

Two new species and a new combination in *Campylocentrum* (Orchidaceae, Vandeeae) from Guyana

Dariusz L. Szlachetko & Marta Kolanowska*

Department of Plant Taxonomy and Nature Conservation, Gdansk University, ul. Wita Stwosza 59,
PL-80-308 Gdańsk, Poland (*corresponding author's e-mail: martakolanowska@wp.pl)

Received 4 Mar. 2013, final version received 17 Apr. 2013, accepted 23 Apr. 2013

Szlachetko, D. L. & Kolanowska, M. 2013: Two new species and a new combination in *Campylo-*
centrum (Orchidaceae, Vandeeae) from Guyana. — *Ann. Bot. Fennici* 50: 263–268.

Campylocentrum christensonii Szlach. & Kolan. and *C. cuyuniae* Szlach. & Kolan. (Orchidaceae) are described as new species based on examination of herbarium material. The new taxa are also illustrated. A dichotomous key to the species of *Campylo-*
centrum reported from the Guianas is provided. A new combination, *Campylocentrum*
weigeltii (Rchb.f.) Szlach. & Kolan., is proposed.

To embrace the neotropical Angraecinae (Orchidaceae) placed in *Aeranthus* and *Angraecum*, Richard and Galeotti (1845) described the genus *Todaroa*. Because the generic name was identical to a previously established taxon in Apiaceae, a new name *Campylocentrum* was proposed by Bentham (1881) to replace *Todaroa*.

The species of *Campylocentrum* are epiphytic, monopodial, either leafy or leafless plants characterized by a lateral, elongate, many-flowered and dense inflorescence and small, white to yellow or greenish flowers. A prominent spur develops from the base of the sessile lip lacking any callus (Dressler 2003). The gynostemium is erect, very short, and the column is footless. The two pollinia are more or less dorsiventrally compressed, globose, sometimes with a short apiculus (Szlachetko 2003).

These plants are rather common epiphytes in the tropical forests. Still, especially the leafless plants are difficult to find during field studies. Moreover, due to the similarity of the vegeta-

tive characters and the small or tiny size of the flowers, species of *Campylocentrum* are often misidentified.

The geographical range of *Campylocentrum* extends from Florida through Mexico to Brazil (Dressler 2003, Bogarín & Pupulin 2009, 2010). About 60 species have been described so far. The occurrence of nine *Campylocentrum* species was reported from the Guiana Shield (Carnevali & Ramírez-Morillo 2003, Funk *et al.* 2007). However, those authors applied a wide concept of some species, and currently *C. uroplectron* is considered a taxonomic synonym of *C. huebneri*, and *C. steyermarkii* is treated as a synonym of *C. hondurensis*. Regardless of the taxonomic differences at the species level, all *Campylocentrum* species reported from the Guiana Shield have been found growing in the lowland regions, rarely in premontane areas, up to 900 m a.s.l.

During our revision of the herbarium material collected in the Guianas, two undescribed species of *Campylocentrum* were found.

