BioOne COMPLETE

Crocodeilanthe chachapoyensis (Orchidaceae: Pleurothallidinae), a New Species from Amazonas, Peru

Author: Damián, Alexander

Source: Annales Botanici Fennici, 56(4-6) : 301-304

Published By: Finnish Zoological and Botanical Publishing Board

URL: https://doi.org/10.5735/085.056.0416

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-o-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

Downloaded From: https://bioone.org/journals/Annales-Botanici-Fennici on 14 Jan 2020
Terms of Use: https://bioone.org/terms-of-use Access provided by University of Wisconsin Madison

Ann. Bot. Fennici 56: 301–304 ISSN 0003-3847 (print) ISSN 1797-2442 (online)
Helsinki 7 June 2019 © Finnish Zoological and Botanical Publishing Board 2019

Crocodeilanthe chachapoyensis (Orchidaceae : Pleurothallidinae), a new species from Amazonas, Peru

Alexander Damián

Facultad de Ciencias Ambientales, Universidad Científica del Sur, Lima, Perú (e-mail: ldamian@cientifica.edu.pe); and Posgrado en Botánica Tropical, Facultad de Ciencias Biológicas, Universidad Nacional Mayor de San Marcos, Av. Venezuela, Cdra. 34 s/n, Lima, Perú

Received 13 Mar. 2019, final version received 4 Apr. 2019, accepted 14 May 2019

Damián A. 2019: *Crocodeilanthe chachapoyensis* (Orchidaceae : Pleurothallidinae), a new species from Amazonas, Peru. — *Ann. Bot. Fennici* 56: 301–304.

Crocodeilanthe chachapoyensis Damian *sp. nova* (Orchidaceae : Pleurothallidinae), a new species from Amazonas, Peru, is proposed. It is similar in overall morphology to the Ecuadorian *C. molleturoi*. However, *C. chachapoyensis* is distinguished by its shorter ramicauls, larger resupinate flowers and 3-lobed, callose-free lip with a pair of cavities above the base. A line drawing and habitat information are provided as well as a comparison with morphologically similar species.

The orchid genus *Crocodeilanthe* comprises 90 species mainly distributed in Central and South America (Toscano 2018). Species of this genus are large plants, with conspicuous bracts and erect, racemose, multiflowered simultaneous inflorescences, borne from a conspicuous spathaceous bract. Sepals are similar to each other, never caudate, the lateral sepals connate to around the middle. The lip is entire or trilobed, almost always with a pair of calli somewhere near the middle, either on the hypochile, on the lateral lobes, or intramural on the margins and attached to the bulbous base of the usually short and straight column (Luer 2004, Karremans *et al*. 2013).

Taxonomic circumscriptions derived from phylogenies of *Crocodeilanthe* and related genera are controversial. Some authors prefer to recognize this group of species as an independent genus (Luer & Thoerle 2012, Carnevali 2014, Toscano 2018), while others opt for a lumping approach with all species embedded within a larger circumscription of *Stelis s. lato* (Pridgeon *et al*. 2001, Solano 2005, Karremans *et al*. 2016). In this article the former approach is preferred since the molecular evidence published so far is limited, only five species of *Crocodeilanthe* have been sampled without including the nomenclatural type of the genus. Therefore, a more extensive sampling is needed to support the inclusion of *Crocodeilanthe* in a broader concept of *Stelis* (Luer & Toscano 2018, Toscano 2018).

In Peru, 24 species of *Crocodeilanthe* are so far recorded (cf. Appendix), including the one proposed as new herein. They are mainly distributed in the departments of Huanuco, Amazonas, and Cusco on the upper mountains slopes of the Andes above 2800 m a.s.l. In an attempt to perform an orchid inventory in the district of Magdalena (Chachapoyas) in the northeast part of the country, a distinctive species was encountered. In the present manuscript, it is formally proposed, described, discussed and illustrated as a new species.

Downloaded From: https://bioone.org/journals/Annales-Botanici-Fennici on 14 Jan 2020
Terms of Use: https://bioone.org/terms-of-use Access provided by University of Wisconsin Madison

