype** (here designated): Tadzhikistania austr., in valle fl. Vachsch, 25.5.1932, *Gontscharov, Grigorjev & Nikitin* 46 (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. coarctatus Trautv. 1876, Trudy Imp. S.-Petersburgsk. Bot. Sada 4: 365. – **Lectotype** (here designated): in monte Ararat, ad lacum Küp-göl, 8.8.1871, *Radde* 661 (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. cognatus Schrenk 1841, in Fischer & Meyer, Enum. Pl. Nov. 1: 81. – **Lectotype** (here designated): ad lacum Balchasch, 5.6.1840, *Schrenk* (LE!: the sheet marked as Lectotypus; Iso: B!, BM!, G!, GOET!, K!, L!, LE!, P!, W!).

A. confiniorum Boriss. 1947, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 10: 53. – **Lectotype** (here designated): Jugus Kopet-Dagh. m. Massinew, 1.6.1889, *Antonov* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. conjecturalis Schischk. 1929, Izv. Tomsk. Gosud. Univ. 81: 478. – Syntypes: Distr. Musch, prope opp. Melazgerd, 1500 m, 2.6.1916 (flor.); et 25.6.1916, *Schischkin* (LE!). – **Lectotype** (here designated): Distr. Musch, prope opp. Melazgerd, 1500 m, 2.6.1916 (flor.) (LE!).

A. conspicuus Boriss. 1947, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 10: 49. – **Lectotype** (here designated): Transcaucasia, inter Ordubad et Akulis, 19.5.1914, *Woronov* 14209 (LE!; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. cornu-bovis Lipsky 1900, Trudy Imp. S.-Petersburgsk. Bot. Sada 18: 23. – **Lectotype** (here designated): Transcaspia, Pereval, 26.4.1889, *Antonow* (LE!: the sheet marked as lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. corydalinus Bunge 1874, Trudy Imp. S.-Petersburgsk. Bot. Sada 3: 101. – **Lectotype** (here designated): in montibus Irtasch Turkestanicae [bass. Angren], *Krause* (LE!; Iso: prope Taschkent, *Krause*: P!).

A. curvipes Trautv. 1886, Trudy Imp. S.-Petersburgsk. Bot. Sada 9: 446. – **Lectotype** (here designated): Kisil-Arwat, 1883, *Becker* (LE!: the sheet marked as Lectotypus; Iso: G!, LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. darwasicus Basil. 1923, Bot. Mater. Gerb. Glavn. Bot. Sada RSFSR 4: 44. – Syntypes: Bucharra, Darwas, Kala-i-khum, 5000–6500 ft, 1.6.1897, *Korshinsky* 1033 (LE!); dto., 1039. – **Lectotype** (here designated): Bucharra, Darwas, Kala-i-khum, 5000–6500 ft, 1.6.1897, *Korshinsky* 1039 (LE!).

A. dendroides Kar. & Kir. 1842, Bull. Soc. Imp. Naturalistes Moscou 15: 339. – **Lectotype** (here designated): Alatau ad fl. Sarchan, *Karelin & Kirilov* 269 (LE!: the sheet marked as Lectotypus; Iso: LE!, P!); other isotypes with the number 1396 (BR!, G!, LE!, MSB!, P!, W!).

A. densiflorus Kar. & Kir. 1842, Bull. Soc. Imp. Naturalistes Moscou 15: 329. – Syntypes: Alatau ad fontes fluv. Lepsa et Sarchan, medio julii 1891, *Karelin & Kirilov* 245; et inter Baskan et Sarchan, finem julii 1891, *Karelin & Kirilov*. – **Lectotype** (here designated): Alatau ad fontes fluv. Lepsa et Sarchan, medio julii 1891, *Karelin & Kirilov* 245 (LE!: the sheet marked as Lectotypus; Iso: LE!: many sheets, P!) – Syntypes were distributed with nr. 1378 (BR!, G!, H!, K!, LE!, MSB!, M!, P!, WU!).

A. depauperatus Ledeb. 1831, Fl. Altaica 3: 314. – **Lectotype** (here designated): prope Loktewsk, *Bunge* (LE!: Iso: P!: no. 375 – probably isotypes [Altai]: MSB!, W!)

A. dianthus Bunge 1880, Izv. Imp. Obshch. Ljubit. Estestv. Moskovsk. Univ. 26(2): 283. – Syntypes: Bossu prope Taschkent, 6.4.1871, *O.Fedtschenko* (LE!, P!); Gory Min-Urjuka, *Krause*. – **Lectotype** (here designated): Gory Min-Urjuka, *Krause* (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. dilankuri Lipsky 1907, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 175. – **Lectotype** (here designated): zwischen Dilankur und Saraim, am Paß Kizyl-kutel montium Karatau, 4000 ft, 9.4.1881 (in some schedis 1882), *A.Regel* (LE!: the sheet marked as Lectotypus; Iso: BM!, K!, LE!, M!).

A. discessiflorus Gontsch. 1937, in Fl. Tadzhik. 5: 676. – **Lectotype** (here designated): Tadzhikistania austr., jug. Sanglak supra pag. Peche, 12.6.1932, *Gontscharov, Grigoriev & Nikitin* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. distentus Boriss. 1947, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 10: 52. – **Lectotype** (here designated): Pamiro-Alaj, jugum Vachsch in faucibus montis Sufan-mir-tau, 4.7.1932, *Gontscharov, Grigoriev & Nikitin* 499 (LE!: Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. dschanbulakensis B.Fedtsch. 1905, Trudy Imp. S.-Petersburgsk. Bot. Sada 24: 236. – Syntypes: Kujuk, V.1881. *Mussa*; Dschanbulak, V.1878, *Kuschakewicz* (LE!). – **Lectotype** (here designated): Kujuk, V.1881. *Mussa* (LE!: the sheet marked as Lectotype; Iso: LE!).

A. dschimensis Gontsch. 1947, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 10: 30. – **Lectotype** (here designated): Asia media, Alatau soongoricus, ad fl. Taldy in Irenchaburga, prope limitem prov. chinensis Sin-tzian, 5000–8000 ft, 15.5.1879, *A.Regel* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. ekatherinae B.Fedtsch. 1921, Bot. Mater. Gerb. Glavn. Bot. Sada RSFSR 2: 49. – Syntypes: Turkmenistan, Gaudan, 28.5.1916, *B.Fedtschenko* (LE!); Firjusa bei Ashabad, 10.5.1916, *Androssov*. – **Lectotype** (here designated): Firjusa bei Ashabad, 10.5.1916, *Androssov* (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. ellipsoideus Ledeb. 1831, Fl. Altaica 3: 319. – T: non indicated; see under var. *elongatus* Ledeb. (= type variety).

– var. *elongatus* Ledeb. 1831, Fl. Altaica 3: 319. – illeg. [Typus variety] – **Lectotype** (here designated): in montibus Arkaul et Dolenkara, 14.5.1826, *C.A.Meyer* (LE!: the sheet marked as Lectotypus; Iso: GOET!, K!, LE!).

– var. *abbreviatus* Ledeb. 1831, Fl. Altaica 3: 320. – **Lectotype** (here designated): circa montes Tschingistau et Dschigilen, *C.A.Meyer* (LE!: Iso: GOET!, K!, P!, W!).

– var. *intermedius* Ledeb. 1831, Fl. Altaica 3: 319. – **Lectotype** (here designated): prope Ustkamenogorsk, *Ledebour* (LE!: the sheet marked as Lectotypus; Iso: K!, LE!, P!: Irtysch, W!).

A. eremothamnus Kar. & Kir. 1842, Bull. Soc. Imp. Naturalistes Moscou 15: 334. – **Lectotype** (here designated): Songoria prope fontem Tschingildy, *Karelin & Kirilov* 259 (LE!: the sheet marked as Lectotypus; Iso: LE!, P!); other isotypes with nr. 1398b (G!, LE!).

A. eriocarpus M.Bieb. 1808, Fl. Taur.-Cauc. 2: 196. – illeg. [non DC.]. – **Lectotype** (here designated): in Iberia, circa Tiflin, *Steven* (LE!: Iso: H!, P!, W!).

A. erioceras Ledeb. 1843, Fl. Ross. 1: 626. – **Lectotype** (here designated): in littore orientali m. caspii [Novo-Alexandrowsk], V.1840, *Karelin* (LE!: the sheet marked as Lectotypus; Iso: LE!, P!)

– var. *ferganensis* Popov 1924, Schedae ad Herb. Fl. Asiae Mediae 1–2 [Suppl. Bjull. Sredne-Aziatsk. Gosud. Univ. 7]: 13. – **Lectotype** (here designated): Prov. Fergana, distr. Kokand, ad petroleas "Santo", 18.4.1923, *Popov & Vvedensky* in Herb. Fl. As. Med. No. 8 (LE!: the sheet marked as Lectotypus; Iso: LE!, PR!, W!).

A. eriolobus Bunge 1835, Mém. Acad. Imp. Sci. St.-Pétersbourg Divers Savants 2: 591; Verz. Pfl. Altai-Geb.: 92, 1836. – **Lectotype** (here designated): [Altai or.] prope Metallofodinam Loktewsk, 1832, *Bunge* [*Astragalus eriolobus* Bunge, Suppl. fl. Alt. in hb. FISCHER: LE!: in Sector Sibiria; Iso: LE!: in Sector Middle Asia].

A. eugenii Grossh. 1946, in Fl. URSS 12: 884. – **Lectotype** (here designated): in Daghestania prope Kurusch, in monte Basardjusi, 1874, *Becker* (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. euoplus Trautv. 1876, Trudy Imp. S.-Petersburgsk. Bot. Sada 4: 364. – **Lectotype** (here designated): in districtu Karabach, in itinere versus Ochtschi, 10.5.1871, *Radde* 43 (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. exasperatus Basil. 1923, Bot. Mater. Gerb. Glavn. Bot. Sada RSFSR 4: 45. – Syntypes: Serafschan: Kschtut, 4000 ft, V.1892, *Komarov*; Kuli Mohif, 7500 ft, V.1892, *Komarov* (LE!); Prov. Buchara, Schut, VI.1896, *Lipsky* (LE!). – **Lectotype** (here designated): Serafschan: Kschtut, 4000 ft, V.1892, *Komarov* (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. exilis Korovin 1938, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 7: 171. – **Lectotype** (here designated): Tasch-tepe, 20.7.1913, *Vassiljevskaja* 752 (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. eximius Bunge 1880, Izv. Imp. Obshch. Ljubit. Estestv. Moskovsk. Univ. 26, 2: 244. – Syntypes: Turkestan, Tianschan, Berge Naubid, *O. Fedtschenko* (LE!); et prope Oalyk in valle Serawschan, *O. Fedtschenko*. **Lectotype** (here designated): prope Oalyk in valle Serawschan, *O. Fedtschenko* (LE!).