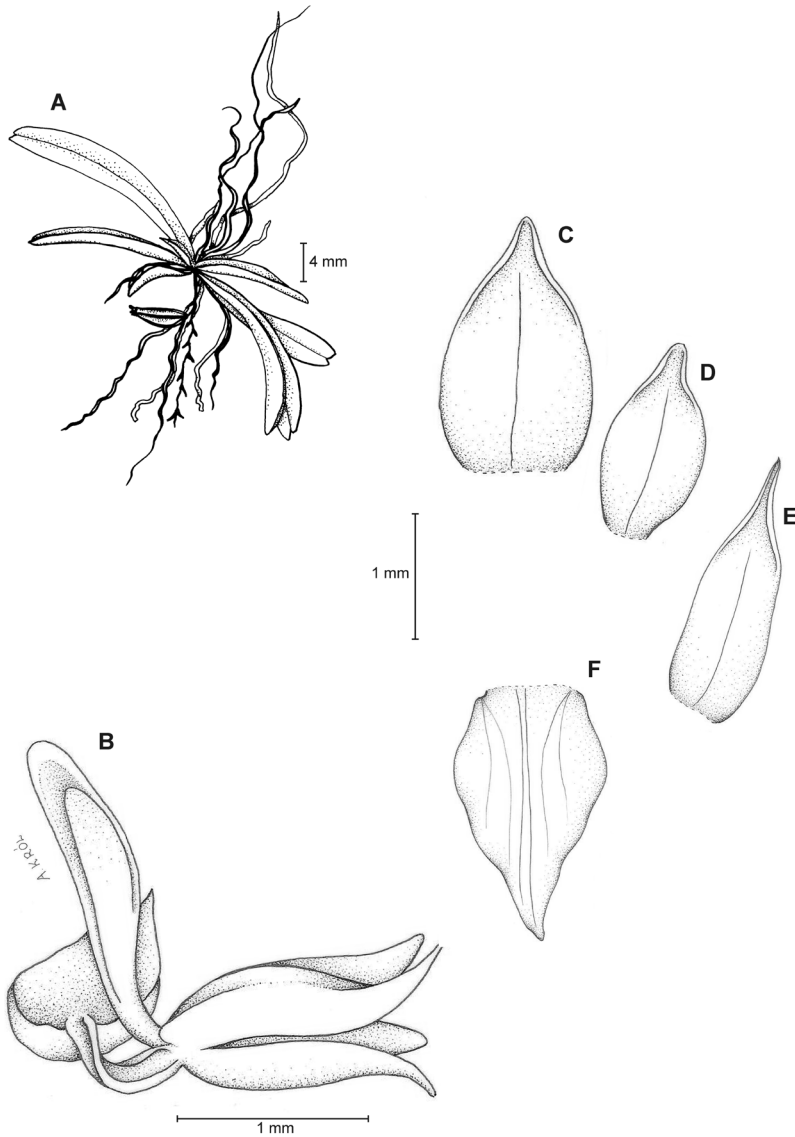


Fig. 1. *Campylocentrum christensonii* (from the holotype, drawn by A. Król and P. Baranow). — **A:** Habit. — **B:** Flower. — **C:** Dorsal sepal. — **D:** Petal. — **E:** Lateral sepal. — **F:** Lip.

***Campylocentrum christensonii* Szlach. & Kolan., sp. nova** (Fig. 1)

TYPE: Guyana. *Sine loc. Im Thurn 552* (holotype K!).

ETYMOLOGY: Dedicated to Eric A Christenson (1956–2011), an eminent orchid taxonomist.

Stem up to 4 cm long, erect, with numerous roots at base. Leaves 5–7, up to 2.5 cm long and 0.4 cm wide, obliquely ligulate, oblanceolate to oblong-elliptic, unequally bilobed at apex. Inflorescence 2.5 cm long, erect, many-flowered. Flowers minute, tubular. Floral bracts 1.2 mm

long, triangular-ovate, acute, cup-like, entire on margins. Pedicel and ovary 1 mm long, glabrous. Dorsal sepal 2 mm long, 1 mm wide, elliptic to elliptic-ovate, acute to subacute, concave in centre, 1-nerved, glabrous. Petals 1.6 mm long, 0.8 mm wide, obliquely elliptic, subobtusate, 1-nerved. Lateral sepals 2.3 mm long, 0.9 mm wide, oblong-lanceolate to ligulate, acute, oblique, 1-nerved. Lip 2.1 mm long and 1.2 mm wide, unlobed, more or less deltoid, widest below middle, acute. Spur 2–2.3 mm long, 0.6 mm in diameter, cylindrical-clavate, blunt, sigmoid.

DISTRIBUTION: The species is known from Guyana, but there is no precise geographical information on the type specimen.