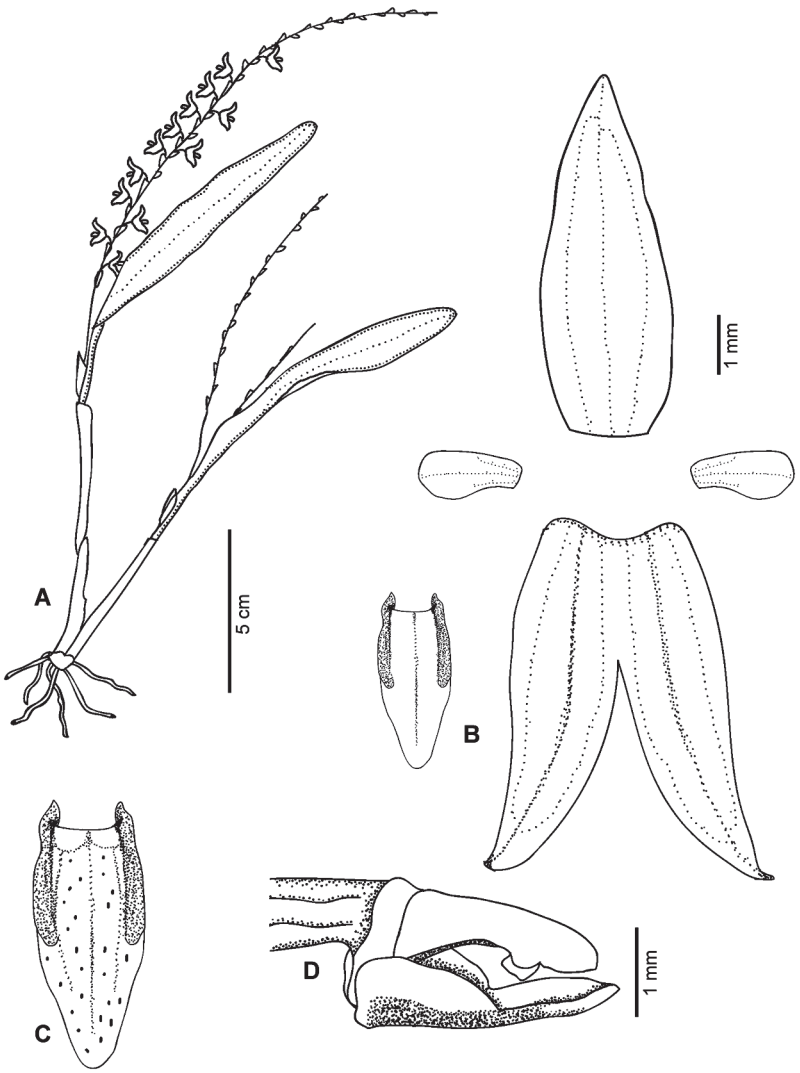


Fig. 1. *Crocodeilanthe chachapoyensis* (from the holotype). — **A**: Habit. — **B**: Dissected perianth. — **C**: Labellum not expanded, front view. — **E**: Column and labellum, lateral view.

Crocodeilanthe chachapoyensis Damian, *sp. nova* (Fig. 1)

TYPE: Peru. Amazonas, Prov. Chachapoyas, Dist. Magdalena, above "Saula", 06°24′10.34′′S, 77°49′30.28′′E, 2800 m a.s.l., 20 March 2016 *A. Damian & J. Torres 07023* (holotype UFV).

ETYMOLOGY: In reference to the province where the type was collected, Chachapoyas, Amazonas.

Plant up to 30 cm tall, epiphytic, densely caespitose; roots slender. Ramicauls fasciculate, slender, erect, 5–8 cm long, with a loose tubular sheath near middle and 2 loose, imbricating sheaths about base. Leaf erect, coriaceous, elliptical, acute, 5–10 cm long including a petiole 3–4 mm long, cuneate below into petiole. Inflorescence 1–2 congested, simultaneously many-flowered racemes, distichous, 10–18 cm long including peduncle 2 cm long, subtended by a spathe 1–1.4 cm long, from an annulus 10–11 mm below abscission layer; floral bracts oblique, 4–4.5 mm long; pedicels 1.5 mm long; ovary 1 mm long; sepals fleshy, carinate, narrowly obtuse, concave, dorsal sepal 8 mm long, 2.5 mm wide, 3-veined, free from lateral sepals, lateral sepals oblique, 8 mm long, 2.5–3 mm wide, 3-veined, connate 3 mm long; petals translucent, deeply concave, elliptical, slightly oblique, wide obtuse, erose at apex, 3.5 mm long, 2 mm wide, 3-veined; lip 3-lobed, ovate,

Downloaded From: https://bioone.org/journals/Annales-Botanici-Fennici on 14 Jan 2020
Terms of Use: https://bioone.org/terms-of-use Access provided by University of Wisconsin Madison

Table 2. Comparative morphology of *Crocodeilanthe chachapoyensis* and *C. molleturoi*. Data on *C. molleturoi* retrieved from Luer (1998).

	C. chachapoyensis	*C. molleturoi*
Plant height (cm)	30	20–23
Leaves		
size (cm)	5–10 × 2	11–12 × 2.5–3.5
shape	elliptical	elliptical
apex	acute	acute
Inflorescence (cm)	10–18	10–12
Peduncle length (cm)	2	2–3
Number of flowers	15–18	11–18
Dorsal sepal size (mm)	8 × 2.5	5 × 2
Lateral sepal		
size (mm)	8 × 2.5–3	5 × 2
connation (mm)	3	0.5
Petals		
size (mm)	3.5 × 2	3 × 1.6
shape	elliptical	elliptical
Lip		
size (mm)	3 × 1	2.8 × 2
shape	ovate, 3-lobed	ovate, entire
apex	narrowly obtuse	narrowly obtuse
callus	callose free, with one pair of cavities above base	covered by one pair of lunate calli and transverse callus above base

3 mm long, 1 mm wide, 3-veined, apex narrowly obtuse, thick, basal angles, erect, broadly rounded, retrorse, slightly erose, overlapping margin, hypochile callose free, flat, with a pair of cavities above base, base truncate, inflexibly attached to column-foot; column stout, 2.5 mm long, anther and stigma subapical.