A. fedtschenkoanus Lipsky 1907, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 150. – Syntypes: Stanzia Dzhambul, 12.4.1880, *A. Regel* (LE!); St. Kujuk, am Trakt Tschimkent - Aulieata, V.1881, *Mussa*; Alamedin, 5000–9000 ft, 23.- 25.5.1880,

Fetisso (LE!); Aksu, 16.6.1903, *Lipsky* (LE!). – **Lectotype** (here designated): St. Kujuk, am Trakt Tschimkent - Aulieata, V.1881, *Mussa* (LE!).

A. fetissowii B.Fedtsch. 1905, Trudy Imp. S.-Petersburgsk. Bot. Sada 24: 202. – Syntypes: Alexandrovskih Khrebet, Arassan, 5.6., *Fetisso*; Narynskago Khrebet, zwischen Bolschim Naryn & Istokami At-basch, 12000 ft, 25.7.1882, *Fetisso*; At-basch, 8500 ft, 24.8.1879, *Fetisso* (LE!). – **Lectotype** (here designated): Narynskago Khrebet, zwischen Bolschim Naryn & Istokami At-basch, 12000 ft, 25.7.1882, *Fetisso* (LE!).

A. filicaulis Ledeb. 1843, Fl. Ross. 1: 637. – illeg. [superfl.]. – Syntypes: in littore orientali m. caspii, *Karelin*; *Lessing* (LE!). – **Lectotype** (here designated): in littore orientali m. caspii, *Karelin* (LE!).

A. foliolosus Bunge 1868, Mém. Acad. Imp. Sci. Saint Pétersbourg 11(16): 74 et l.c. 15 (1): 125. 1869. – **Lectotype** (here designated): Anatolia, Safranbol, inter Aradsh, Kastamani et Hamamli, *Wiedemann* (LE!; Iso: G-BOIS!).

A. fumosus Boriss. 1947, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 10: 40. – **Lectotype** (here designated): Distr. Artvin, ad fl. Czoroch prope Ordshoch, 9.6.1914, *Turkevich* 742 (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. galagani Lipsky 1898, Trudy Imp. S.-Petersburgsk. Bot. Sada 14: 258. – **Lectotype** (here designated): ad lacum Kardabacza, 4500–5000 ft, 7.(19.)8.1895 (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. gebleri Bong. 1841, in Bongard & C.A.Meyer, Verz. Pfl. Saisang-Nor: 24, t. 4. – **Lectotype** (here designated): ad fl. Irtysch supra fluv. Kurtschum, *Politoff* (LE!: the sheet marked as Lectotypus; Iso: BR!, G!, LE!, M!, P!, W!).

A. glabriusculus Gontsch. 1941, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 9: 97. – illeg. [non A.Gray]. – **Lectotype** (here designated): Kopetdagh, Massinev, 1.6.1889, *Antonow* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. glomeratus Ledeb. 1831, Fl. Altaica 3: 327. – **Lectotype** (here designated): ad fl. Irtysch inter Woroninsk et Nabaty, C.A.Meyer (LE!: Altai, 1826; Iso: P!, TUB! – [Altai: GOET!, REG!]).

A. gregorii B.Fedtsch. & Basil. 1930, in Grum-Grjimai, Zap. Mongolij i Urjango Kraj 3 (2): 815. – Syntypes: Chines. Altai, lake Dain-gol, 7400 ft, 28.6.1903, *Grum-Grjimai*; Chines. Altai, between lakes Dain-gol and Ak-khorum, 7500 ft, 29.6.1903 *Grum-Grjimai* (LE!). – **Lectotype** (here designated): Chines. Altai, lake Dain-gol, 7400 ft, 28.6.1903, *Grum-Grjimai* (LE!).

A. haematocarpus Bunge 1868, Mém. Acad. Imp. Sci. Saint Pétersbourg 11(16): 118. – Syntypes: Caucasus or., Tufandagh, C.A.Meyer; Chanakoi-tau Daghestaniae, 8500 ft, *Owerin* (P!; G-BOIS!). – **Lectotype** (here designated): Caucasus or., Tufandagh, C.A.Meyer (P!; Iso: LE!).

A. haesitabundus Lipsky 1894, Trudy Imp. S.-Petersburgsk. Bot. Sada 13: 290. – Syntypes: Daghestania, circa Czir-jurt, ad fluvium Sulak et circa castellum Gunib, 13.5.1890, *Lipsky*; dto., 12.5.1891, *Lipsky* (LE!). – **Lectotype** (here designated): Daghestania, circa Czir-jurt, ad fluvium Sulak et circa castellum Gunib, 13.5.1890, *Lipsky* (LE!).

A. heptapotamicus Sumnev. 1933, Sist. Zametki Mater. Gerb. Krylova Tomsk. Gosud. Univ. Kujbyseva 1933 (5–6): 7. – Syntypes: Kazakhstan, Dshungarsky Alatau, Distr. Kopal, Sujun Tübe, 17.6.1909, *Lipsky 1645*; Kirghisia, Tjan-schan, ad lacus Son-kul, 2.7.1913, *Schischkin* (TK); in jugo Bel-Bulak, 29.6.1913, *Schischkin* (TK). – **Lectotype** (here designated): Kazakhstan, Dshungarsky Alatau, Distr. Kopal, Sujun Tübe, 17.6.1909, *Lipsky 1645* (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. heterodontus Boriss. 1936, Trudy Tadzhiksk. Bazy 2: 161. – **Lectotype** (here designated): prope lacum Kara-kul, 2.7.1913, *Knorring* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. heterotrichus Gontsch. 1946, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 9: 149. – **Lectotype** (here designated): Montes Cisdarwasici, Karanak in vic. Tavildara, 5.7.1897, *Lipsky 2961* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. hissarius Lipsky 1907, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 173. – Syntypes: Hissar, Khoschbulak, Gory Gazi-Mailik, zwischen Kafirnigan und Vakhsh, 4000–5000 ft, 3.–7.5.1883, *A.Regel*; Baldzhuan, 3000–4000 ft, IV.1884, *Musa* (LE!); Buchara, Schachrisjabs, Tamschusch, 9.6.1896, *Lipsky 220* (LE!); Kuna-Kischlak, 17.6.1896, *Lipsky* (LE!). – **Lectotype** (here designated): Hissar, Khoschbulak, Gory Gazi-Mailik, zwischen Kafirnigan und Vakhsh, 4000–5000 ft, 3.–7.5.1883, *A.Regel* (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. holosericeus Popov 1937, in Fl. Tadzhik. 5: 662. – illeg. [non Jones]. – **Lectotype** (here designated): prope pagum Novovad, 8.7.1932, *Gontscharov & al. 580* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. horizontalis Kar. & Kir. 1841, Bull. Soc. Imp. Naturalistes Moscou 14: 406. – **Lectotype** (here designated): in deserto Soongoro-Kirghisico ad rivulos Tonsyk et Narym, *Karelin & Kirilov 197* (LE!: the sheet marked as Lectotypus; Iso: BM!, BR!, G!, LE!, MW, W!).

A. humilis M.Bieb. 1808, Fl. Taur.-Cauc. 2: 203. – **Lectotype** (here designated): in Caucaso iberico, e herb. BIEBERSTEIN (LE!; Iso: B-WILLD 14032!: ex Caucaso alteriore, MARSHALL, MW: Hb. TRINIUS 2222).

A. hyalolepis Bunge 1868, Mém. Acad. Imp. Sci. Saint Pétersbourg 11(16): 105 et l.c. 15 (1): 185. 1869. – Syntypes: In Iberia, Alvar, *Wilhelms*; prope Trialeti, *Wiedemann* (LE!); ad lacum Goktscha ad pedem montis Tschitschaglu, 2000 m, *Owerin*; dto. *Seidlitz*. – **Lectotype** (here designated): In Iberia, Alvar, *Wilhelms* (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. hypogaeus Ledeb. 1829, Icon. pl. nov. 1: t. 95. – Syntypes: juxta fl. Tscharysch et Buchtorma, *Ledebour*; in deserto soongoro-kirghisico, *Meyer*. – **Lectotype** (here

designated): juxta fl. Tscharysch et Buchtorma, *Ledebour* (LE!: Altai anno 1826; Iso: probably REG!).

A. hystrix Fisch. 1853, Bull. Soc. Imp. Naturalistes Moscou 26(2): 403. – **Lectotype** (here designated): ad Seidkhozi provinciae Atropatanicae (Aderbeidshan), 16.5.1828, *Szovits 234* (LE!: the sheet marked as Lectotypus; Iso: G-BOIS!, JE!, LE!, MSB!).

A. iliensis Bunge 1866, Bull. Soc. Imp. Naturalistes Moscou 39 (2): 20. – **Lectotype** (here designated): Am Ili, 13.5., *Semenov* (LE!: the sheet marked as Lectotypus; Iso: LE!, P!).

A. imetensis Boriss. 1947, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 10: 43. – **Lectotype** (here designated): Kirghisia, fl. Naryn, in valle fl. Naryn prope ostium Imet, 19.7.1913, *Saposhnikov* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. inaequalifolius Basil. 1922, Bot. Mater. Gerb. Glavn. Bot. Sada RSFSR 3: 117. – **Lectotype** (here designated): Syr-Dar. obl., Taschkent, syst. fl. Tschirtschik, dolina r. Pskem, 22.6.1914, *Minkwitz 849* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. inderiensis Claus 1851, Beitr. Pflanzenkunde Russ. Reiches Lief. 8: 64. – **Lectotype** (here designated): am inderskischen Salzsee, anno 1834, *Claus* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. inopinatus Boriss. 1947, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 10: 51. – **Lectotype** (here designated): Jacutia mer., in valle fl. Amge, Taschaja, 28.7.1902, *Olenin 101* (LE!: Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. intermedius Kar. & Kir. 1842, Bull. Soc. Imp. Naturalistes Moscou 15: 340. – illeg. [non Host]. – **Lectotype** (here designated): Alatau inter fl. Baskan et Sarchan, *Karelin & Kirilov 270* (LE!: the sheet marked as Lectotypus; Iso: LE!, P!); other isotypes with nr. 1415 (BR!, G!, K!, LE!, M!, MW, P!, W!).

A. interpositus Boriss. 1947, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 10: 49. – **Lectotype** (here designated): Caucasus, ad glaciem Bezengi, 1856 m, 6.7.1913, *Busch* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. involucratus Lipsky 1901, Trudy Imp. S.-Petersburgsk. Bot. Sada 18: 46. – **Lectotype** (here designated): Baissun (Buchara), 6.6.1897, *Lipsky 219* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. irinae B.Fedtsch. 1940, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 8: 167. – Syntypes: in montibus Hissaricis Tadzhikistaniae, in valle fl. Warsob, 7.7.1896, *Lipsky* (LE!); et in valle fl. Diachan-dara ad Chosch-hassan, 24.6.1896, *Lipsky*. – **Lectotype** (here designated): in valle fl. Diachan-dara ad Chosch-hassan, 24.6.1896, *Lipsky* (LE!).