Campylocentrum christensonii habitually resembles *C. steyermarkii*, from which it however is easily distinguishable by the flowers. The most striking and obvious difference is the spur, which in *C. christensonii* is cylindrical-clavate, sigmoid, and subequal in length to the lip. In *C. steyermarkii* the spur is cylindrical, incurved and clearly shorter than the lip. Further, minor differences between two species are: the lateral sepals of *C. christensonii* are oblong-lanceolate to ligulate, whereas in *C. steyermarkii* they are oblong-triangular; and the lip of *C. christensonii* is entire, but in *C. steyermarkii* it is weakly 3-lobed.

Campylocentrum steyermarkii was considered conspecific with *C. hondurensis* (Carnevali & Carnevali 1993) based on the presence of populations of *C. hondurensis* close to the type locality of the former species, and on the assumption that *C. steyermarkii* was described based on an immature specimen of *C. hondurensis*. However, the illustration of *C. steyermarkii* given by Foldats (1970) seems to have been made from a mature plant. *Campylocentrum christensonii* is easily distinguished from *C. hondurensis* by its spur form and size, because the latter has a fusiform spur distinctly longer than the lip.

***Campylocentrum cuyuniae* Szlach. & Kolan., sp. nova (Fig. 2)**

TYPE: Guyana. Cuyuni river, Kauri Creek. Branch of tree in Mora forest, about 6 m high, 17 May 1933, *Tutin 118* (holotype BM!).

ETYMOLOGY: In reference to the river by which the species was collected.

Stem up to 3 cm long. Leaves 4–5, up to 5.3 cm long and 0.9 cm wide, obliquely ligulate-oblong-elliptic, shortly apiculate at apex. Inflorescence 1.5 cm long, erect, subdense, up to 15-flowered. Flowers white, minute, tubular. Floral bracts 1.5 mm long, triangular-ovate, acute, ciliate on margins. Pedicel and ovary 2 mm long, ciliate. Dorsal sepal 5.2 mm long, 0.8 mm wide, linear to linear-lanceolate, acute to subacute, 5-nerved, glabrous. Petals

4.5 mm long, 0.8 mm wide, subobliquely linear, subacute, 3-nerved. Lateral sepals 6 mm long, 0.8 mm wide, linear-lanceolate to ligulate-linear, subacute, oblique at base, 3-nerved. Lip 5 mm long in total, basal part 2 mm long, 1.8 mm wide, subquadrate, lateral lobes obliquely elliptic, rounded apically; middle lobe 3 mm long, 0.7 mm wide, ligulate with lanceolate, acute apex. Spur 5 mm long, 1 mm in diameter, narrowly cylindrical-clavate, swollen distinctly near middle, somewhat attenuate towards an obtuse apex.

DISTRIBUTION: The species is known only from the locality of the type specimen.

Campylocentrum cuyuniae resembles *C. colombianum* in habit, but the floral characters separate the species easily. The sepals of *C. cuyuniae* are completely glabrous, while according to the original description provided by Schlechter (1920), the sepals of *C. colombianum* are sparsely papillose. The spur of *C. cuyuniae* is straight, narrowly cylindrical-clavate, distinctly swollen near the middle, and somewhat attenuate towards obtuse apex. In *C. colombianum* the spur is narrowly cylindrical and blunt.

During the course of our studies on the orchids of the Guianas it became clear that the following new combination was necessary.

***Campylocentrum weigeltii* (Rchb.f.) Szlach. & Kolan., comb. nova (Fig. 3)**

Angraecum weigeltii Rchb.f., *Linnaea* 22: 857. 1850 — **TYPE:** Suriname. *Weigelt s.n.* (W!).

