

DEIREGYNE COCHLEATA (ORCHIDACEAE, SPIRANTHINAE), A NEW SPECIES FROM MEXICO

DARIUSZ L. SZLACHETKO, ROBERTO GONZALEZ TAMAYO & PIOTR RUTKOWSKI

Abstract. A new species of the genus *Deiregyne* – *D. cochleata* Szlach., Tamayo & Rutk. – is described, illustrated and compared with the closely related *D. ramentacea* (Lindl.) Schltr.

Key words: Magnoliophyta, Liliopsida, Orchidaceae, Spiranthinae, *Deiregyne*, new species, Mexico

Dariusz L. Szlachetko & Piotr Rutkowski, Department of Plant Taxonomy and Nature Conservation, Gdańsk University, Al. Legionów 9, PL-80-441 Gdańsk, Poland, e-mail: biodarek@univ.gda.pl, & biopr@univ.gda.pl

Roberto Gonzalez Tamayo, Instituto de Botanica CUCBA, Universidad de Guadalajara, Apdo. Postal 139, 44100 Zapopan, Jalisco, Mexico

The genus *Deiregyne* was described by Schlechter (1920). Originally it included eight species distributed in Mexico, Honduras and Guatemala. A problem around it arose in 1982 when Burns-Balogh and Garay published two concepts of *Deiregyne*. These authors used different species to lectotypify the genus: Burns-Balogh chose *Spiranthes hemichrae* Lindl. as the type, while Garay chose *Spiranthes chloraeformis* A. Rich. & Gal. As a result, different species were included by each author in *Deiregyne* (Table 1). According to Szlachetko (1995) the lectotype proposed by Burns-Balogh (1988) was closer to the protologue than that of Garay.

Our detailed morphological studies suggest that *Deiregyne sensu* Burns-Balogh is not monophyletic. By removing *Deiregyne riodelayensis* Burns-Balogh and *D. pyramidalis* Lindl. to the genus *Gracielanthus* Tamayo & Szlach. (Tamayo & Szlachetko) and keeping the monotypic genus *Aulosepalum* based upon *A. tenuiflorum* (Greenm.) Garay, we got a uniform group of closely related species, *Deiregyne s.str.*

While examining herbarium materials of *Deiregyne* kept in W, we found a specimen from Mexico which is, in our opinion, an undescribed species. We propose it below.

Deiregyne cochleata Szlach., Tamayo & Rutk.,
sp. nov. Fig. 1

A Deiregyne ramentacea tepalis brevioribus latioribusque, sepalis dorsalibus fere quadrato-ovalibus apiculatisque, petalis obtusis, sepalis lateralibus apiculatis, labello apice rotundato, emarginato cochleatove el epichilio latiori, crasso carnosoque facillime dignoscenda.

Plant 43 cm tall, 5 mm in diameter at base, 2 mm in diameter below inflorescence. Stem erect, rather stout, glabrous, below and along inflorescence sparsely glandular, completely covered by cauline bracts. Cauline bracts up to 13, scarious, imbricating, glabrous. Leaves absent at flowering. Inflorescence 7 cm long, up to 30-flowered, very dense. Flowers rather small, resupinate. Floral bracts up to 8 mm long, broadly ovate, apiculate, scarious, semitransparent, glabrous, 3–5-nerved. Ovary up to 4 mm long, cylindrical, twisted. Dorsal sepal 5.5 mm long, up to 3 mm wide, quadrato-ovate, apiculate, 3-nerved. Petals 4.2 mm long, 2 mm wide, obliquely elliptic-ovate, obtuse, obscurely 3-nerved. Lateral sepals 9 mm long, the free part 5 mm long, up to 3 mm wide, obliquely ovate to elliptic, obtuse to apiculate, 3-nerved. Lip 5 mm long; claw narrow, widening towards apex; hypochile and epichile equal in length, succulent, thick; hypochile ribbon-like, with small basal

Table 1. Generic concept of *Deiregyne* Schltr. according to Schlechter (1920), Garay (1982), Burns-Balogh (1982) and the authors of this article.