A. ishigensis Kom. 1929, Fl. Kamtsch. 2: 279. – **Lectotype** (here designated): [Kamtschatka] circa Gishiga (Ishiga), *Kruhse* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. iskanderi Lipsky 1907, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 187. – **Lectotype** (here designated): Samarkandsk. obl., Ozero Iskander-kul, 7000 ft, V.1893, *Komarov* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. isphairamicus B.Fedtsch. 1940, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 8: 168. – **Lectotype** (here designated): jug. Alaicum, in valle fl. Isphairam-sai, supra Langar, 22.6.1931, *Lipschitz* 165 (LE!: the sheet marked as Lectotypus; Iso: LE!, MW)

A. jagnobicus Lipsky 1907, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 138. – Syntypes: Prov. Samarkand., Pasrut, 6300–10700 ft, 24.6.1870, *O.Fedtschenko* (LE!); zw. Novobad et Varsouta, VII.1881, *Capus* (LE!); Hissar, Rufigar, 17.7.1896, *Lipsky*. – **Lectotype** (here designated): Hissar, Rufigar, 17.7.1896, *Lipsky* (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. jakkabagi Lipsky 1907, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 160. – **Lectotype** (here designated): Jakkabag, 2880 ft, 3.6.1897, *Lipsky* (LE! the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. jarmolenkoi Gontsch. 1938, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 7: 158. – **Lectotype** (here designated): Kopet Dag, in cacumine Czapan-dag, 2300 m, 14.7.1928, *B.Fedtschenko & al.* 666 (LE! the sheet marked as Lectotypus; Iso: LE!). A holotype as indicated in the description is not designated in LE, therefore a lectotypification is necessary.

A. jassiensis B.Fedtsch. 1905, Trudy Imp. S.-Petersburgsk. Bot. Sada 24: 236. – **Lectotype** (here designated): Jassy, prope Urgent, 4000 ft, 28.5.1880, *A.Regel* (LE!; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. jolderensis B.Fedtsch. 1921, Bot. Mater. Gerb. Glavn. Bot. Sada RSFSR 2: 52. – Syntypes: Kara-Kala, Gora Sjunt, Straße durch Joldere, 15.5.1916, *B.Fedtschenko* (LE!); Gora Sjunt, gegen den Paß (Pereval), 8.5.1912, *Lipsky* 3308. – **Lectotype** (here designated): Gora Sjunt, gegen den Paß (Pereval), 8.5.1912, *Lipsky* 3308 (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. kabadianus Lipsky 1907, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 161. – Syntypes: Kabadian, zwischen Kabadian und Kurgan-bulak, 2000–3000 ft, 27.4.1883, *A.Regel* (LE!); Babatag, 13.5.1897, *Korshinsky* (LE!); Kuljab, N'Hänge bei Karatau nahe Dilankur am Fluß Pandzhoh, zwischen Kyzyl-su und Aksu, 3000–4000 ft, 8.4.1883, *A.Regel* (LE!); Hissar, Jomut am N'Hang der Berge Gazi-Mailik, 3000 ft, 13.5.1883, *A.Regel* (LE!); Berge Taschbulak, 5000–6000 ft, 29.4.1883, *A.Regel* (LE!); Faizabad, 22.5.1897, *Korshinsky* 938 (LE!); Guzar, Teng-i-Kharam, 29.4.1897, *Korshinsky* (LE!); Baldzhuan, 3000 ft, V.–VI.1883, *Musa* (in hb. REGEL) (LE!); Sary-Pul, V.–VI.1884, *Musa* (in hb. REGEL); Karategin, Kaschka-terek, 22.6.1897, *Korshinsky*; Karategin zwischen Garm und Nametsch, 20.6.1897, *Korshinsky* 1124 (LE!). – **Lectotype** (here designated): Sary-Pul, V.–VI.1884, *Musa* (in hb. REGEL) (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. karatjubeki Golosk. 1950, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 13: 121. – **Lectotype** (here designated): Betpak-dala, litus occ. lacum Balchasch promont. Kara-tjubek, 7.6.1949, *Goloskokov* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. kelifi Lipsky 1907, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 158. – Syntypes: Kelif, 16. (28.)3.1881, *Capus* 342 (LE!, P!); Kokaity, 4.5.1897, *Korshinsky* 973. – **Lectotype** (here designated): Kokaity, 4.5.1897, *Korshinsky* 973 (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. kelleri Popov 1923, Trudy Turkestansk. Nauchn. Obshch. 1: 36. – Syntypes: prov. Kelif prope Chodsha-Fil-ata, 21.4.1916, *Popov* (LE!); prope Kuhitang, 20.4.1916, *Popov*; in prov. Baissun prope Kisil-Alma, 3.5.1915, *Popov*; Dshisak, 3.5.1921, *Kultiassov* 81. – **Lectotype** (here designated): Dshisak, 3.5.1921, *Kultiassov* 81 (LE!).

A. kemulariae Grossh. 1928, in Grossheim & Schischkin, sched. impr. ad Pl. Or. Exsicc. Fasc. 16: 48. – **Lectotype** (here designated): Transcaucasia, Georgia, prov. et distr. Kutais, prope pag. Godaganii, 23.4.1928, *Kemularia* in Pl. Or. exs. ed. Grossheim & Schischkin no. 390 (LE!: the sheet marked as Lectotypus; Iso: LE!, BM!, BP!, K!).

A. kessleri Trautv. 1860, Bull. Soc. Imp. Naturalistes Moscou 33, 1: 496. – **Lectotype** (here designated): in montibus Bektaktu, 2.6.1843, *Schrenk* (LE!: the sheet marked as Lectotypus; Iso: LE!, P!, W!) [more isotypes with locality "e Songaria", *Schrenk* (JE!, P!, W!)].

A. krauseanus Regel 1874, Trudy Imp. S.-Petersburgsk. Bot. Sada 3: 104. – **Lectotype** (here designated): Turkestaniae in montibus Irtaschtsche, 1871, *Krause* (LE!; Iso: MW, P!).

A. kujukensis B.Fedtsch. 1905, Trudy Imp. S.-Petersburgsk. Bot. Sada 24: 225. – **Lectotype** (here designated): [Prov. Syr-Darinsk, Distr. Aulie-ata] bei Kujuka, [Tianschan] V.1881, *Mussa* (LE!: the sheet marked as Lectotypus; Iso: B!, LE!).

A. kukurtavicus Prokh. 1961, Bot. Mater. Gerb. Bot. Inst. Komarova Acad. Nauk SSSR 21: 430. – **Lectotype** (here designated): Daghestania bor., 15 km W Kukurt-Tau, 14.6.1958, *Prokhanov* 116 (LE!; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. kulabensis Lipsky 1907, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 158. – Syntypes: Hissar, Iomud, E'Hang der Berge Gazi-Majlik, 4000–5000 ft 13.5.1883 (blühend), *A.Regel* (LE!); dto., 26.7.1893 (fruchtend), *A.Regel* (LE!); Kuljab, r. Aksu, 2000 ft, 1.6.1883, *A.Regel*; Denau, Sangardak, 20.6.1896, *Lipsky*; Baissun, 6.6.1897, *Lipsky* (LE!). – **Lectotype** (here designated): Kuljab, r. Aksu, 2000 ft, 1.6.1883, *A.Regel* (LE!: the sheet marked as Lectotypus; Iso: B!, BM!, K!, LE!, M!).

A. kuldshensis Bunge 1880, Trudy Imp. S.-Petersburgsk. Bot. Sada 7: 374. – Syntypes: Kuldsha, 1876, *Golicke*; ad fl. Ssary-bulak prope Suidun (am Ili), 24.4.1878, *A.Regel* 448 (K!, LE!). – **Lectotype** (here designated): Kuldsha, 1876, *Golicke* (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. laceratus Lipsky 1907, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 144. – Syntypes: Chin. Turkest., Karagol am Passe nach Nilka, 10,000 ft, 5.-17.7.1879, *A. Regel* (LE!); Mengute, 9,000 ft, 20.6.-2.8.1879, *A. Regel*. – **Lectotype** (here designated): Mengute, 9,000 ft, 20.6.-2.8.1879, *A. Regel* (LE!).

A. lagocephalus Fisch. & C.A.Mey. 1844, Bull. Cl. Phys.-Math. Acad. Imp. Sci. Saint-Petersbourg 2: 197. – Syntypes: desert. songaro-kirghisici inter fluvium Irtysch et montes Arkaul, 18.5., *C.A.Meyer 1105* (LE!, P!); versus montes Ulutau, *Schrenk*; ad fluv. Kara-Kingir et ad fl. Ajagus, *Schrenk 74* (B!, H!, JE!, LE!, MSB!, P!, PR!, PRC!). – **Lectotype** (here designated): versus montes Ulutau, *Schrenk* (LE!: the sheet marked as Lectotypus; Iso: LE!; ZT!: no. 791).

A. lasiocalyx Gontsch. 1946, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 9: 147. – **Lectotype** (here designated): Tian-schan occ., systema fl. Tczirtczik, in valle Pskem sub trajectu Kurum-dshau, 22.6.1914, *Minkwitz 848* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. lasiophyllus Ledeb. 1843, Fl. Ross. 1: 627. – **Lectotype** (here designated): in littore or. m. Caspii, 1835, *Karelin* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. lasiosemius Boiss. 1849, Diagn. Pl. Or. Nov. 9: 96.

– var. *leiosemius* Lipsky 1907, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 235 – Syntypes: Samarkand. obl.: Pereval Chami-Sukhta, 3.6.1896, *Lipsky* (LE!); Schachrisjabs: Chazret-Sultan, 9000 ft, 4.6.1896, *Lipsky 119* (LE!); Schachrisjabs, Jagna-choda, 9000 ft, 5.6.1896, *Lipsky 118* (LE!); Schachrisjabs, Giljan, 8000 ft, 7.6.1896, *Lipsky 116* (LE!); Kul, 16.6.1896, *Lipsky 117*; Hissar: Subaschi, oberes Fluß Chanaka, 10000 ft, 3.7.1896, *Lipsky 120* (LE!); Darwaz: Arzyng, 19.7.1899, *Lipsky* (LE!); Del. Vangut, 20.7.1899, *Lipsky*; Vereschkaj, Darvas, Khr. Petra B., 12000 ft, 29.7.1899, *Lipsky* (LE! = ? *A. nigrocalyx* Slobodov); R. Tupalang, Pereval Sary-Sotscho, 11.6.1896, *Lipsky*; Samarkand. obl.: Sangidzhaman, 2.6.1896, *Lipsky*; Karategin: Lednik Kapaschibet, 3.8.1896, *Lipsky*. – **Lectotype** (here designated): Kul, 16.6.1896, *Lipsky 117* (LE!). [the lectotypification by I.D.E.M.L. 1972 is against the rules because the variety is described in 1907, but the so called type is collected in 1927].

A. leptocaulis Ledeb. 1831, Fl. Altaica 3: 296. – **Lectotype** (here designated): ad rivulum Urmuchaika prope Buchtarminsk, 22.4., *C.A.Meyer* (LE!; Iso: H!).