Angraecum weigeltii was usually considered a synonym of *Campylocentrum fasciola* (e.g. Dodson & Dodson 1980, McLeish *et al.* 1995). Cogniaux (1906), who described the latter species, already realized the two were close. The species can be easily distinguished by the lip shape (Fig. 4). In *C. fasciola* the lip is distinctly 3-lobed, with the middle lobe being the largest, elliptic-ovate, rounded and apically mucronate, and the lateral lobes are essentially shorter, obliquely oblong-rhombic, and rounded at apex. The lip of *C. weigeltii* is entire, broadly obovate, attenuate towards an acute apex. Additionally, the spur of *C. fasciola* is nearly the same length

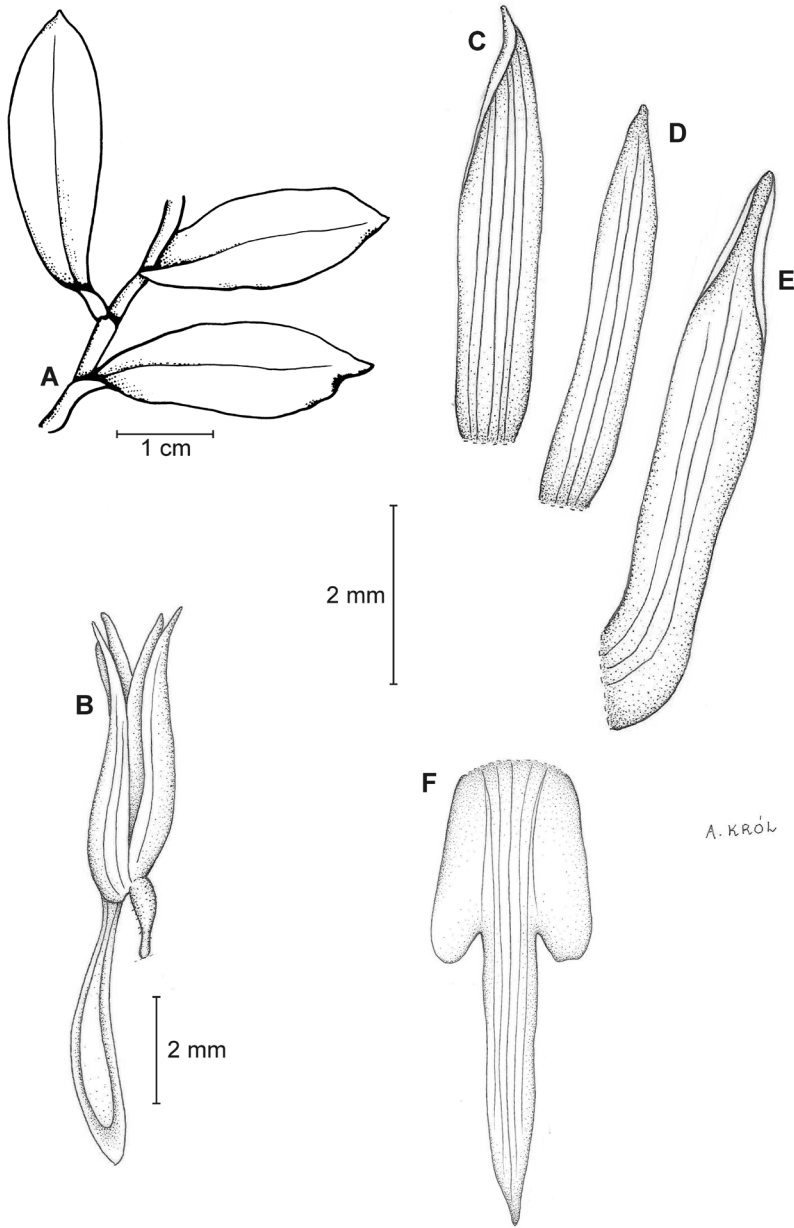


Fig. 2. *Campylocentrum cyuniae* (from the holotype, drawn by A. Król and P. Baranow). — **A:** Leaf arrangement. — **B:** Flower. — **C:** Dorsal sepal. — **D:** Petal. — **E:** Lateral sepal. — **F:** Lip.

as the lip, much swollen just above the base, and somewhat attenuate towards apex. In *C. weigeltii* the spur is longer than the lip, and cylindrical-clavate (Fig. 4). In our opinion these differences justify recognizing the two species.