Habitat and distribution: Known only from the type locality in the high mountains of Magdalena, Chachapoyas, at about 2800 m a.s.l.

Crocodeilanthe chachapoyensis is most similar to *C. molleturoi* but can be easily distinguished from it by its shorter ramicauls, larger resupinate flowers, and 3-lobed, callose-free lip with a pair of cavities above the base (Table 2).

Acknowledgements

We are grateful to Junior Torres and his family for his kind help during the fieldwork performed in Magdalena, Chachapoyas.

References

Carnevali G. & Dorr L.J. 2014: Orchidaceae. — In: Dorr L.J. (ed.), *Flora of Guaramacal (Venezuela): Monocotyledons*: 106–209. Smithsonian Contributions to Botany.

Karremans A. 2016: Genera Pleurothallidinarum: an updated phylogenetic overview of Pleurothallidinae. — *Lankesteriana* 16: 219–241.

Karremans A., Bakker F., Pupulin F., Solano-Gómez R. & Smulders M. 2013: Phylogenetics of *Stelis* and closely related genera (Orchidaceae: Pleurothallidinae). — *Plant Systematic Evolution* 299:151–176.

Luer C.A. 1998: Icones Pleurothallidinarum XVI Systematics of Pleurothallis subgenera Crocodeilanthe, Rhynchopera, Talpinaria (Orchidaceae). — *Monographs in Systematic Botany from the Missouri Botanical Garden* 65: 1–122.

Luer C.A. 2011: Miscellaneous new species in the Pleurothallidinae (Orchidaceae) excluding species from Brazil. — *Harvard Papers in Botany*16: 311–360.

Luer C.A. & Toscano de Brito A.L.V. 2018: Miscellaneous new species in the Pleurothallidinae (Orchidaceae). — *Harvard Papers in Botany* 23: 47–51.

Pridgeon A.M. & Chase M.V. 2001: A phylogenetic reclassification of Pleurothallidinae (Orchidaceae). — *Lindleyana* 16: 235–271.

Solano-Gomez R. 2005: Inference of the phylogenetic relationships in *Stelis sensu lato* clade based upon morphology and sequences of the ITS region data sets. — In: Raynal-Roques A., Roguenant A. & Prat D. (eds.), *Proceedings of the 18th World Orchid Conference, March 2005, Dijon*: 460–468. Naturalia Publications, Turriers.

Toscano de Brito A.L.V. 2018: New combinations in *Crocodeilanthe* (Pleurothallidinae, Orchidaceae). — *Harvard Papers in Botany* 23: 53–55.

Downloaded From: https://bioone.org/journals/Annales-Botanici-Fennici on 14 Jan 2020
Terms of Use: https://bioone.org/terms-of-use Access provided by University of Wisconsin Madison

Appendix. Distribution and altitudinal range of Peruvian species of *Crocodeilanthe* recognized by Luer (2004), and the species described in this paper. Endemic species are indicated with an asterisk (*).

Species	Distribution	Altitudinal range (m a.s.l.)
C. cassidis	Amazonas, San Martín, Huánuco	2700–3600
C. cauliflora	Cajamarca	unknown
*C. chachapoyensis**	Amazonas	2800
C. cyathiflora	Cusco	2800
C. floribunda	Huánuco, Junín, Puno, San Martín, Ayacucho, Cusco	627–2700
C. fons-florum	Huánuco	unknown
C. galeata	Amazonas	2400
C. gelida	Huanuco, Cusco	1200–1500
C. jamesonii	San Martín	2800
C. laevigata	Amazonas	unknown
C. moritzii	Pasco	2700
C. pachypus	Junín	1400–1700
C. pulchella	Cajamarca	2560
*C. retusiloba**	Cusco	3000
C. salpingantha	Pasco	2700
*C. simplicilabia**	Cusco	2200
*C. siphonantha**	Amazonas	3050
C. tunguraguae	Huánuco	unknown
C. vargasii	Apurímac	3700
C. velaticaulis	unknown	unknown
C. verbiformis	Cajamarca	1500–2000
*C. virgata**	Cajamarca, Huánuco, La Libertad	1800–3500
C. weddelliana	Pasco	3170
C. xiphizusa	Piura	3200

Downloaded From: https://bioone.org/journals/Annales-Botanici-Fennici on 14 Jan 2020
Terms of Use: https://bioone.org/terms-of-use Access provided by University of Wisconsin Madison