A. lipskyanus Popov 1928, Trudy Sredne-Aziatsk. Gosud. Univ., Ser. 8b, Bot. 3: 24. – illeg. [non Freyn]. – **Lectotype** (here designated): Tian-schan occid., in valle rivuli Ak-tasch in montibus Karshan-tau, 14.5.1928, *Popov & Vvedensky* in Herb. Fl. As. Med. 358 (LE!: the sheet marked as Lectotypus; Iso: B!, P!, BR!, BRNU!, K!, LE!, MA!, MW, P!, PR!).

A. lithophilus Kar. & Kir. 1842, Bull. Soc. Imp. Naturalistes Moscou 15: 344. – **Lectotype** (here designated): Alatau, ad fontes fluvii Lepsa, *Karelin & Kirilov 279* (LE!: the sheet marked as Lectotypus; Iso: LE!); other isotypes with the nr. 1418 (MW, P!).

A. litwinowianus Gontsch. 1938, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 7: 142. – **Lectotype** (here designated): Tian-Schan, distr. Andizhan, Chazret-ajub, 16.5.1913, *Litwinow* (LE!: the sheet marked as Lectotypus; Iso: LE!) [PODLECH

1988 has indicated holotype and isotype in LE. As up to now no sheet in LE was designated as a holotype a lectotypification is necessary.

A. longistipitatus Boriss. 1936, Trudy Tadzhiksk.. Bazy 2: 165. – **Lectotype** (here designated): Roschan, in faucium Jodudi, 1826–2982 m, 3.8.1897, *Korshinsky 1101* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. macrocladus Bunge 1880, Izv. Imp. Obshch. Ljubit. Estestv. Moskovsk. Univ. 26 (2): 293. – **Lectotype** (here designated): Kizil-kum y Tschardary, *O.Fedtschenko* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. macropetalus Schrenk 1844, Bull. Cl. Phys.-Math. Acad. Imp. Sci. Saint-Pétersbourg 3: 307. – **Lectotype** (here designated): in collibus versus fluvium Atassu, 17.5.1843, *Schrenk 451* (LE!: the sheet marked as Lectotypus; Iso: LE: several sheets!, MSB!).

A. macropodium Lipsky 1900, Trudy Imp. S.-Petersburgsk. Bot. Sada 18: 26. – Syntypes: Hissar, ad flum. Varzob, 7.7.1896, *Lipsky 130* (C!, LE!); ad flum. Duob supra Tupalang, 13.6.1897, *Lipsky 132* (LE!); Sakka-khana ad flum. Obi-sarang, 25.6.1896, *Lipsky* (LE!); ad flum. super. Zarchob, 7000 ft, 30.6.1896, *Lipsky 128* (LE!); Denay, Pereval Bakhcha (ad flum. Sangardak), Jakkabag, 7000 ft, 19.7.1896, *Lipsky 127* (LE!); Prov. Samarkand, Bassin Saravschan, Iskander-Kul, 7000 ft, V.1892, *Komarov* (LE!); Pereval Mura, 9000 ft, V.1892, *Komarov* (LE!); Pjandzh-khok ad flum. Eigdi, 7000 ft, 8.7.1896, *Lipsky 131*. – **Lectotype** (here designated): Pjandzh-khok ad flum. Eigdi, 7000 ft, 8.7.1896, *Lipsky 131* (LE!).

A. macropterus DC. 1825, Prodr. 2: 283.

– var. *australis* Lipsky 1907, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 213. – Syntypes: Prov. Samarkand, Gora Naubid, bei Varzaminora, 9.6.1870, *O.Fedtschenko*; Dinrama, am oberen Zaravschan, 8000 ft, 15.8.1881, *A.Regel*; Nasrut, 7000–8000 ft, 3.6.1882, *A.Regel*; Dzhidzhik, 10.–22.6.1881, *Capus*; Varsout., 20.6.1892, *Komarov*; Pakschif, 7000–10000 ft, 30.6.1893, *Komarov*; Simitsch, nördl. Jagnob, 11.6.1896, *Lipsky* (LE!); Prov. Fergana, Alai, 8100 ft, 22.–23.6.1871, *O.Fedtschenko*; Mündung des Flusses Kok-su, bei Tschak, 1.7.1878, *Skornjakov*; Ters-agar, 1878, *Nevskij*; Schlucht Artschaty, 14.6.1878, *Kuschakewitz*; Daraut-kurgan, 20.6.1895, *Korshinskij*; Pamir, am Fluß Gunt, an der Mündung des Flusses Ljangan-su, 17.8.1897, *Korshinskij*; Indyravitsch am Fluß Gunt, zwischen den Flüssen Airau-su und Kumysch-dzhilga, 16.8.1897, *Korshinskij*; Fluß Terek, am Zufluß des Kara-dari, 29.7.1903, *Lipsky*; am Fluß Gultsch, Kizyl-kurgana, 1800 m, V.1904, *Kronenburg*; Alaijsk. Khrebet, Daraut, 29.6.1904, *B.Fedtschenko*; Zaalijskij Khrebet, Dolina r. Muk, Suuk-Saj, 2.7.1904, *B.Fedtschenko*; unteres Altyn-mazara, 2.7.1904, *B.Fedtschenko*; Denai, Bakhtscha, 4.8.1878, *Nevskij*; Darvaz, Khobu, 8.7.1897, *Lipsky* (C!, H!, LD!, LE!); Odud, Obi-Motraun, 6000–8000 ft, 11.8.1901, *Alexeenko*; Schachrisjabz, Schut, VII.1893, *Komarov*; Schugnan, Tal des Gunt, zwischen Dzhilandy und Vankala, 31.7.1901, *O. & B.Fedtschenko* (LE!); Schugnan, Dzhilandy-Sarchym, 21.7.1901, *O. & B.Fedtschenko* (LE!); Unterlauf des Flusses Abkharva, 3.8.1904, *B.Fedtschenko*; Karategin, Khreb. Petra V., Karaschura, 19.7.1897, *Lipsky* (C!, LE!); Gletscher Oschanino, 29.7.1899, *Lipsky*; Anzob am Fluß Jagnob, 7000 ft, 22.6.1870, *O.Fedtschenko*. – **Lectotype** (here designated): Anzob am Fluß Jagnob, 7000 ft, 22.6.1870, *O.Fedtschenko* (LE!).

A. macrourus Fisch. & C.A.Mey. 1838, Bull. Soc. Imp. Naturalistes Moscou 11: 346. – **Lectotype** (here designated): pr. Tatuni in tr. Suwant, 4500 ft, VI.1836 *Hohenacker* 2329 (sub *A. cylindraceus*) (LE!: the sheet marked as Lectotypus; Iso: BP!, G-BOIS!, HBG!, L!, LE!, MSB!, P!, PR!, PRC!, STU!, TUB!, W!, WU!).

A. managildensis B.Fedtsch. 1905, Trudy Imp. S.-Petersburgsk. Bot. Sada 24: 222. – **Lectotype** (here designated): Managildy bis Alabugi, 7000 ft, 4.6.1880, *A.Regel* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. margusaricus Lipsky 1907, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 164. – Syn-types: Zaravschan. Bassejn, Gory Marguzara, 6000–7000 ft, 27.6.1882, *A.Regel* (LE!); Madm, 5.7.1893, *Komarov* (LE!); Kum, 3.7.1893, *Komarov*. – **Lectotype** (here designated): Kum, 3.7.1893, *Komarov* (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. maximowiczii Trautv. 1884, Trudy Imp. S.-Petersburgsk. Bot. Sada 9: 379. – **Lectotype** (here designated): in distr. Achalteke Turcomaniae (! secundum distributionem) [vel in provincia Karabach Transcaucasiae: the species does not occur in the Caucasus], 1883, *Christoph* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. medius Schrenk 1843, Bull. Cl. Phys.-Math. Acad. Imp. Sci. Saint-Petersbourg 2: 198. – Syntypes: in collibus ad Ters-Akkan, 10.6.1841, *Schrenk* (K!, LE!, W!); necnon in collibus aridis ad fluv. Kara-Kingir, *Schrenk* (K!, LE!, W!) et versus montes Ulutau, *Schrenk*. – **Lectotype** (here designated): versus montes Ulutau, *Schrenk* (LE!: the sheet marked as Lectotypus; Iso: K!, LE!).

A. megalomerus Bunge 1880, Trudy Imp. S.-Petersburgsk. Bot. Sada 7: 379. – Syn-types: in faucibus Ssangi dzhuman, *O.Fedtschenko*; Saratag, *O.Fedtschenko* (LE!); in monte Aksai Turkestanicae austro-occid., *O.Fedtschenko*; in faucibus Buguni jugi Karatau, *Sewerzow*. – **Lectotype**: (Popov 1928 in herbario, here confirmed): in faucibus Buguni jugi Karatau, 17.5., *Sewerzow* (LE!: the sheet marked as Lectotypus; Iso: LE!).

– var. *longeracemosus* Basil. 1922, Bot. Mater. Gerb. Glavn. Bot. Sada RSFSR 3: 120. – **Lectotype** (here designated): Bucharra, dol. r. Kitschik-uru, linker Zufluß des Flusses Guzar, 24.5.1913, *Michelson* 1875 (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. melanocladus Lipsky 1907, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 272. – **Lectotype** (here designated): Saisan, Gory Saur, between fl. Kendyrlyk and Aba, 12.7.1907, *Rjasnitschenko* 358 (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. melanotrichos Ledeb. 1831, Fl. Altaica 3: 323. – **Lectotype** (here designated): in mont. Kurtschum prope Nabaty ad Irtysch, *Meyer* (LE!: the sheet marked as Lectotypus; Iso: H!, LE!, MSB!, P!).

A. mesites Boiss. & Buhse 1860, Nouv. Mém. Soc. Imp. Naturalistes Moscou 12: 66. – **Lectotype** (here designated): Alyndschatthal zwischen Chanaga und Kasantschi, 3100–4200 ft, 22.5.1847, *Buhse* 317 (LE!: the sheet marked as Lectotypus; Iso: G-BOIS!, H!, LE!, P!).

A. michelsonii B.Fedtsch. 1921, Bot. Mater. Gerb. Glavn. Bot. Sada RSFSR 2: 50. – **Lectotype** (here designated): Turkmenistan, Kopet Dag, Kargile-Nuhur, im Gebirge, 22.5.1912, *Michelson* 4434 (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. michelsonii Gontsch. 1938, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 7:150. – illeg. [non B.Fedtsch.]. – **Lectotype** (here designated): Turcomania, in glareosis fluminis Kuschka, 22.4.1927, *Michelson* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. mirabilis Lipsky 1907, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 155. – Syntypes: Dolina Dengere, 2000 ft, 3.3.1884, *Mussa* (LE!); Tschorabdara, po r. Kizyl-Su, V.1884, *Mussa*; Sary-Pul, 28.5.1897, *Korshinsky* 1118 (LE!) & 1122 (LE!); Talbar, 6500–7700 ft, 30.5.1897, *Korshinsky* (LE!); Berge um Baldshuan, 2.5.1906, *Roshewitz* 538 (LE!); Kuljab: Mumynabad, zwischen Kuljab und Baldshuan, IV.1884, *Mussa* (LE!); Bagdy-Saj, 30.4.1906, *Roshewitz* 523 (LE!); Darwaz: zwischen Kala-i-Khumon und Sary-daschem, 16.7.1897, *Korshinsky* (LE!); Baldshuan: Baldshuan, 3000 ft, 1883, *Mussa*. – **Lectotype** (here designated): Baldshuan: Baldshuan, 3000 ft, 1883, *Mussa* (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. mixtus M.Bieb. 1810, Cent. Pl. Ross. Merid. 1: t. 26. – Syntypes: Bessarabia, prope rivum Gromoklei (LE!); tum ad Borystenem [? in agro Odessano, *Bieberstein* (H!)] inter Cherson et Berislaw. – **Lectotype** (here designated): inter Cherson et Berislaw (LE!).

