On the Status of Some Species of Cheirostylis Blume (Orchidaceae) from India

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On the status of some species of Cheirostylis Blume (Orchidaceae) from India

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Abstract

BHATTACHARJEE, A. (2012). On the status of some species of Cheirostylis Blume (Orchidaceae) from India. *Candollea* 67: 31-35. In English, English and French abstracts.

Cheirostylis chinensis var. *glabra* Bhaumik & M. K. Pathak and *Cheirostylis seidenfadeniana* C. S. Kumar & F. N. Rasm. *(Orchidaceae)* are treated as synonyms of *Cheirostylis moniliformis* (Griff.) Seidenf. and *Cheirostylis parvifolia* Lindl. respectively. The taxonomic status of *Cheirostylis munnacampensis* A. N. Rao as a synonym of *Cheirostylis yunnanensis* Rolfe is confirmed and the status of *Cheirostylis mohanramii* Chaturv., Moaakum & C. S. Kumar is also discussed.

Key-words

ORCHIDACEAE – Cheirostylis – India – Taxonomy

Résumé

BHATTACHARJEE, A. (2012). Sur le statut de quelques espèces de Cheirostylis Blume (Orchidaceae) originaires d'Inde. *Candollea* 67: 31-35. En anglais, résumés anglais et français.

Cheirostylis chinensis var. *glabra* Bhaumik et M. K. Pathak et *Cheirostylis seidenfadeniana* C. S. Kumar & F. N. Rasm. *(Orchidaceae)* sont traités comme synonymes de *Cheirostylis moniliformis* (Griff.) Seidenf. et *Cheirostylis parvifolia* Lindl. respectivement. Le statut taxonomique de *Cheirostylis munnacampensis* A. N. Rao comme synonyme de *Cheirostylis yunnanensis* Rolfe est confirmé et celui de *Cheirostylis mohanramii* Chaturv., Moaakum & C. S. Kumar est discuté.

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Cheirostylis Blume *(Orchidaceae)* is a genus of terrestrial, sometimes lithophytic, rarely epiphytic orchids characterized by fleshy, usually moniliform rhizome with internodal rhizoids, connate sepals forming a sepaline tube, hypochile of lip with 1 to several parallel seriate appendages and column with 2 stelids and 2 well-separated stigma lobes. Pridgeon & al. (2003) and Chen & al. (2009) reported the occurrence of about 50 species of *Cheirostylis* in the world distributed in tropical Africa, through South-east Asia, Japan, Indonesia and Pacific Islands to Australia and placed the genus under the subtribe *Goodyerinae* Ridl. of the tribe *Cranichideae* Endl. belonging to the subfamily *Orchidoideae* Lindl. Based on a study of type materials along with fresh, pickled and herbarium specimens of elevant taxa of *Cheirostylis* revealed the conspecificity of recently described *C. chinensis* var. *glabra* Bhaumik & M. K. Pathak and *C. seidenfadeniana* C. S. Kumar & F. N. Rasm. with earlier existing *C. moniliformis* (Griff.) Seidenf. and *C. parvifolia* Lindl. respectively. Chen & al. (2009) recently treated *C. munnacampensis* A. N. Rao as a synonym of *C. yunnanensis* Rolfe without providing any clarification. This status is confirmed and the one of *C. mohanramii* Chaturv., Moaakum & C. S. Kumar is also discussed (under *C. griffithii* Lindl.).

Cheirostylis moniliformis (Griff.) Seidenf. in Dansk Bot. Ark. 32: 69. 1978.

≡ *Goodyera moniliformis* Griff., Itin. Pl. Khasyah Mts.: 143, no. 679. 1848.

Typus: Bhutan "Bootan": *Griffith A 679* (holo-: K [K000 387624], photo!; iso-: OXF).