Key to the species of *Campylocentrum* in the Guianas

- 1. Plants leafless 2
- 1. Plants leafy 5

- 2. Roots scattered along stem *C. poeppigii*
- 2. Roots fasciculate 3
- 3. Spur cylindrical-saccate, not swollen towards apex *C. pachyrrhizum*
- 3. Spur broadly saccate, swollen towards apex 4
- 4. Lip 3-lobed, rachis almost glabrous *C. fasciola*
- 4. Lip deltoid-lanceolate, entire, rachis hirsute .. *C. weigeltii*
- 5. Spur 3–6 times longer than lip *C. huebneri*
- 5. Spur shorter, equal, or up to twice longer than lip 6
- 6. Petals oblong-elliptic 7
- 6. Petals linear-lanceolate or narrowly ovate-lanceolate .. 8
- 7. Spur nearly the same length as lip *C. christensonii*
- 7. Spur clearly shorter than lip *C. steyermarkii*

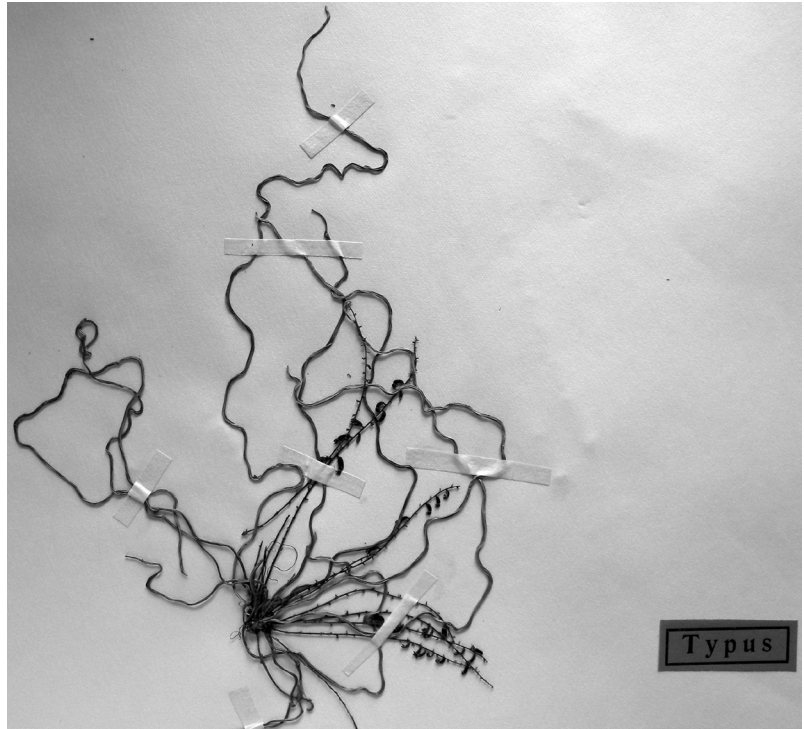


Fig. 3. *Campylocentrum weigtlii*. Photo of the type specimen.

- 8. Lip about twice longer than wide 9
- 8. Lip several times longer than wide 10
- 9. Lip unlobed, ovate-lanceolate in outline, spur about twice longer than lip *C. hondurensis*
- 9. Lip 3-lobed near middle, spur the same length as lip
..... *C. lansbergii*
- 10. Lip lateral lobes inconspicuous *C. panamense*
- 10. Lip lateral lobes distinct 11
- 11. Petals subfalcate, oblong-ob lanceolate, obtuse, lip lateral lobes obliquely triangular *C. micranthum*
- 11. Petals subobliquely linear, subacute, lip lateral lobes obliquely elliptic *C. cuyuniae*

Acknowledgments

We are grateful to Anna Król and Przemysław Baranow for preparing the illustrations. The research was supported by the Polish Ministry of Science and Higher Education (research grant no. 8124/B/PO1/2011/40).