A. monadelphus Bunge 1877, Bull. Acad. Imp. Sci. Saint-Pétersbourg 24: 32. – **Lectotype** (here designated): China prov. Kansu, VII.1872, *Przewalski* (LE!: the sheet marked as Lectotypus; Iso: LE!, P!).

A. mucidus [Bunge ex] Boiss. 1872, Fl. Or. 2: 279. – **Lectotype** (here designated): in jugo Mogol-tau Turkestaniae, *Sewertzow* (LE!: the sheet marked as Lectotypus; Iso: LE!, P!). No specimen in G-BOIS. As no specimen was designated as holotype a lectotypification is necessary.

A. mugosaricus Bunge 1847, Arbeiten Naturf. Vereins Riga 1: 236. – Syntypes: am oberen Kaindi-Bache, 28.5.1842, *Lehmann* (LE!, P!); in den mugosarischen Bergen, 10.6.1841, *Lehmann*. – **Lectotype** (here designated): in den mugosarischen Bergen, 10.6.1841, *Lehmann* (LE!: the sheet marked as Lectotypus; Iso: G!, H!, LE!). The syntypes were distributed as Reliq. bot. Al. *Lehmannii* 348 (GOET!, K!, P!).

A. multicaulis Ledeb. 1831, Fl. Altaica 3: 295. – Syntypes: ad fl. Kan, *Bunge*; in deserto Kuraico juxta fl. Tschuja. – **Lectotype** (here designated): in deserto Kuraico juxta fl. Tschuja (LE!: the sheet marked as Lectotypus; Iso: H!, LE!).

A. muschketowi B.Fedtsch. 1899, Bull. Herb. Boiss. 7: 825. – Syntypes: Pamir, loco non indicato, 1899, *N.Welman* (LE!); Pamir, ad lacum Nigrum Magnum (Bolschoi-Karakul), 13000 ft, 22.6.1892, *Nasarow*. – **Lectotype** (here designated): Pamir, ad lacum Nigrum Magnum (Bolschoi Karakul), 13000 ft, 22.6.1892, *Nasarow* (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. nigrescens Popov 1947, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 10: 21. – illeg. [non Pall. nec Franch.]. – **Lectotype** (here designated): Turcomania,

Kopet-dagh, Kuschka, Dengli-schor, 4.4.1912, *Lipsky* 505 (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. nigriceps Popov 1947, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 10: 8. – **Lectotype** (here designated): Turcomania, Gaudan, in monte Kular, 30.5.1898, *Litvinov* 1275 (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. nikitiniae B.Fedtsch. 1946, in Fl. URSS 12: 888. – Syntypes: Alatau kirghisicus, in montibus Poskeldy, W'slopes, 17.5.1932, *Mavrina* (LE!); Alatau kirghisicus, in montibus Poskeldy, S'slopes, 24.4.1932, *Agafonova*.. – **Lectotype** (here designated): Alatau kirghisicus, in montibus Poskeldy, S'slopes, 24.4.1932, *Agafonova* (LE!).

A. nobilis B.Fedtsch. 1905, Trudy Imp. S.-Petersburgsk. Bot. Sada 24: 236 – Syntypes: V. Ortubel, 15.5.1880, *Mussa* (LE!); St. Basmandinskoe, 1870, *O. Fedtschenko* (LE!); Uratjube, *A.Regel*; zwischen Angren und Kokan, V.1880, *Mussa*. – **Lectotype** (here designated): zwischen Angren und Kokan, V.1880, *Mussa* (LE!).

A. ochranthus Gontsch. 1937, in Fl. Tadzhik. 5: 659. – **Lectotype** (here designated): Kara-tau prope trajectum Kisyl-Kugal inter Dilankur et Saraj, 9.4.1883, *A.Regel* (LE!: the sheet marked as Lectotypus; Iso: LE!, MSB!). As no specimen was designated as holotype a lectotypification is necessary.

A. ochrias Bunge 1877, Bull. Acad. Imp. Sci. Saint-Pétersbourg 24: 33. – Syntypes: SW Mongolei, Alaschan, *Przewalski* 164 (LE!); Mongolia, montibus Muni-ula, *Przewalski* 25.. – **Lectotype** (here designated): Mongolia, montibus Muni-ula, *Przewalski* 25 (LE!: the sheet marked as Lectotypus; Iso: LE!, P!).

A. oldenburgii B.Fedtsch. 1936, Trudy Tadshiksk. Bazy 2: 153, reimpr. – Syntypes: ad montem Chodsha-kadian, ad meridiem ab oppido Kabadian, 800–1000 m, 26.4. (7.5.) 1883, *A.Regel* (LE!); Kabadian, Totku, 20 km N opp. Kabadian ad flumen Kafirnigan, 11. (23.) 5.1897, *Korshinsky* 1005. – **Lectotype** (here designated): Kabadian, Totku, 20 km N opp. Kabadian ad flumen Kafirnigan, 11. (23.) 5.1897, *Korshinsky* 1005 (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. olgae Bunge 1880, Izv. Imp. Obshch. Ljubit. Estestv. Moskovsk. Univ. 26(2): 223. – **Lectotype** (here designated): Kokan, Gletscher Shchurovskaja, 23.6.1891, *O.Fedtschenko* (LE! the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. oligophyllus Schrenk 1844, Bull. Cl. Phys.-Math. Acad. Imp. Sci. Saint-Pétersbourg 2: 197. – illeg. [non Boiss.]. – **Lectotype** (here designated): ad septentrionem a fl. Tschu [in deserto Golodnaia step], 22.9.1842, *Schrenk* 294 (LE!: the sheet marked as Lectotypus; Iso: G!, LE!, P!).

A. onobrychioides M.Bieb. 1798, Tabl. Prov. Casp.: 117. – gives “*A. orientalis canescens*, capitulis Trifolii bituminosi, flore dilute purpureo”, *Tournefort* cor. 28 in synonymy. – **Lectotype** (here designated), in montibus Schirvanicis, circa Kurt-Bulak, 1796, *Bieberstein* (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. oreades C.A.Mey. 1831, Verz. Pfl. Cauc.: 141. – **Lectotype** (here designated): in regione alpina mt. Kasbek, 7200–8600 ft, 27.9.1829, *C.A.Meyer* (LE!: the sheet

marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. ovczinnikovii Boriss. 1937, in Fl. Tadzhik. 5: 655. – **Lectotype** (here designated): in angustis fl. Bizhun-dara, loco Darbandak, 2400–2500 m, VI.1935, *Ovczinnikov & Aphanassiev* 272 (LE!: the sheet marked as Lectotypus; Iso: LE!, MSB!). As no specimen was designated as holotype a lectotypification is necessary.

A. pamiro-alaicus Lipsky 1907, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 147. – var. *mollis* Lipsky 1907, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 150. – Syntypes: Samarkand. obl.: Tschap-dara, 11.5.1893, *Komarov*; Kuli-Mohif, 7500 ft, 9.5.1893, *Komarov* (LE! = *A. sericeopuberulus* Boriss.); Pereval Putkhin, 9000 ft, 24.4.1892, *Komarov* (LE! = *A. pseudotitovii* Podlech); Anzob, 24.5.1893, *Komarov* (LE! = *A. sericeopuberulus* Boriss.); Barzengi im oberen Jagnob, 11000 ft, 15.6.1896, *Lipsky* (LE! = *A. sericeopuberulus* Boriss.); Kuli-Kalon, 9000 ft, V.1893, *Komarov*; The syntypes are heterogeneous. – **Lectotype** (here designated): Kuli-Kalon, 9000 ft, V.1893, *Komarov* (LE!) (so it is = *A. sericeopuberulus* Boriss.).

A. paucijugus Schrenk 1844, Bull. Cl. Phys.-Math. Acad. Imp. Sci. Saint-Pétersbourg 2: 196. – **Lectotype** (here designated): in ditione ad fluvium Tschu versus, ad fl. Ssaryssu, *Schrenk* (LE!: the sheet marked as Lectotypus; Iso: LE!: sterile, P!).

A. permiensis C.A.Mey. 1850, in Rupr., Fl. Bor. Ural 2: 32, t. II. – **Lectotype** (here designated): ad fl. Wischera, 4.6.1847, *Branth* (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. petkoffii B.Fedtsch. 1936, Izv. Bulg. Bot. Druzh. 7: 46. – **Lectotype** (here designated): Pamiro-Alai, reg. Osch prope Gulcza, 24.5.1900, *Tranzschel* (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. petunnikovii Litv. 1905, Spisok Rast. Gerb. Russk. Fl. Bot. Muz. Rossijsk. Akad. Nauk 5: 76. – **Lectotype** (here designated): Turkestan, pr. Farab (ad fl. Amu-darja), 4.5. (flor.) et 2.6.1903 (fruct.), *Androssov & Kelow* in Herb. Fl. Ross. 1410 (LE!: the sheet marked as Lectotypus; Iso: B!, BM!, BP!, C!, G!, H!, LE!, MW, PRC!, WU!).

A. physocalyx Fisch. 1837, Bull. Sci. Acad. Imp. Sci. Saint-Pétersbourg 2: 74. – **Lectotype** (here designated): Philippopolis, Rumelia, *Frivaldsky* (LE!: the sheet marked as Lectotypus; Iso: B!, BP!, G-BOIS!, GOET!, LE!, PRC!, W!, WU!).

A. physocalyx Kar. & Kir. 1841, Bull. Soc. Imp. Naturalistes Moscou 14: 409. – illeg. [non Fisch.]. – **Lectotype** (here designated): ad fl. Uldschar, montes Tarbagatai, *Karelin & Kirilov* 256 (LE!: the sheet marked as Lectotypus; Iso: K!, LE!, P!); more isotypes were distributed with nr. 204 (BM!, BR!, G!, H!, LE!, MSB!, MW, P!, W!).

A. physocarpus Ledeb. 1831, Fl. Altaica 3: 335. – Syntypes: ad fl. Schulba, Buchtorma et Dscharguban, *Schangen & Sievers* (ex Pallas); circa Loktevsk, *Bunge*. – **Lectotype** (here designated): circa Loktevsk, *Bunge* (LE!).

