

Linzer biol. Beitr.	41/2	1059-1062	18.12.2009
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## One more new *Allium* L. species from the Fergan depression (Central Asia)

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**Abstract:** *Allium michaelis* F. O. KHASS. & TOJIBAEV (sect. *Brevidentia* F. O. KHASS. & YENGAL.) was newly described. Its relationship to other Western-Tian-Shanian species of this Afghan-Pamir-Alain section is discussed.

**Key words:** Taxonomy, *Allium*, Central Asia, description.

### Introduction

Several collecting missions have been made by the senior author together with Dr. R. M. Fritsch (IPK, Gatersleben), Prof. Dr. M. Keusgen (Marburg University) during the last 12 years in the area of the mountain chains surrounding the Fergan depression. Three new *Allium* species have been described by Fritsch et al. (1998, 2002) from the area around the village Chorkesar (situated in the north-eastern foothills of Kurama mountain range): *A. kuramense* F. O. KHASS. & N. FRIESEN (Sect. *Reticulato-bulbosa* Kamelin, *A. orunbairii* F. O. KHASS. & R. M. FRITSCH (Sect. *Minuta* F. O. KHASS.) and *A. haneltii* F. O. KHASS. et R. M. FRITSCH (Sect. *Brevidentia* F. O. KHASS. et YENGAL.). The last species was the first member of the Afghan-Pamir-Alain sect. *Brevidentia* found in the Western Tian-Shan mountain system. During the visit of the same area in 2009, one more new taxon was found on the low mountainous salty hills. This taxon is similar to *A. haneltii*, but differs in details of some significant characters.

### Results and discussion

***Allium michaelis* F. O. KHASS. & TOJIBAEV nov.sp. (sect. *Brevidentia* F. O. KHASS. & YENGAL.)**

Bulbus solitarius ovatus 10-20 mm altus, 5-15 mm latus, tunicis brunneis coriaceis. Bulbulae paucae triangularia apice carinata. Caulis teres glaber striatus crassiusculus 10-20 cm altus, 1,5-3 mm latus, usque ad medium glabris vaginis foliorum involutus. Folia in numero 2-3, 1-2 mm lata semeteretia glabra flexuosa. Spatha recurvata persistens, pedicellis pluries breviora. Umbella hemisphaerica. Pedicelli subaequilongi 8-12 mm longi, ebracteolati. Perigonium campanulatum albido-viridulum apice violaceum, nervis

viridibus. Tepala elliptico-ovata oblonga obtusa 3,5-4,5 mm longa, margine purpurascens, exteriora quam interiora breviora. Filamenta albida tepalis breviora, exteriora simplicia late basi denticulata, interiora tricuspidata, cuspidibus lateralibus ca. 1 mm longis. Antherae violaceae. Ovarium globosum purpureum. Capsula laevis 3-4 mm in diam.

Differt ab *A. haneltii* F. O. KHASS. & R. M. FRITSCH filamentis albis (nec violaceis), tricuspidatis (nec simplicibus), tepalis obtusatis (nec acutis) albido-viridulis (nec violaceis), caulis crassiusculis, foliis flexuosis, bulbulis apice carinatis.

Habitat ad montium Kuramense (Asia Media Tian-Shan Occidentalis).

Typus: Tien-Shan Occidentalis, montes Kuramensis, prope pagum Ujgursaj, N 40°54'54.1'' E 71°03'27.2'' h = 563 m.s.l., 24.05.2009, Khassanov, Tojibaev, Keusgen (TASH).

Species in honorem Prof. Dr. Michael Keusgen Marburgensis denominata est.

Bulb solitary, ovate 10-20 mm long, 5-15 mm wide, outer tunics coriaceous, brownish. Bulblets several cymbiform keeled. Scape 10-20 cm long, 1,5-3 mm in diameter, lower half covered by smooth leaf sheaths. Leaves 2-3, 1-2 mm thick, nearly terete, smooth, screw-shaped. Spathe recurved, shorter than pedicels, persistent. Inflorescence semiglobose. Pedicels nearly equal, 8-12 mm long, without basal bracts. Flower cup shaped, whitish-greenish in the upper part violet with green nerve. Tepals elliptic ovate obtuse 3,5-4,5 mm long with purple margins, outer shorter than inner ones. Filaments whitish shorter than tepals, outer ones simple widely denticulate, inner ones tripartite with lateral cusps about 1 mm long. Anthers violet. Ovary globose purple. Capsule smooth, 3-4 mm in diameter.

