



Muscari atillae (Asparagaceae): a new species from Eastern Anatolia, Turkey

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The genus *Muscari* Miller (1754: 926) is represented by about 50 species (Speta 1998), which are distributed in Caucasus, temperate Europe, Africa, and north-western and south-western Asia (Losinskaya 1935, Davis & Stuart 1966, 1980, Stuart 1966, Garbari & Greuter 1970, Davis 1984, Townsend & Guest 1985, Feinbrun 1986, Rechinger 1990, Jafari & Maassoumi 2011). According to the latest checklist for *Muscari* s.s., this genus is represented by 47 taxa (Govaerts 2015).

The last revision of *Muscari* in Turkey was carried out by Davis & Stuart (1984). They accepted 20 species in their study. After this revision, 12 new species were described from Turkey (Karlen 1987, Tan 1988, Speta 1998, Cowley *et al.* 1994, Güner & Duman 1999, Yıldırım & Selvi 2002, Uysal *et al.* 2007, Eker & Koyuncu 2008, Doğu & Bağcı 2009, Yıldırım 2011, Demirci *et al.* 2013, Pirhan *et al.* 2014). To date, 32 *Muscari* species have been reported for the country.

In April 2014, during a fieldwork in Levent Canyon in Malatya, eastern Anatolia, the author with his brother Atilla Yildirim collected an interesting specimen of *Muscari* on marlstone-calcareous soil. As a result of detailed morphological studies, it was concluded that the collected plants differ from all known *Muscari* species by their morphological characters, showing some morphological similarities only with *M. anatolicum* Cowley & Özhatay (1994: 485), *M. discolor* Boiss. & Hausskn. in Boissier (1882: 300), and *M. neglectum* Guss. ex Tenore (1842: 13).

Materials and Methods

The material of the new species was compared with herbaria specimens of *Muscari* in ANK, EGE, E, GAZI, HUB, and K (acronyms follow Thiers 2015). In addition, relevant literature (Losinskaya 1935, Davis & Stuart 1966, 1980, 1984, Stuart 1966, Garbari & Greuter 1970, Davis 1984, Townsend & Guest 1985, Feinbrun 1986, Rechinger 1990, Jafari & Maassoumi 2011, Govaerts 2015) was examined. The morphology of specimens was examined by stereobinocular microscope. For scanning electron microscopy (SEM), the selected seeds and pollen grains were placed on aluminium stubs using double-sided adhesive tape, sputtercoated with gold using a K550 Emitech sputter coater, and then examined using FEI Quanta 250 field emission gun SEM.

Description of the new species

Muscari atillae Yıldırım *sp. nov.* (Figs. 1–2)

Type:—TURKEY. B7 Malatya: Akçadağ district, Levent Canyon, west of Çayözü village, on marlstone-calcareous slopes, 1185 m of elevation, 10 April 2014, *H. Yıldırım 2800* (holotype EGE!, isotypes ANK!, EGE!, GAZI!, NGBB!).

Bulb globose to ovoid, 8–14 mm in diameter, with or without bulblets. Outer tunics papery, pale dull brown to brown; inner tunics pinkish white to creamy white. Leaves 2–3, linear-lanceolate, mostly patent, 3–7 × 0.3–0.5 cm, canaliculate to subflattened, sometimes purplish suffused, glabrous, acute. Scape 1, 3–8 cm long, overtopping leaves. Raceme lax, ovate to cylindrical, 1–2 × 1–1.5 cm; number of fertile flowers 2–11(–19), number of sterile flowers 2–6(–8). Pedicels of sterile flowers to 0.5 mm. Sterile flowers narrowly obovate-oblong, 1–3.5 mm long, very pale violet to ice blue sometimes ivory-white. Pedicels to 1 mm long, elongating in fruit to 2 mm. Fertile flowers ovoid to ovoid-tubular,