A. platyphyllus Kar. & Kir. 1842, Bull. Soc. Imp. Naturalistes Moscou 15: 345. – **Lectotype** (here designated): Alatau ad fl. Lepsa et Sarchan, *Karelin & Kirilov* 281 (LE!: the sheet marked as Lectotypus; Iso: LE!, P!); more isotypes were distributed

with nr. 1414 (BM!, G!, H!, K!, LE!, MSB!, MW, P!, W!).

A. podocarpus C.A.Mey. 1831, Verz. Pfl. Cauc.: 142. – **Lectotype** (here designated): Talish prope Suwant, 20.6.1830, C.A.Meyer (LE!; the sheet marked as Lectotypus; Iso: E!, H!, K!, LE!, P!, W!).

A. polytimeticus Popov 1947, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 10: 12. – **Lectotype** (here designated): Pamiro-Alaj, in viciniis lac. Kuli-kalon, 2570 m, 12.6.1892, Komarov (LE!; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. protractus Boriss. 1947, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 10: 45. – **Lectotype** (here designated): Kopet-dagh, distr. Ashkhabad, supra Janap, 12.6.1934, Androssov (LE!; the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. przewalskii Bunge 1878, Bull. Acad. Imp. Sci. Saint-Pétersbourg 24: 32. – **Lectotype** (here designated): China, Prov. Kansu, regio alpina jugi secus fl. Tatung, 10.–24.7.1872, Przewalski 263 (LE!; Iso: P!).

A. pseudanthylloides Gontsch. 1941, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 9: 101. – **Lectotype** (here designated): Usbekistan pr. Baissun, 1300 m, 5.6.1897, Lipsky (LE!; the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. pseudoamygdalinus Popov 1937, in Fl. Tadzhik. 5: 661. – **Lectotype** (here designated): Tian-schan, mt. Kuramenses, 27.7.1935, Emme-Markovskaja 515 (LE!; the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. pseudoaustralis Fisch. & C.A.Mey. 1843, Ind. Sem. Hort. Petrop. 11, Suppl.: 16. – T: Mt. Altai, pr. Riddersk, C.A.Meyer. – **Neotype** (here selected): prope pag. Riddersk, 1845, Politoff (LE!). No specimen of C.A.MEYER could be found at LE. Therefore a Neotyp was selected.

A. pseudolanuginosus Gontsch. 1937, in Fl. Tadzhik. 5: 657. – **Lectotype** (here designated): in valle Alaj, Ajgir-dzhol, 26.6.1913, Desjatova 1412 (LE!; the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. pseudonobilis Popov 1928, Trudy Sredne-Aziatsk. Gosud. Univ., Ser. 8b, Bot. 3: 30. – **Lectotype** (here designated): Tian-schan occ., mt. Spa in Mogol-tau, 15.6.1928. Popov in Herb. Fl. As. Med. 364 (LE!; the sheet marked as Lectotypus; Iso: B!, BR!, BRNU!, C!, LE!, MW, P!, W!).

A. pseudorhacodes Gontsch. 1941, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 9: 103. – **Lectotype** (here designated): Pamiro-Alaj australis, jug. Babatag contra pag. Akmeczet, in valle sicco fluminis Czarraga, 750 m, 4.6.1938, Linczevski 267 (LE!; the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. psilopus Schrenk 1842, Bull. Sci. Acad. Imp. Sci. Saint-Pétersbourg 10: 254. – Syntypes: Flugsandsteppen am Emul unweit der Mündung im Alatau, 29.6.1841,

Schrenk (LE!); sandige Steppen am Alakul, 28.6.1841, *Schrenk*. – **Lectotype** (here designated): sandige Steppen am Alakul, 28.6.1841, *Schrenk* (LE!; Iso: BR!, W!).

A. pskemensis Popov 1947, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 10: 13. – **Lectotype** (here designated): in systema fl. Pskem, ad fontes fl. Ispai, 31.8.1928, *Popov & Smirnowa* (LE!; c. fruct.; Iso: LE!; c. flor.). As no specimen was designated as holotype a lectotypification is necessary.

A. puberulus Ledeb. 1831, Fl. Altaica 3: 299. – Syntypes: Tschuja, *Bunge* (LE!); ad fl. Ursul. – **Lectotype** (here designated): ad fl. Ursul, *Bunge* (LE!; the sheet marked as Lectotypus; Iso: LE!).

A. pycnolobus Bunge 1835, Mém. Acad. Imp. Sci. St.-Pétersbourg Divers Savants 2: 594. – Verz. Pfl. Altai-Geb.: 95. 1836. – Syntypes: ad fluvium Kurtschum, 1832, *Bunge* (P!); prope metallofodinam Syrianowsk, *Bunge*. – **Lectotype** (here designated): prope metallofodinam Syrianowsk, *Bunge* (LE!; the sheet marked as Lectotypus; Iso: H!, LE!, P!).

A. raddeanus Regel 1865, Ind. Sem. Hort. Petrop. 1865: 40. – **Lectotype** (here designated): Gruzia, Borshom, 5.6.1865, *Radde* (LE!; the sheet marked as Lectotypus; Iso: LE!, P!).

A. refractus C.A.Mey. 1831, Verz. Pfl. Cauc.: 144. – **Lectotype** (here designated): Talisch pr. Suwant, *Meyer* (LE!; the sheet marked as Lectotypus; Iso: G-BOIS!, LE!, P!).

A. regelii Trautv. 1873, Trudy Imp. S.-Petersburgsk. Bot. Sada 2: 472. – **Lectotype** (here designated): in Armenia, prope pagum Belaw, 17.6.1871, *Radde* (LE! the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. roschanicus B.Fedtsch. 1937, in Fl. Tadzhik. 5: 673. – **Lectotype** (here designated): [Tadzhikistan] Darwaz, prope Kalai-Rocharw ad fl. Vancz, 8.6.1897, *Korshinsky* 957 (LE! the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. roseus Ledeb. 1831, Fl. Altaica 3: 330. – Syntypes: ad fl. Irtysch (prope Ustkamenogorsk) (PRC!), Kurtschum, Bekun et alibi in deserto soongoro-kirghisico, *Meyer*; circa metallifodinas Loktewsk, Nikolajew etc. – **Lectotype** (here designated): Kurtschum, *C.A.Meyer* (LE!) [all other specimens of LEDEBOUR in LE are without locality].

A. rostratus C.A.Mey. 1831, Verz. Pfl. Cauc.: 144. – **Lectotype** (here designated): Talisch, prope Suwant, alt. 670 hexap., 20.6.1830, *C.A.Meyer* (LE!; the sheet marked as Lectotypus; Iso: G-BOIS!, LE!).

A. rubtzovii Boriss. 1950, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 13: 127. – **Lectotype** (here designated): Kazakhstan, ad fl. Kegen, in arena Kum-tekei, 30.6.1946, *Rubtzov* (LE!; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. ruprechtii Bunge 1868, Mém. Acad. Imp. Sci. Saint Pétersbourg 11(16): 101 et l.c. 15 (1): 174. 1869. – Syntypes: prope Besobdal, *Eichwald*; Caucasus or., supra Gimri,

3000–5500 ft, 11.6.1861, *Ruprecht*. – **Lectotype** (here designated): Caucasus or., supra Gimri, 3000–5500 ft, 11.6.1861, *Ruprecht* (P!; Iso: LE!).

A. rutilobus Bunge 1880, Izv. Imp. Obshch. Ljubit. Estestv. Moskovsk. Univ. 26(2): 209. – Syntypes: prope Taschkent, 15.4.1871, *O.Fedtschenko* (LE!); Taschkent, near Bossu, 11.4.1871, *O.Fedtschenko* (LE!); Taschkent, *Sadovskij*; dto., *Sewertzow*; dto., circa Minj Urjuk, *Krause* (LE!); bei Samarkand, 17.4., *Fedtschenko* (LE!); Katty-Kurgan, 9.5., *Fedtschenko* (LE!); fl. Narupai, pr. Katty-Kurgan, 28.4., *Fedtschenko* (LE!); Dzham, 24.4., *Fedtschenko* (LE!); Daula, 24.4., *Fedtschenko* (LE!); inter Ulusa et Dzham, 1869, *Fedtschenko*. – **Lectotype** (here designated): inter Ulusa et Dzham, 1869, *Fedtschenko* (LE!).

A. sabuletorum Ledeb. 1831, Fl. Altaica 3: 321. – **Lectotype** (here designated): ad fl. Irtysh et Bekun, 3.5.1828, *C.A.Meyer* (LE!; the sheet marked as Lectotypus; Iso: LE!, P!, PRC! – C! & GOET! sent by LEDEBOUR without locality but probably isotypes)

A. saccocalyx Schrenk 1841, in Fischer & C.A.Meyer, Enum. Pl. Nov. 1: 83. – **Lectotype** (here designated): in promontorio montium Labassy, 14.6.1840, *Schrenk* (LE!; the sheet marked as Lecotypus; Iso: LE!, P!).

A. sachalinensis Bunge 1868, Mém. Acad. Imp. Sci. Saint Pétersbourg 11(16): 23 et l.c. 15(1): 26. 1869. – **Lectotype** (here designated): Sachalin prope pagum Adngi-wo, *Schmidt* (P!; Iso: LE!).

A. saganlugensis Trautv. 1858, Bull. Cl. Phys.-Math. Acad. Imp. Sci. Saint-Pétersbourg 16: 323. – **Lectotype** (here designated): In Turcia asiatica, inter montes saganlugenses et Arserum [Erzerum], 19.8.1855, *Lagowski* (LE!; the sheet marked as Lectotypus; Iso: G-BOIS!, LE!).

A. salicetorum Kom. 1914, Repert. Spec. Nov. Regni Veg. 13: 230. – **Lectotype** (here designated): in valle fluvii Kamtshatka in insula Monastyrskij prope Kliutshi, VII.1909, *Bezais* 4387 (LE!; Iso: LE!; no. 4386). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. salsugineus Kar. & Kir. 1842, Bull. Soc. Imp. Naturalistes Moscou 15: 341. – **Lectotype** (here designated): in salsi Songoriae ad rivulum Ai, *Karelin & Kirilov* 273 (LE!; the sheet marked as Lectotypus; Iso: LE!, other isotypes with nr. 1382 (BM!, BR!, G!, H!, K!, LE!, M!, MW, P!, W!, WU!).

A. saratagius Bunge 1880, Izv. Imp. Obshch. Ljubit. Estestv. Moskovsk. Univ. 26(2): 269. – Syntypes: Kokan bei Dzhityk, 22.6.1871, *O.Fedtschenko* (LE!); Saratag beim Iskander-Kul, 16.6.1871, *O.Fedtschenko*. – **Lectotype** (here designated): Saratag beim Iskander-Kul, 16.6.1871, *O.Fedtschenko* (LE!).