<i>Deiregyne</i>	Schlechter (1920)	Burns-Balogh (1982)	Garay (1982)	Szlachetko <i>et al.</i> (2000)
<i>albovaginata</i>	–	<i>Schiedeella</i>	<i>Deiregyne</i>	<i>Stenorhynchos</i>
<i>aline</i>	–	–	–	<i>Deiregyne</i>
<i>chartacea</i>	–	<i>Schiedeella</i>	<i>Deiregyne</i>	<i>Oestlundorchis</i>
<i>chloraeformis</i>	<i>Deiregyne</i>	<i>Schiedeella</i>	<i>Deiregyne</i>	<i>Burnsbaloghia</i>
<i>cochleata</i>	–	–	–	<i>Deiregyne</i>
<i>confusa</i>	–	<i>Schiedeella</i>	<i>Deiregyne</i>	<i>Funkiella</i>
<i>dendroneura</i>	–	<i>Schiedeella</i>	<i>Deiregyne</i>	<i>Schiedeella</i>
<i>diaphana</i>	–	<i>Schiedeella</i>	<i>Deiregyne</i>	<i>Burnsbaloghia</i>
<i>durangensis</i>	–	<i>Schiedeella</i>	<i>Deiregyne</i>	<i>Funkiella</i>
<i>eriophora</i>	–	<i>Schiedeella</i>	<i>Deiregyne</i>	<i>Oestlundorchis</i>
<i>falcata</i>	–	<i>Schiedeella</i>	<i>Deiregyne</i>	<i>Oestlundorchis</i>
<i>hemichrea</i>	<i>Deiregyne</i>	<i>Deiregyne</i>	<i>Aulosepalum</i>	<i>Deiregyne</i>
<i>hondurensis</i>	<i>Deiregyne</i>	<i>Deiregyne</i>	<i>Gularia</i>	<i>Schiedeella</i>
<i>nelsonii</i>	–	<i>Deiregyne</i>	<i>Aulosepalum</i>	<i>Deiregyne</i>
<i>obtecta</i>	–	<i>Schiedeella</i>	<i>Deiregyne</i>	<i>Oestlundorchis</i>
<i>obtusa</i>	<i>Deiregyne</i>	<i>Deiregyne</i>	<i>Aulosepalum</i>	<i>Deiregyne</i>
<i>pandurata</i>	–	<i>Schiedeella</i>	<i>Deiregyne</i>	<i>Oestlundorchis</i>
<i>pseudopyramidalis</i>	–	<i>Schiedeella</i>	<i>Deiregyne</i>	<i>Oestlundorchis</i>
<i>pterygodium</i>	–	–	–	<i>Deiregyne</i>
<i>pulchra</i>	<i>Deiregyne</i>	<i>Deiregyne</i>	<i>Aulosepalum</i>	<i>Deiregyne</i>
<i>pyramidalis</i>	<i>Schiedeella</i>	<i>Deiregyne</i>	<i>Kionophyton</i>	<i>Gracielanthus</i>
<i>ramentacea</i>	<i>Deiregyne</i>	<i>Deiregyne</i>	<i>Aulosepalum</i>	<i>Deiregyne</i>
<i>rhombilabia</i>	–	<i>Deiregyne</i>	<i>Deiregyne</i>	<i>Triceratostris</i>
<i>riodelayensis</i>	–	<i>Deiregyne</i>	–	<i>Gracielanthus</i>
<i>tamayoi</i>	–	–	–	<i>Deiregyne</i>
<i>tenella</i>	–	<i>Schiedeella</i>	<i>Deiregyne</i>	<i>Funkiella</i>
<i>tenuiflora</i>	<i>Gramosepalum</i>	<i>Deiregyne</i>	<i>Aulosepalum</i>	<i>Deiregyne</i>
<i>thelymitra</i>	<i>Deiregyne</i>	<i>Schiedeella</i>	<i>Gularia</i>	<i>Schiedeella</i>
<i>trilineata</i>	<i>Deiregyne</i>	<i>Schiedeella</i>	<i>Gularia</i>	<i>Schiedeella</i>
<i>velata</i>	–	<i>Schiedeella</i>	<i>Deiregyne</i>	<i>Oestlundorchis</i>

auricles; epichile up to 2.3 mm wide, semi-orbicular, with blunt ear-like lobules, rounded at apex, emarginate, cochleate. Gynostemium hook-like, column part 3 mm long, column foot 4 mm long, decurrent on the ovary apex. Anther 1.5 mm long, ovate.

TYPE: MEXICO: “*in umbrosis juxta cataractas flum.*” Rio del Salto, *sine dat.*, Hartweg 400 (HOLOTYPE: W).

ETYMOLOGY. An allusion to the shape of the lip, especially the epichile.

DISTRIBUTION. Known so far from the type collection only.

