



## *Epipactis krymmontana* (Orchidaceae), a new species endemic to the Crimean Mountains and notes on the related taxa in the Crimea and bordering Russian Caucasus

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### Abstract

A new obligately self-pollinating species, *Epipactis krymmontana*, is described from the Crimea. The species is closely related to *E. condensata* from which it differs by its relatively loose and usually much shorter inflorescence, relatively elongate ovaries, much paler epichile with less protruding bosses and absence of a viscidium. It grows in beech forests, often mixed with oak and hornbeam, on calcareous soils. The new species was previously misidentified in the Crimea as *E. purpurata* or sometimes as *E. condensata*, the latter growing in hot, sunny places with sparse vegetation. The presence of typical *E. condensata* in the Crimea is considered doubtful, but it is undoubtedly present in the Russian Caucasus along with *E. condensata* subsp. *kuenkeleana*, which is a new combination proposed in place of *E. purpurata* subsp. *kuenkeleana*. *Epipactis purpurata* should be excluded both from the floras of the Crimea and the Russian Caucasus. An updated key to the species of *Epipactis* sect. *Epipactis* in the Crimea and Russian Caucasus is provided.

**Key words:** *Epipactis condensata*, *Epipactis condensata* subsp. *kuenkeleana*, *Epipactis purpurata*, *Epipactis purpurata* subsp. *kuenkeleana*, self-pollinating orchids

### Introduction

*Epipactis* Zinn (1757: 85) includes two monophyletic sections, sect. *Arthrochilium* (Irmisch 1842: 451) Schlechter (1928: 268) with 11 species (Efimov 2007) known from Eurasia, North and Central Africa, and North America, and the type sect. *Epipactis* with ca. 50–65 species, which are restricted to Eurasia and a small part of North Africa (Efimov 2004, Kreutz 2004a, Delforge 2006); one species of the type section, *E. helleborine* (Linnaeus 1753: 949) Crantz (1769: 467) was introduced to North America 150 years ago (Delforge 2006).

Species included in *E.* sect. *Epipactis* are well known for their intricate systematics and confused taxonomy (Hollingsworth *et al.* 2006, Efimov 2008). Their centre of diversity is Central and southern Europe, but the genus has not been thoroughly studied in the eastern regions of this part of the world, especially in the territory of the former Soviet Union. The most southern territories of this area, such as the Crimea and the Russian Caucasus, are no exception. In this area only three species have been previously listed (Wulff 1930, Nevski 1935) until recently (Popkova 2001, Averyanov 2006, Zernov 2006). These species were identified as *E. helleborine*, *E. microphylla* (Ehrhart 1789: 42) Swartz (1800: 232) and *E. atrorubens* (Hoffmann 1804: 182) Besser (1809: 220); however, the last was obviously based on misidentifications in the both regions (Efimov 2008).

The territories of the Crimea and the Russian Caucasus have become the focus of recent detailed studies of the genus *Epipactis* sect. *Epipactis* (Efimov 2008, Fateryga & Kreutz 2012, Hahn 2012, Kreutz & Fateryga 2012, Averyanova 2013b, Fateryga *et al.* 2013). Up to now, eight additional species and subspecies have been added (besides *E. helleborine* and *E. microphylla*) to the flora of these territories. There is no doubt as to the accuracy of these additions as they were all confirmed by new findings of living material in the field: *E. helleborine* subsp. *levantina* Kreutz, Óvári & Shifman in Kreutz (2010 publ. 2011: 202) by Hahn (2012), *E. helleborine* subsp. *orbicularis* (Richter 1887: 190) Klein (1997: 74) by Kreutz & Fateryga (2012), *E. muelleri* Godfrey (1921: 106) by Fateryga *et al.* (2013),

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