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A new *Epipactis* species from the Crimea, South Ukraine (*Orchidaceae*)

Keywords

Orchidaceae; *Epipactis*, *Epipactis persica*, *Epipactis phyllanthes*, *Epipactis taurica*; Flora of Crimea, Ukraine.

Summary

Fateryga, A.V. & C.A.J. Kreutz (2012): A new *Epipactis* species from the Crimea, South Ukraine (*Orchidaceae*).- J. Eur. Orch. 44 (1): 199-206.

A new autogamous species, *Epipactis taurica* Fateryga & Kreutz is described from the Crimea (South Ukraine). It shows characters of *Epipactis persica* (Soó) Nannf. and from *Epipactis phyllanthes* G.E. Smith. It differs mainly from *Epipactis persica* by a much more robust growth and a rigid stem, erect rigid leaves, many-flowered inflorescences, and occurrence in xerothermal vegetations.

Zusammenfassung

Fateryga, A.V. & C.A.J. Kreutz (2012): Eine neue *Epipactis*-Art aus der Krim, südliche Ukraine (*Orchidaceae*).- J. Eur. Orch. 44 (1): 199-206.

Eine neue autogame *Epipactis* Art aus der Krim (südliche Ukraine), *Epipactis taurica* Fateryga & Kreutz, wird in diesem Beitrag neu beschrieben. Die Sippe zeigt einige Merkmale von *Epipactis persica* (Soó) Nannf. und von *Epipactis phyllanthes* G.E. Smith. Die Sippe unterscheidet sich von *Epipactis persica* besonders durch einen robusteren Wuchs, einen steifen Stängel, schräg und steif abstehenden Laubblätter, einer reichblütigerer Infloreszenz sowie ihr Vorkommen in Xerothermvegetationen.

Резюме

Фатерыга, А.В. & К.А.Й. Крейц (2012): Новый вид рода *Epipactis* из Крыма, Южная Украина (*Orchidaceae*).- J. Eur. Orch. 44 (1): 199-206.

Новый автогамный вид, *Epipactis taurica* Fateryga & Kreutz описан из Крыма (Южная Украина). Вид наиболее близок к *Epipactis persica* (Soó) Nannf. и также имеет сходство с *Epipactis phyllanthes* G.E. Smith. От *Epipactis persica* новый вид отличается, главным образом, большими размерами, жестким стеблем, жесткими прямостоячими листьями, многоцветковым соцветием и произрастанием в ксерофильных местообитаниях.

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Introduction

The species of *Epipactis* Zinn (*Orchidaceae*) are well known for their difficult and confused taxonomy. Many problematic taxa are usually concentrated in the *Epipactis helleborine* (L.) Crantz aggregate. The number of *Epipactis* species known from certain regions of Europe and adjacent countries and territories varies from a few in older works to several dozen in recent literature (GOLUBEV 1996: 77-78; ROSSI 2002: 67-89; VLČKO et al. 2003: 40-59; KREUTZ 2003: 62-71, 2004: 58-69; EFIMOV 2004: 12-40; DELFORGE 2005: 50-115; KREUTZ & ÇOLAK 2009: 110-151). In the Ukraine dedicated floristically studies of this genus has not yet been carried out. Until now 12 species were known to occur from the territory of the Ukraine (GOLUBEV 1996: 77-78; EFIMOV 2008: 76; DIDUKH 2009: 175-180): alphabetised *E. albensis* H. Nováková & Rydlo, *E. atrorubens* (Hoffm.) Besser, *E. condensata* Boiss., *E. helleborine* (L.) Crantz subsp. *helleborine*, *E. microphylla* Sw, *E. palustris* Crantz and *E. purpurata* Sm., to which *E. densifolia* W. Hahn, Passin & R. Wegener, *E. helleborine* subsp. *levantina* Kreutz, Óvári & Shifman, *E. helleborine* subsp. *orbicularis* (K. Richt.) E. Klein, *E. persica* (Soó) Nannf. and *E. turcica* Kreutz may be added.

In order to obtain a better survey of the genus *Epipactis* in the Ukraine additional well-documented material was collected during the period 2003-2011. All were gathered in the Crimea, in the most southern and richest part of the country's biodiversity. Most of the obtained data are still being studied, but at present it became obvious that a new *Epipactis* species had been discovered, which is described here.

Materials and methods

Five plants of this new *Epipactis* species were collected in the Crimea in 2005 and 2011. The first discovery was made on June 28, 2005 when a population of this species was found in the vicinity of the Ayan Reservoir near the village of Perevalnoye (Simferopol district). The site is a west-facing meadow with xerothermic vegetation (44°49'49" N, 34°17'31" E). There were about 100 flowering plants; one herbarium specimen was collected. During the period 2006-2011 a regular search for further similar generative plants in this area was carried out, but no more specimens were found. On July 9, 2011 another population was discovered in the Lopata Mountain area in the Yalta Mountain-Forest Nature Reserve (44°32'10" N, 34°09'07" E). The population was growing on a south facing slope of a pine wood and consisted of 15 flowering specimens. Four herbarium vouchers were collected. These sheets were deposited in the herbaria of the National University of Life and Environmental Sciences of Ukraine, Southern Branch "Crimean Agrotechnological University" in Simferopol (CSAU) and to the V.L. Komarov Botanical Institute, Russian Academy of Sciences in Saint-Petersburg (LE).