A. sarawschanicus Lipsky 1907, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 169. – Syntypes: Prov. Samarkand, Zaravshan. Bass., gory N Kschtut, 4000–7000 ft, 17.6.1882, *A.Regel* (LE!); zwischen Guzar und Kschtut, 3000–4000 ft, 18.6.1882, *A.Regel*; Pendzhikent, 3200 ft, V.1892, *Komarov* (LE!); Schink am Fluß Mogian, 4300 ft, 29.5.1892, *Komarov* (LE!); Mogian, V.1892, *Komarov* (LE!); Rewat, 7.7.1893, *Komarov*. – **Lectotype** (here designated): Rewat, 7.7.1893, *Komarov* (LE!).

A. sarypulensis B.Fedtsch. 1936, Trudy Tadshiksk. Bazy 2: 150. – Syntypes: ad pagum Arsangi, 14.5.1910, *Divnogorsky* (LE!); Decliv. septentr. jugi Darwasici ad pag. Sarypul, 8.5.1913, *Michelson 1444*. – **Lectotype** (here designated): Decliv. septentr. jugi Darwasici ad pag. Sarypul, 8.5.1913, *Michelson 1444* (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. satteotoichos Gontsch. 1946, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 9: 140. – **Lectotype** (here designated): Pamiro-Alaj, jug. Kiczik-teraj distr. Kulab, supra pag. Turkoni, 13.6.1935, *Gontscharov, Linczevski & Maslennikova 327* (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. scaberrimus Bunge 1833, Enum. pl. China bor.: 17; et in Mém. Acad. Imp. Sci. St.-Pétersbourg Divers Savants 2: 91. – **Lectotype** (here designated): prope Pekinum, IV.1831, *Bunge* (LE!: the sheet marked as Lectotypus; Iso: H!, LE!, P!).

A. schachdarinus Lipsky 1910, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 181. – **Lectotype** (here designated): ad fl. Schach-dara, beim Dorf Mazar prov. Schugnan, 24.6.1897, *Korshinsky 932* (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. schachimardanus Basil. 1922, Bot. Mater. Gerb. Glavn. Bot. Sada RSFSR 3: 115. – **Lectotype** (here designated): Prov. Fergana, Distr. Skobelevskij, Alajsk. khreb., Tal des Flusses Schachimardan, Schlucht Arpa, 22.5.1916, *Drobov 1031* (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. schelichowii Turcz. 1840, Bull. Soc. Imp. Naturalistes Moscou 13: 68. – Syntypes (or better all isotypes: ad viam Ochotensem (= inter Helan et Ochoto, *Schelichow* (H!); vel inter Jacuti et Ochoteam [inter Jakutsk et Ochotsk], 1835, *Schelichow*. – **Lectotype** (here designated): inter Jacuti et Ochoteam (LE!: the sheet marked as Lectotypus; Iso: G!, H!, K!, LE!, M!, P!).

A. scheremetevianus B.Fedtsch. 1902, Trudy Bot. Muz. Imp. Akad. Nauk 1: 125. – Syntypes: von Dzhilandy nach Vankala, 11–12000 ft, 21.7.1901, *B.Fedtschenko* (B!, LE!); Dol. r. Toguz-bulak, Pereval Koj-tezeka, nr. Dzhilandy, 20.7.1901, *B.Fedtschenko*. – **Lectotype** (here designated): Dol. r. Toguz-bulak, Pereval Koj-tezeka, nr. Dzhilandy, 20.7.1901, *B.Fedtschenko* (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. schrenkianus Fisch. & C.A.Mey. 1844, Bull. Cl. Phys.-Math. Acad. Imp. Sci. Saint-Pétersbourg 2: 197. – **Lectotype** (here designated): Arganaty Berge, Hügelland am Ters-Akkan, 27.5.1840, *Schrenk 776* (LE!: the sheet marked as Lectotypus; Iso: BM!, GOET!, LE!, ZT!).

A. schugnanicus B.Fedtsch. 1902, Trudy Bot. Muz. Imp. Akad. Nauk 1: 124. – **Lectotype** (here designated): Dol. r. Gunt, zwischen Rivak und Vankala, 9000 ft, 30.7.1901, *B.Fedtschenko* (LE!: the sheet marked as Lectotypus; Iso: B!: foto MSB!, LE!).

A. scleropodius Ledeb. 1831, Fl. Altaica 3: 326. – **Lectotype** (here designated): in mont. Kurtschum prope munimentum Baty ad fl. Irtysch, 10.6.1826, *C.A.Meyer* (LE!: the sheet marked as Lectotypus; Iso: LE!, P!).

A. scleroxylon Bunge 1847, Arbeiten Naturf. Vereins Riga 1: 241. – Syntypes: bei Bakali, 26.4.1842, *Lehmann*; et 28.4.1842, *Lehmann*. – **Lectotype** (here designated): bei Bakali, 28.4.1842, *Lehmann* (P!). The syntypes were distributed as: Reliqu. bot. Al. Lehmann. 359 (G-BOIS!, LE!, W!).

A. scoparius Schrenk 1841, in Fischer & C.A.Meyer, Enum. Pl. Nov. 1: 82. – **Lectotype** (here designated): in promontorio montium Alatau, 23.6.1840, *Schrenk* (LE!: the sheet marked as Lectotypus; Iso: BM!, LE!, P!, W!).

A. setosulus Gontsch. 1947, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 10: 33. – **Lectotype** (here designated): Tauria, in monte Demerdshi, in vic. opp. Alushta, 25.7.1894, *Alexeenko* (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. shishkinii Grossh. 1928, in Grossheim & Schischkin, in schedis impr. ad Pl. Or. Exsicc. (ed. GROSSHEIM & SCHISCHKIN) Fasc. 11: 18. – **Lectotype** (here designated): Transcaucasica, Georgia, Tiflis, prope Mtschhet, 20.5.1923, *Schischkin* in Pl. Or. Exs. no. 266 (LE!: the sheet marked as Lectotypus; Iso: BM!, G!, K!, LE!, Z!).

A. skorniakowii B.Fedtsch. 1905, Trudy Imp. S.-Petersburgsk. Bot. Sada 24: 227. – Syntypes: Managildy do Alabugi, 6000–7000 ft, 4.6.1880, *A.Regel* (LE!); Arasan, 7000–11000 ft, 8.5., *Fetissov*. – **Lectotype** (here designated): Arasan, 7000–11000 ft, 8.5., *Fetissov* (LE!).

A. sogdianus Bunge 1880, Izv. Imp. Obshch. Ljubit. Estestv. Moskovsk. Univ. 26 (2): 268. – Syntypes: Mogol-Tau, 3000 ft, *Sewertzow*; Dzhizmanskom, 2.5., *O.Fedtschenko*. – **Lectotype** (here designated): Dzhizmanskom, 2.5., *O.Fedtschenko* (LE!).

A. sogotensis Lipsky 1907, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 178. – **Lectotype** (here designated): Semirtsch. obl., Sogoty [Fl. Iliensis], 29.5.1886, *Krassnov* (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. songoricus Gontsch. 1938, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 7: 152. – illeg. [non Pall.]. – **Lectotype** (here designated): Montes Alatau songorici, Distr. Kopal, inter Altyn-Emel et Kugaly, 15.6.1909, *Lipsky* 3145 (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. spartioides Kar. & Kir. 1842, Bull. Soc. Imp. Naturalistes Moscou 15: 330. – **Lectotype** (here designated): Songoria, inter fontem Tschingildy et fluv. Lepsa, *Karelin & Kirilov* 248 (LE!: the sheet marked as Lectotypus; Iso: LE!) – more isotypes with nr. 1411 (BM!, BR!, G!, H!, K!, LE!, M!, MSB!, MW, P!, W!, WU!) and Herb. Fl. Ross. 1409 (C!, LE!).

A. sphaerocystis Bunge 1852, Beitr. Fl. Russl.: 97. – **Lectotype** (here designated): Dzhabyk in Mt. Alatau, Juli 1842, *Schrenk* 722 (LE!: the sheet marked as Lectotypus; Iso: LE!, P!).

A. sphaerophysa Kar. & Kir. 1842, Bull. Soc. Imp. Naturalistes Moscou 15: 338. – Syntypes: inter mont. Arganaty et Dschiss-ahatsch ad fl. Ajagus, VIII.1841, *Karelin & Kirilov* (267); Songoria inter mont. Arganaty et fontem Sassyk-pastau, VI.1841, *Karelin & Kirilov*. – **Lectotype** (here designated): Songoria inter mont. Arganaty et

fontem Sassyk-pastau, VI.1841, *Karelin & Kirilov* (LE!). The syntypes were distributed with nr. 1410 (BM!, BR!, G!, LE!, M!, P!, W!).

A. spinulosus Basil. 1922, Bot. Mater. Gerb. Glavn. Bot. Sada RSFSR 3: 118. – **Lectotype** (here designated): Syr-Dar. obl., Tschimkent. u., Kelen-Kurgan, 30.6.1908, *Knorring* 792 (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. spryginii Popov 1915, in Dimo, Soil Invest. Exped. Rivers Syr-daria & Amu-daria, Pt. 1: 51 et in Bjull. Sredne-Aziatsk. Gosud. Univ. 7, Suppl.: 18. 1924. – **Lectotype** (here designated): Mogoltau, Utsch-tjube-bulak, 16.4.1914, *Popov* 887 (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. stenocarpus Gontsch. 1946, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 9: 143. – **Lectotype** (here designated): Pamiro-Alaj occ., Distr. Schahrisjabs, sub trajectum Mula, 1640 m, 16.6.1896, *Lipsky* (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. stenoceras C.A.Mey. 1841, in Bongard & Meyer, Verz. Pfl. Saisang-Nor: 23. – **Lectotype** (here designated): ad lacum Saisang-Nor, *Politoff* (LE!: the sheet marked as Lectotypus; Iso: LE!, PRC!).

A. stenoceroides Boriss. 1938, Bot. Mater. Gerb. Bot. Inst. Akad. Nauk SSSR 7: 232. – **Lectotype** (here designated): Schugnan, ad Chorog, 28.5.1935, *Ovczinnikov & Afannasjiev* 23 (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. stenocystis Bunge 1880, Izv. Imp. Obshch. Ljubit. Estestv. Moskovsk. Univ. 26(2): 301. – **Lectotype** (here designated): Dzhizmana Turkestaniae, 1869, *O.Fedtschenko* (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. stevenianus DC. 1825, Prodr. 2: 285.

– var. *multijugus* Trautv. 1869, Trudy Imp. S.-Petersburgsk. Bot. Sada 1: 17 – Syntypes: in territorio Swant, prope Diabar, V.1870, *Radde* (LE!); et in itinere versus Barnasar, V.1870, *Radde*. – **Lectotype** (here designated): in itinere versus Barnasar, V.1870, *Radde* (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. subarcuatus Popov 1947, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 10: 4. – **Lectotype** (here designated): Mugodshary, prope stat. Ber-Czugur, 24.9.1909, *Androssov* (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. suidunensis Bunge 1880, Trudy Imp. S.-Petersburgsk. Bot. Sada 7: 378. – Syntypes: Ili-Ufer Kuldscha, 3.5.1877, *A.Regel* 163 (C!, LE!); Koibinschlucht N des Ili zwischen Suidun und Ili, 1.4.1877, *A.Regel* 380 (LE!, P!); am Talki bei Suidun, *A.Regel* (LE!); Kuldscha, VII.1877, *Regel* (LE!, W!); Aktübe, *A.Regel*; Ili-Ufer S Kuldscha, 30.6.1877, *A.Regel* (LE!); Station Bajandai oder Langar, 2000, 5.5.1878, *A.Regel*. – **Lectotype** (here designated): Bajandai, 2000, 5.5.1878, *A.Regel* (LE!).

