Two New Combinations in Central Asian and Chinese *Allium* (Alliaceae)

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ABSTRACT. In preparing the account of *Allium* L. for the *Flora of China*, Volume 24, two new combinations are made in order to recognize entities at varietal rank within the complex of *A. atrosanguineum* Schrenk: *A. atrosanguineum* var. *fedschenkoanum* (Regel) G. Zhu & Turland and *A. atrosanguineum* var. *tibeticum* (Regel) G. Zhu & Turland. Lectotypes are herein designated for both names. The priority of *A. atrosanguineum* over *A. monadelphum* Turczaninow ex Karelin & Kirilov (published in the same year) is explained.

Allium atrosanguineum is a Central Asian and Chinese species sometimes treated as *A. monadelphum*, e.g., by Vvedensky (1935: 146–147). It is characterized as follows: roots thin; bulbs cylindric; leaves terete, fistulose; scape terete; filaments shorter than tepals, connate into a tube for 1/3–3/4 their length, entire; ovary with ovules 2 to several per locule. While preparing the account of *Allium* for the *Flora of China*, Volume 24 (Xu & Kamelin, in press), the present authors together with J. M. Xu and R. V. Kamelin considered it appropriate to recognize three entities within the complex of *A. atrosanguineum* at varietal rank, necessitating two new combinations: *A. atrosanguineum* var. *fedschenkoanum* (Regel) G. Zhu & Turland (based on *A. fedschenkoanum* Regel) and *A. atrosanguineum* var. *tibeticum* (Regel) G. Zhu & Turland (based on *A. monadelphum* var. *tibeticum* Regel).

The name *Allium monadelphum* Turczaninow ex Karelin & Kirilov (1842: 508) is synonymous with, and has been regarded as senior to, *A. atrosanguineum* Schrenk (1842: 355), e.g., by Regel (1887), who combined *A. atrosanguineum* at varietal rank (p. 309) under *A. monadelphum*, which he erroneously cited (p. 307) as having been published by Turczaninow (1838: 102), where it was in fact invalid as a nomen nudum. *Allium monadelphum* was first validly published in late 1842 (see Stafleu & Cowan, 1979: 497, no. 3515), whereas *A. atrosanguineum* was published slightly earlier, on 18 July 1842 (the date printed on the end page of the relevant issue of the journal, p. 367). Therefore, if the two are treated as conspecific, *A. atrosanguineum* is the correct name.

Allium atrosanguineum var. **fedschenkoanum** (Regel) G. Zhu & Turland, comb. nov. Basionym: *Allium fedschenkoanum* Regel, Trudy Imp. S.-Peterburgsk. Bot. Sada 3(2): 82. 1875. *Allium fedschenkoanum* var. *elatum* Regel, Trudy Imp. S.-Peterburgsk. Bot. Sada 3(2): 82. 1875. *Allium monadelphum* Turczaninow ex Karelin & Kirilov var. *fedschenkoanum* (Regel) Regel, Trudy Imp. S.-Peterburgsk. Bot. Sada 10: 308. 1887. TYPE: "In valle Sarawschansk Turkestaniae," s.d., *O. Fedchenko s.n.* (lectotype, here designated, LE).

In the protologue of *Allium fedschenkoanum*, Regel (1875: 82–83) cited two specimens, both collected by O. Fedchenko: one under variety [α] *elatum* ("In valle Sarawschansk Turkestaniae legit O. Fedschenko") and the other under variety [β] *humile* Regel ("In montibus ad fluvium Sarawschansk, 6–9000′ alt. Turkestaniae, legit O. Fedschenko"). These were the only two varieties described; the autonym was not explicitly cited. Regel later (1887: 308, 311) recombined both *A. fedschenkoanum* and its variety *humile* (without explicit mention of var. *elatum*) as varieties of *A. monadelphum*. The two specimens originally cited under the varieties of *A. fedschenkoanum* were cited again under *A. monadelphum* var. [β] *fedschenkoanum* ("in valle fluvii Sarawschan 3–7000′ alt.") and variety [ζ] *humile* ("In valle fluvii Sarawschan 8–9000′ alt."). It seems reasonable to assume that "in valle" and "in montibus ad fluvium" in 1875 equate with "3–7000′ alt." and "8–9000′ alt." in 1887, respectively. Indeed, Regel cited no other specimens collected by O. Fedchenko under *A. monadelphum* s.l. in 1887. It is therefore inferred that Regel considered variety *elatum* to represent the typical element within *A. fedschenkoanum*, if not in 1875, then certainly in 1887. Accordingly, the specimen cited in 1875 under variety *elatum* is here designated as the lectotype of *A. fedschenkoanum*.

Allium atrosanguineum var. *fedschenkoanum* is characterized by having tepals whitish yellow to

pink with a yellowish base (subsequently becoming yellowish white), oblong-lanceolate, 10–15 mm long, the margin sometimes minutely denticulate, and the apex attenuate. The variety is distributed in Afghanistan, China (Xinjiang and Xizang provinces), Kazakstan, Kyrgyzstan, India, Pakistan, Tajikistan, and Uzbekistan.

Allium atrosanguineum var. **tibeticum** (Regel) G. Zhu & Turland, comb. nov. Basionym: *Allium monadelphum* var. *tibeticum* Regel, Trudy Imp. S.-Peterburgsk. Bot. Sada 10: 311. 1887. TYPE: China. Qinghai: "In *Tibeti borealis* declivibus jugorum inter Hoangho et Yang-tse in glareosis limosis," s.d., *N. M. Przewalski s.n.* (lectotype, here designated, LE).

In the protologue of *Allium monadelphum* var. *tibeticum*, Regel cited two specimens: "In *Tibeti borealis* declivibus jugorum inter Hoangho et Yang-tse in glareosis limosis,—nec non in *Chinae occidentalis* regione Tangut provinciae Kansu 13,000′ alt., prope altem Dshachar-Dsargyn (N. M. Przewalski)." Either specimen would be eligible as the lectotype of variety *tibeticum*, and it seems appropriate for a taxon so named to be represented by a type from the Tibetan Plateau (Xizang and Qinghai provinces, China), so the latter specimen is here designated as the lectotype.

Allium atrosanguineum var. *tibeticum* is characterized by having tepals brass yellow to copper red and lustrous with a pinkish apex and base (subsequently becoming pale yellow), oblong-obovate, 10–16 mm long, and the apex rounded. The variety is endemic to China (Gansu, Qinghai, Sichuan, Xizang, and Yunnan provinces).

For comparison, variety *atrosanguineum* has tepals purple-red and minutely black dotted (subsequently becoming yellowish white to grayish pink), oblong-obovate, oblong, or oblong-lanceolate, 7–9 mm long, and the apex subacute (but never attenuate). It is more broadly distributed in Afghanistan, China (Qinghai, Sichuan, and Xinjiang provinces), Kazakstan, Kyrgyzstan, Mongolia, Russia, and Tajikistan.

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