Epipactis taurica Fateryga & Kreutz spec. nov.

Diagnosis: Ab *Epipactidi persicae* caule robustiore aliquantum rigidior, foliis erectis rigidis plicatis marginibus undulatis, floribus secundioribus, hypochilio externe roseo differt. Ab *E. phyllanthi* labello hypochilio ab epichilio bene distincto, epichilio latiore roseo non alboviridi differt.

Description: Terrestrial plant, erect, rigid 20(25-45) cm heigh. Stem (1)1.5-2(2.5) mm thick, usually from yellowish-green to green or rarely tinged with purple at the base; subglabrous, inflorescence sometimes sparsely puberulous with very minute adpressed hairs. Leaves (3-6) arranged in the mid-section of the stem, the lower ovate, (1.5)2.5-5 by (1)1.5-2.5 cm; middle leaves elliptical to lanceolate, (3.5)4.5-6.5 by (1)1.5-3.5 cm; upper leaves lanceolate to elongate, 4-5.5 by 0.5-1.5 cm; slightly darker than the stem; acute, rigid, usually with wavy margins, directed against stem about 45° upwards, normally folded with lateral margins raised above the central surface. Inflorescence 7-18 cm long, loosely, (5)7-20(25) flowered, usually secund. Bracts elongate, acute, varying from 5 cm by 7 mm in the lower ones to 0.5 cm by 1 mm in the upper ones; the lower ones longer than the ovaries, the uppers ones more or less equaling the ovaries. Ovaries rather elongate, 6-9 by 1.5-2.5 mm, green, some lustre, shiny, subglabrous. Pedicels green, same in color as the ovaries or sometimes paler, 2-4.5 by 0.5 mm. Flowers spreading, rather small, perianth

campanulately spreading. Sepals green, ovate-lanceolate, 6-8 by 3-4 mm; petals slightly shorter than the sepals, whitish-green. Hypochile cupshaped, 3-3.5 mm diameter, outside pink, inside brownish and lustrous, shiny, containing nectar. Epichile cordate, 3-3.5 by 3.5-4 mm, base with two smooth tubercles, margins slightly crenulated, apex often turned down, pink, sometimes brighter at base and distally with a greenish tinge. Flowers autogamous, rostellum with a white viscidium, present only in fresh-open flowers and non-functional.

Holotype: Крым, окр. Ялты, Ялтинский заповедник, склоны горы Лопата, сосняк коротконожковый [Ukraine, Crimea, vicinity of Yalta, Yalta Mountain-Forest Nature Reserve, slopes of Lopata Mountain, pine forest], leg. A.V. Fateryga (July 09, 2011), CSAU, fig. 5. **Isotypes** (with the same labels): 1 sheet (CSAU); 2 sheets (LE). **Paratype:** Окрестности Аянского водохранилища, луговая степь на западном склоне [Ukraine, Crimea, Simferopol district, vicinity of Ayan Reservoir, meadow with xerothermal vegetation on a western slope], leg. A.V. Fateryga (June 28, 2005), 1 sheet, CSAU.

Etymology: The epithet “*taurica*” means “native of the Crimea”, Tauria being the ancient name of the land of the Tauri, inhabitants of the Crimea.

Difference: *Epipactis taurica* Fateryga & Kreutz differs from *Epipactis persica* (Soó) Nannf. by a more robust and considerably more rigid stem, erect rigid and folded leaves with wavy margins, more secund flowers and by a pink coloration of the outer surface of the hypochile. It differs from *Epipactis phyllanthes* G.E. Smith by a clear differentiated hypochile and epichile, by a broader epichile and its pink, not whitish-green coloration. It differs from the species of the *Epipactis helleborine* group, occurring in the Crimea, mainly by the significantly smaller flowers, very minute pubescence of the inflorescence rachis, absence of pubescence on the ovaries and a non-functional viscidium.

Habitats: In the type locality near Yalta *Epipactis taurica* Fateryga & Kreutz grows in open, well-illuminated two-layer pine forest with monodomination of *Pinus nigra* J.F. Arnold var. *pallasiana* (Lamb.) Holmboe in the first layer and predomination of *Brachypodium pinnatum* (L.) P. Beauv. in the second one.

In the vicinity of the Ayan Reservoir near the village of Perevalnoye *Epipactis taurica* Fateryga & Kreutz was found on a slope covered by a dense grass vegetation with predomination of *Elytrigia scythica* (Nevski) Nevski and *Fragaria campestris* Steven, with sparse bushes of *Spiraea hypericifolia* L.

Altitude: The vertical distribution reaches from 400 to 500 metres above sea level.

Phenology: Flowering plants have been recorded at June, 28 (2005) and July, 9 (2011), but it can be approximated that the flowering period reaches from mid June to mid July.

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Fig. 1-4: *Epipactis taurica*, Ukraine, Crimea, vicinities of Yalta, Yalta Mountain-Forest Nature Reserve, slopes of Lopata Mountain, pine forest, July 9, 2011 (photos by A.V. Fateryga).





Fig. 5: Holotype specimen of *Epipactis taurica*, Ukraine, Crimea, vicinity of Yalta, Yalta Mountain-Forest Nature Reserve, slopes of Lopata Mountain, pine forest, 09.07.2011, leg. A.V. Fateryga, CSAU. Scale bar - 10 cm.