References

Benthams, G. 1881: Notes on Orchidaceae. — *J. Linn. Soc. Bot.* 18: 281–361.
 Bogarín, D. & Pupulin, F. 2009: The genus *Campylocentrum* (Orchidaceae: Angraecinae) in Costa Rica: some critical questions and a few answers. — In: Pridgeon, A. M. &

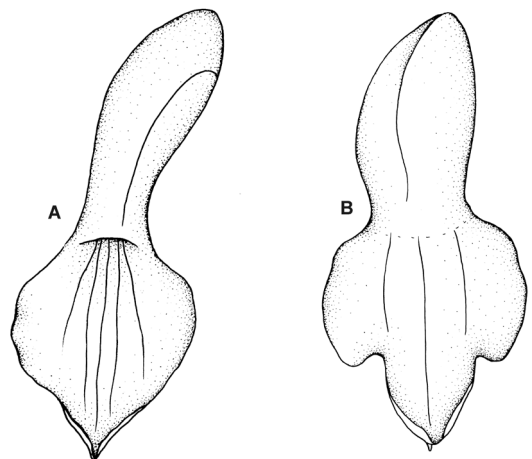


Fig. 4. Comparison of the lip and spur form in (A) *C. weigtlii* and (B) *C. fasciola*. Drawn by A. Król.

Suarez, J. P. (eds.), *Proceedings of the Second Scientific Conference on Andean Orchids*: 32–45. Universidad Técnica Particular de Loja, Loja.
 Bogarín, D. & Pupulin, F. 2010: The genus *Campylocentrum* (Orchidaceae: Angraecinae) in Costa Rica: a revision. — *Harvard Pap. Bot.* 15: 353–414.
 Carnevali, G. & Ramírez de Carnevali, I. 1993: New or noteworthy orchids for the Venezuelan flora IX: New taxa, new records, and nomenclatural changes, mainly from

- the Guayana Shield and northern Amazonas. — *Novon* 3: 102–125.
- Carnevali, G. & Ramírez-Morillo, I. M. 2003: *Campylocentrum*. — In: Steyermark, J. A., Berry, P., Holst, B. & Yatskievich, K. (eds.), *Orchidaceae, Flora of the Venezuelan Guayana*: 256–260. Timber Press, Portland.
- Cogniaux, C. A. 1906: Orchidaceae, vol. III, part IV: *Campylocentrum*. — In: Martius, C. F. P. (ed.), *Flora Brasiliensis*, vol. 3(6): 503–524. Fleischer, Leipzig.
- Dodson, C. H. & Dodson, P. M. 1980: Orchids of Ecuador. — *Icon. Pl. Trop.* 1: 1–100.
- Dressler, R. L. 2003: *Campylocentrum*. — *Monogr. Syst. Bot. Missouri Bot. Garden* 93: 38–41.
- Foldats, E. 1970: *Campylocentrum steyermarkii*. — In: Lasser, T. (ed.), *Flora de Venezuela*, 15(5): *Orchidaceae*: 437–439. Instituto Botánico de Caracas, Caracas.
- Funk, V., Hollowell, T., Berry, P., Kelloff, C. & Alexander, S. N. 2007: *Checklist of the plants of the Guiana Shield (Venezuela: Amazonas, Bolivar, Delta Amacuro; Guyana, Surinam, French Guiana)*. — Department of Botany, National Museum of Natural History, Washington.
- McLeish, I., Pearce, N. R. & Adams, B. R. 1995: *Native orchids of Belize*. — A.A. Balkema Publ., Rotterdam & Brookfield.
- Richard, A. & Galeotti, H. 1845: *Orchidographie Mexicaine, D'après les échantillons, notes et dessins de MM. Galeotti, Linden, Funck, Ghiesbreght*. — *Ann. Sci. Nat. Bot.* 3: 15–33.
- Szlachetko, D. L. 2003: *Gynostemium Orchidaliium*, vol. 3. — *Acta Bot. Fennica* 176: 1–311.