A. surchobi Gontsch. 1947, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 10: 39. – **Lectotype** (here designated): Pamiro-Alaj, Karategin prope pag. Kaschka-

Terek, 22.6.1897, *Korshinsky 1111* (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. tanguticus Batalin 1891, Trudy Imp. S.-Petersburgsk. Bot. Sada 11: 485. – **Lectotype** (here designated): China, Kansu, ad fluv. Myn-dan-scha, 29.5.1890, *Grum-Grshimailo* (LE!; Iso: K!). [The remark “specimen unicum” in the original description has caused WENNINGER 1991 to think the holotype is at K. As the original herbarium of GRUM-GRISHMAILO is at LE, the lectotype will be chosen from this herbarium].

A. taschkendicus Bunge 1880, Izv. Imp. Obshch. Ljubit. Estestv. Moskovsk. Univ. 26(2): 280. – Syntypes: prope Taschkent, 17.5., *Kuschakewicz* (LE!); Zerawschan, pereval (Paß) Kyzyl-kutal. 13.5.1869, *O.Fedtschenko* (LE!); et prope Dzhizmansk, 13.5.1869, *O.Fedtschenko*. – **Lectotype** (here designated): prope Dzhizmansk, 13.5.1869, *O.Fedtschenko* (LE!).

A. tashkutanus Nikitin 1950, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 12: 121. – **Lectotype** (here designated): Hissar occid., inter trajectum Poschmi-kuna et pagum Kirghizsky ad fl. Schirkent-darja prope mt. Tashkutan, 2200 m, 8.8.1946, *Nikitin 22* (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. tenuis Turcz. 1842, Bull. Soc. Imp. Naturalistes Moscou 15: 768 et in Fl. Baic.-Dahur. 1: 324. 1842–1845. – Syntypes ? : Dahuria ad limites Chineses ?; inter Sochtui et Altangan. – **Lectotype** (here designated): [in siccis Dahuriae Nerczinensis, 1831], *Turczaninov* (LE!: the sheet marked as Lectotypus; Iso: LE!, M!).

A. tephrolobus Bunge 1868, Mém. Acad. Imp. Sci. Saint Pétersbourg 11(16): 127 et l.c. 15(1): 222. 1869. – **Lectotype** (here designated): ad Tschujam in jugo altaico orientaliore, *Politoff* (P!; Iso: G!, LE!, MSB!).

A. trachycarpus Gontsch. 1937, in Fl. Tadzhik. 5: 672. – **Lectotype** (here designated): jug. Kiczik-Terjaj E Kulab, loco Kok-tasch haud procul a pag. Turkoni, 1370 m, 15.6.1935, *Gontscharov & al.* 363 (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. tranzschelii Boriss. 1936, Trudy Tadzhiksk. Bazy 2: 167. – **Lectotype** (here designated); Prov. Ferghana, distr. Osch, ad glacies Mus-dagh, in jugo Transalaico, ad fontes fl. Kisyl-su orient., 18.7.1900, *Tranzschel* (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. trichocalyx Trautv. 1876, Trudy Imp. S.-Petersburgsk. Bot. Sada 4: 362. – illeg. [non Torr. & Gray]. – **Lectotype** (here designated): Achalzich, prope Abastuman, 1845, *Radde* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

A. tscharynensis Popov 1947, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 10: 9. – **Lectotype** (here designated): prope Sogoty, 1886, *Krassnov* (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. tshegemensis Galushko 1970, Novosti Sist. Vyssh. Rast. 6: 214. – **Lectotype** (here designated): Caucasus borealis, Tshegem, pr. pag. Verchnyi Tshegem, 6.8.1965, Galushko (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen at LE was designated as holotype a lectotypification is necessary.

A. tulinovii O.Fedtsch. 1903, Fl. Pamir: 27. – Syntypes: zw. Chodzha-Nasar und Pereval Koj-Tezek, 13000–14000 ft, 20.7. (blüh.); zw. Ozero Sassyk und Jaschil, 11000–12000 ft, 17.7., *O. & B.Fedtschenko* (LE!). – **Lectotype** (here designated): zw. Chodzha-Nasar und Pereval Koj-Tezek, 13000–14000 ft, 20.7. (blüh.), *O.Fedtschenko* (LE!).

A. turczaninovii Kar. & Kir. 1842, Bull. Soc. Imp. Naturalistes Moscou 15: 342. – **Lectotype** (here designated): Songoria inter montes Arganaty et fontem Sassyk-pastau, *Karelin & Kirilov* 275 (LE!; Iso: P!); more isotypes with nr. 1393 (BM!, BR!, G!, H!, K!, LE!, M!, MSB!, MW, P!, W!, WU!) and Herb. Fl. Ross. 1866 (G!, H!, LE!, PRC!, WU!).

A. turkestanus [Bunge ex] Boiss. 1872, Fl. Or. 2: 278. – **Lectotype** (here designated): Tadjikistan, Mogol-Tau, 29.4., Sewertzow (LE!: the sheet marked as Lectotypus; Iso: LE!, P!). No specimen in G-BOIS.

A. uliginosus L. 1753, Sp. Pl.: 757.

– var. *kamtschaticus* Kom. 1929, Fl. Kamtschatki 2: 281 – **Lectotype** (here designated): [non explicite designatus] Kamtschatka, in valle riv. Kamtschka pr. pag. Scharoma, 26.6.1909, *Komarov* 2834 (LE!: the sheet marked as Lectotypus; Iso: MW, LE!).

A. unilateralis Kar. & Kir. 1841, Bull. Soc. Imp. Naturalistes Moscou 14: 404. – **Lectotype** (here designated): Soongoro-Kirghis. prope Arkalyk, *Karelin & Kirilov* 189 (LE!: the sheet marked as Lectotypus; Iso: BM!, BR!, G!, H!, K!, LE!, M!, MW, P!, W!, WU!).

A. urgutinus Lipsky 1907, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 179. – Syn- types: [Schlucht] Dzham, 13.5.1869, *O.Fedtschenko* (LE!); Urgut, 21.5.1892, *Komarov* (LE!); Amman-Kutan, 1.6.1897, *Lipsky*; Sangi-dzhaman, 2.6.1896, *Lipsky* (LE!); Gizhdevan, 1.6.1896, *Lipsky* (LE!). – **Lectotype** (here designated): Amman-Kutan, 1.6.1897, *Lipsky* (LE!: the sheet marked as Lectotypus; Iso: LE!).

A. vandshinus Lipsky 1907, Trudy Imp. S.-Petersburgsk. Bot. Sada 26: 128. – **Lectotype** (here designated): Darwas, Kala-i-Rokhar ad fl. Vandsh, 8.6.1897, *Korshinsky* (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. variabilis Bunge 1877, Bull. Acad. Imp. Sci. Saint-Pétersbourg 24: 33. – Syn- types: Mongolia, ad fl. Hoang-ho, IV.–V.1872, *Przhevalski* 34 (LE!); nec non ad pedem jugi Alaschan, V.–VI.1872, *Przhewalski* 90 (LE!, K!, P!); dto., 1.-20.6.1873, *Przhevalski* 73. – **Lectotype** (here designated): ad pedem jugi Alaschan, 1.-20.6.1873, *Przhewalski* 73 (LE!; Iso: K!, P!).

A. velatus Trautv. 1886, Trudy Imp. S.-Petersburgsk. Bot. Sada 9: 450. – **Lectotype** (here designated): Turcomania, Kisil Arwat, Achal-Tekke, 1883, *Becker* (LE!: the sheet marked as Lectotypus; Iso: G!, JE!: without flowers or fruits, LE!).

A. vicioides Ledeb. 1831, Fl. Altaica 3: 301

– var. *longipes* Trautv. 1860, Bull. Soc. Imp. Naturalistes Moscou 33(1): 499. – Syntypes: in montibus Dshabyk Songoriae, 14.7., *Schrenk*; in pylis Kuhlasu, 10.7., *Schrenk* (LE!: in sect. world); in tractu Tschegarak Assu, 21.6., *Schrenk*. – **Lectotype** (here designated): in montibus Dshabyk Songoriae, 14.7., *Schrenk* (LE!; Iso: P!).

A. virgeus Boriss. 1947, Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk SSSR 10: 47. – **Lectotype** (here designated): Turcia, distr. Artvin, ad ripam Czoroch, 9.6.1914, *Turkevicz* 745 (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. wachschii B.Fedtsch. 1936, Trudy Tadshiksk. Bazy 2: 151. – **Lectotype** (here designated): Kurgan-tube, ad flumen Wachsch supra Kurgan-tube, 350–500 m, III.1884, *A.Regel* (LE!: the sheet marked as Lectotypus; Iso: LE!). As no specimen was designated as holotype a lectotypification is necessary.

A. winkleri Trautv. 1886, Trudy Imp. S.-Petersburgsk. Bot. Sada 9: 449. – **Lectotype** (here designated): Kisil-Arwat, Achal-Tekke, 1883, *Becker* 96 (LE!: the sheet marked as Lectotypus; Iso: G!, LE!).

A. xanthotrichos Ledeb. 1831, Fl. Altaica 3: 324. – **Lectotype** (here designated): mont. Kurtschum, *C.A.Meyer* (LE!: the sheet marked as Lectotypus; Iso: LE!, GOET: without locality, M!) [probably isotype: *Irtysch*, *C.A.Meyer* (P!)].

A. xylorrhizus Bunge 1880, Izv. Imp. Obshch. Ljubit. Estestv. Moskovsk. Univ. 26 (2): 267. – Syntypes: Turkestan, Gor Dolon, Schlucht Otschtschuka, IV.1872, *Korovin*; Buamsko Urtatokoj, *Korovin*; Tal des Tschu und Kutmoddy, *Korovin*. – **Lectotype** (here designated): Turkestan, Gor Dolon, Schlucht Otschtschuka, IV.1872, *Korovin* (LE!).

Phaca macrostachys Turcz. 1840, Bull. Soc. Imp. Naturalistes Moscou 13: 66. – **Lectotype** (here designated): in montosis Mongoliae Chinensis, 1831, *Turczaninov* (LE!: the sheet marked as Lectotypus; Iso: LE!). As in LE no sheet is designated as holotype a lectotypification is necessary.

Phaca trigonocarpa Turcz. 1842, Bull. Soc. Imp. Naturalistes Moscou 15: 761. 1842. – **Lectotype** (here designated): ad fl. Barguz, 1832, *Turczaninov* (LE!; Iso: BR!, P!).

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