The new species is related to *Deiregyne ramentacea* (Lindl.) Schltr., but the tepals are shorter and wider, the dorsal sepal is almost quadrate-ovate, apiculate, the petals are obtuse, and the lateral se-

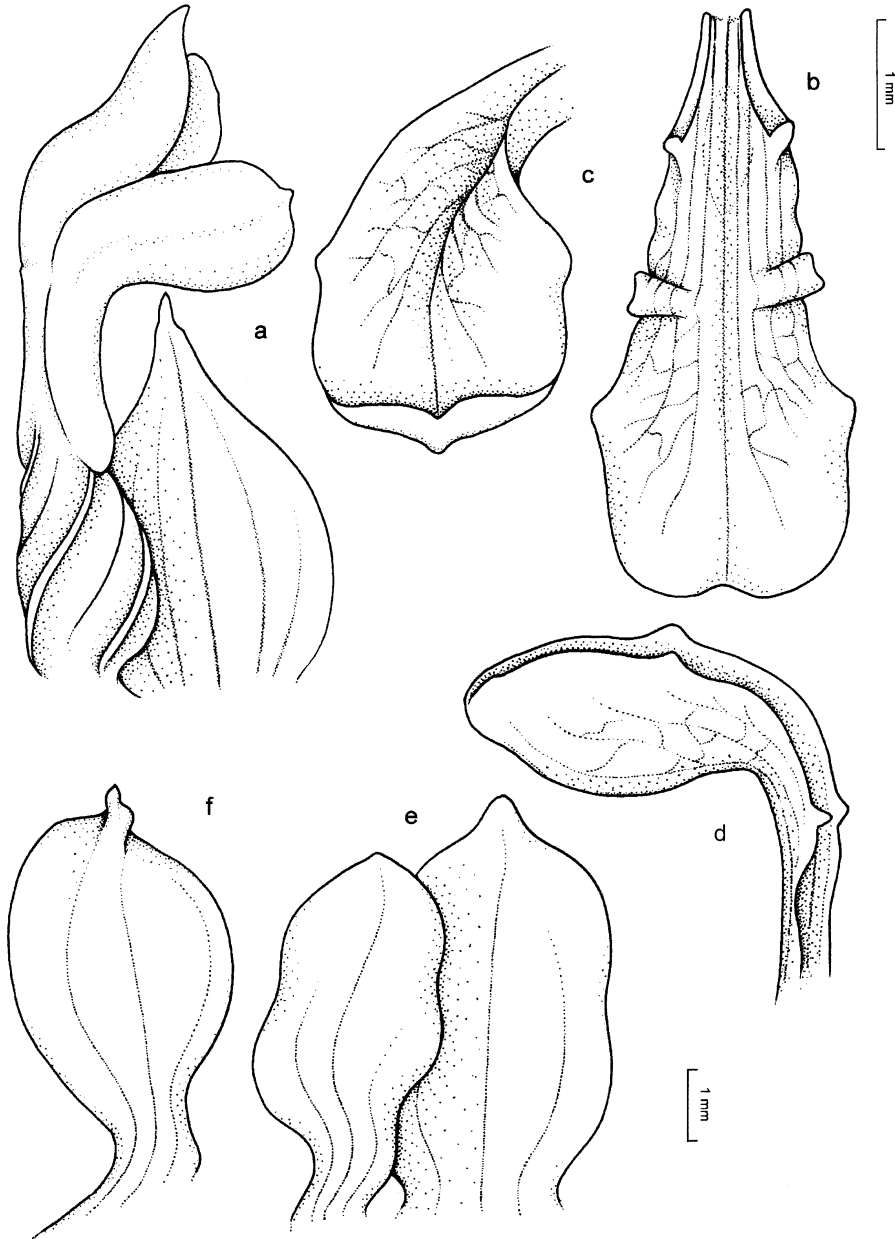


Fig. 1. *Deiregyne cochleata* Szlach., Tamayo & Rutk.: a – flower and bract, b – lip, spread, c – epichile, d – lip, side view, e – dorsal sepal and petal, f – lateral sepal, free part (Hartweg 400 (holo W)).

pals apiculate. The lip of *D. cochleata* is rounded at the apex, emarginate, cochleate, and the epichile is wider, thick and succulent.

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REFERENCES

- BURNS-BALOGH P. 1988. A monograph of the genus *Deiregyne* Schlechter (Orchidaceae). *Orquidea* (Mex.) **11**: 1–232.
- GARAY L. A. 1982. A generic revision of the Spiranthinae. *Bot. Mus. Leaflet. Harvard Univ.* **28**(4): 278–425.
- SCHLECHTER R. 1920. Versuch einer systematischen Neuordnung der Spiranthinae. *Beih. Bot. Centralbl.* **37**(2): 317–454.
- SZLACHETKO D. L. 1995. On the lectotypification of *Deiregyne* (Orchidaceae, Spiranthinae). *Fragm. Flor. Geobot.* **40**(2): 785–795.

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