The junior author collected this species in March 2009 and its originality was clearly seen in the screw-shaped form of the leaves. This character is not rare in the subg. *Allium* and only Pamir-Alaian and Afghan small alliums show this character. For example, *A. ophiophyllum* VVED. (from South-western Pamir-Alai) has the same type of leaves, but this character is not stable, because within the studied populations of the above mentioned species some plants had somewhat curved leaves. Wendelbo (1971) also mentioned in the description of *A. spirophyllum* WENDELBO, that the leaves could be straight or screw-shaped. According to the purple ovary and cymbiform keeled leaves, the plants collected in 2009 could be allied to *A. haneltii*, which is growing in a distance of about 20 km closer to the main range on stony slopes. The bulblets of *A. haneltii* are attached to the middle of the bulb by the keel, and bulblets of *Allium michaelis* by the upper enlarged part (Figs 1-2). The scapes of the newly described species are clearly thick and tepals are larger and show another form (Figs. 3-4). Moreover, *Allium michaelis* is the only species of sect. *Brevidentia* having white filaments, which are shorter than the tepals. Such character has *A. hedgei* WENDELBO, growing in northern Afghanistan, but the structure and color of the filaments and bulblets are completely different. Usually, species of *Brevidentia* has strongly exerted filaments like in the case of the type species *A. brevidens* VVED. Morphologically, *Allium michaelis* and *A. haneltii* clearly belongs to sect. *Brevidentia*, but molecular data of the last taxon showed an outstanding position of Western Tian-Shanian species within subgen. *Allium* (FRIESEN et al. 2006).

### Acknowledgements

Financial support by VolkswagenStiftung (Pharmall project) and critical reading of the manuscript by Dr. R.M.Fritsch (IPK, Gatersleben) are gratefully acknowledged.

## Zusammenfassung

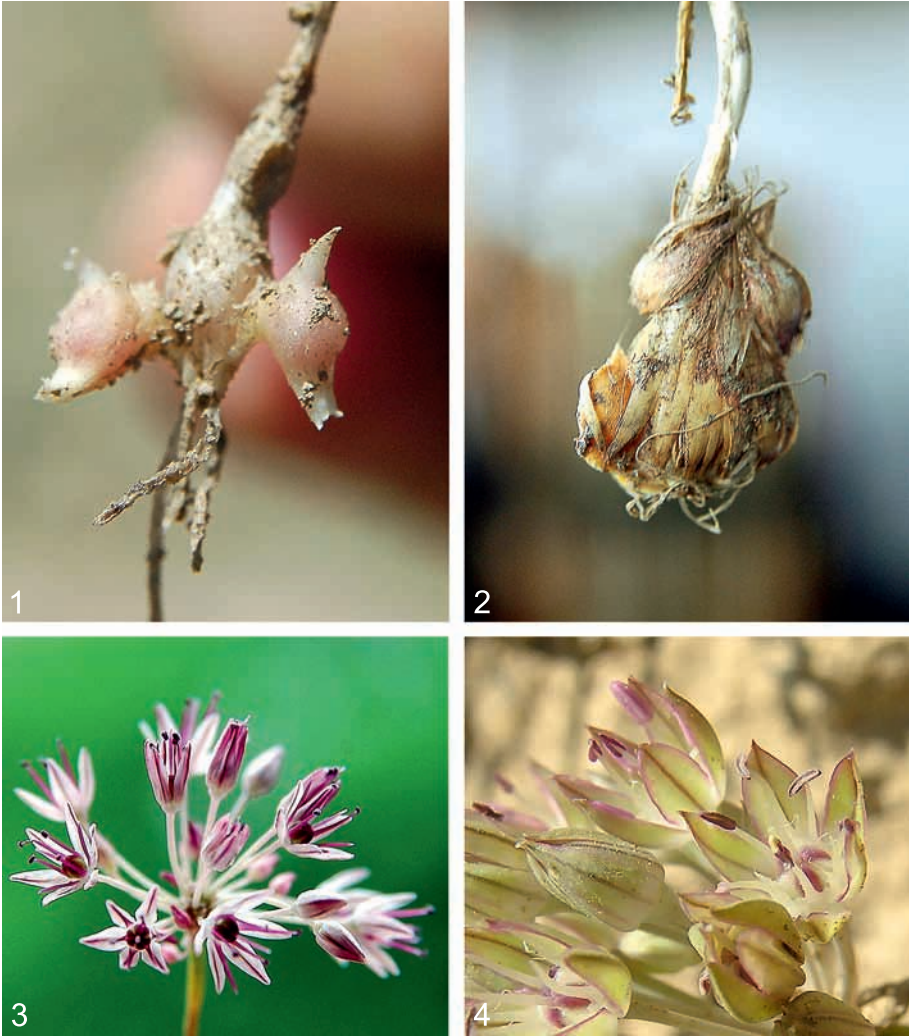
Die Art *Allium michaelis* F. O. KHASS. & TOJIBAEV (sect. *Brevidentia* F. O. KHASS. & YENGAL.) wurde neu beschrieben und ihre Beziehungen zu anderen West-Tian-Shan-Arten der Afghanischen Pamir-Alain-Sektion diskutiert.

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**Figs 1-4:** (1) Bulb and bulblets of *A. haneltii* F.O. KHASS. & R.M. FRITSCH; (2) Bulb and bulblets of *A. michaelis* nov.sp.; (3) Flowers of *A. haneltii* F.O. KHASS. & R.M. FRITSCH; (4) Flowers of *A. michaelis* sp. nov.

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Jahr/Year: 2009

Band/Volume: [0041\\_2](#)

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Artikel/Article: [One more new Allium L. species from the Fergan depression \(Central Asia\) 1059-1062](#)