= *Cheirostylis chinensis* var. *glabra* Bhaumik & M. K. Pathak in Bull. Bot. Surv. India 47: 183. 2006.**Typus: India. Arunachal Pradesh:** Dibang Valley district, Bejari, 150 m, 5.III.2004, *Bhaumik & Tham 104752[A]* (holo-: CAL!; iso-: ASSAM!, 2 sheets [B] [C]), syn. nov.

Specimens examined. – **India. Arunachal Pradesh:** Lohit District, Minzong-yasang, 3.X.1985 [flowered on 11.III.1986 at Sessa], *A. N. Rao 21463, 21489* (Orchid Herbarium Tipi); West Kameng District, 2 km from Munna Camp (towards Dirang), 1491 m, 16.IV.2006, *A. Bhattacharjee 34819 A, 34819 B* (CAL).

Note. – Bhaumik & Pathak (2006) described *C. chinensis* var. *glabra* based on collections from Arunachal Pradesh and distinguished it from the type variety in having glabrous bracts and ovary, acuminate petals and epichile with 2 broad green patches at the base. But these authors overlooked the earlier described *C. moniliformis* which is identical (Fig. 1) with their variety. Thus, *C. chinensis* var. *glabra* is treated here as a heterotypic synonym of *C. moniliformis*.

Cheirostylis parvifolia Lindl. in Edwards's Bot. Reg. 25: 19. 1839.

Typus: Sri Lanka "Ceylon": *Loddiges s.n.* (holo-: K [K000718267], photo!).

= *Cheirostylis seidenfadeniana* C. S. Kumar & F. N. Rasm. in Nordic J. Bot. 7: 409. 1987. **Typus: India. Kerala:** Ponmudi, Trivandrum Dist., 950 m, 25.X. 1983, *C. Sathish Kumar CU 36960* (holo-: TBGT; iso-: C, CALI), syn. nov..

Distribution. – India: Kerala, Maharashtra (fide Jayaweera, 1981; Punekar, 2002); Sri Lanka.

Note. – Sathish Kumar & Rasmussen (1987) distinguished *C. seidenfadeniana* from *C. parvifolia* on the basis of epichile with entire lobules and 2 conspicuous tufts of hairs at its base. The authors mentioned that the material of *C. parvifolia* was very scarce from India and they could consult only 3 old herbarium specimens including the type (*Loddiges s.n.*, K) which was in very bad condition. However, it has been found that the holotype including its associated illustrations of flower and dissected floral parts (on the type sheet) is sufficient for its purpose and there is no need of epitypification at present. During the present work, critical study of the live specimens of *C. seidenfadeniana* provided by Dr. C. Sathish Kumar (first author of *C. seidenfadeniana*) revealed that the minute tufts of hairs at the base of epichile can be seen only in live, pickled or very well preserved specimens but not in the old herbarium specimens. The present study also reveals that the margin of the epichile lobules of *C. seidenfadeniana* varies (Fig. 1) from nearly entire to 2-4 lacerate which clearly indicates that *C. seidenfadeniana* and *C. parvifolia* are the same species. Thus, *C. seidenfadeniana* is treated here as synonym of *C. parvifolia*. In spite of author's personal visit to CALI and TBGT, the holotype and isotype(s) of *C. seidenfadeniana* could not be located as claimed in the protologue. Dr. Olof Ryding, Curator of Vascular Plants of C also confirmed the unavailability of any type specimen of *C. seidenfadeniana* in C. Surprisingly, a specimen bearing the same collection number and field data (excepting the date which is prior to publication of *C. seidenfadeniana*) as that of the holotype and isotypes of *C. seidenfadeniana* has been located at K. In absence of all the designated types (holotype and isotypes), the K-specimen may be selected as lectotype (if there is no doubt that it was actually used while describing *C. seidenfadeniana*) or as neotype of *C. seidenfadeniana.* For the time being the lecto-or neotypification has not been done in the present paper with a hope that the types may be found in near future. This rare species is presently grown and conserved in the Orchidarium of Tropical Botanic Garden and Research Institute, Thiruvananthapuram, Kerala, India by Dr. Sathish Kumar and his co-workers.

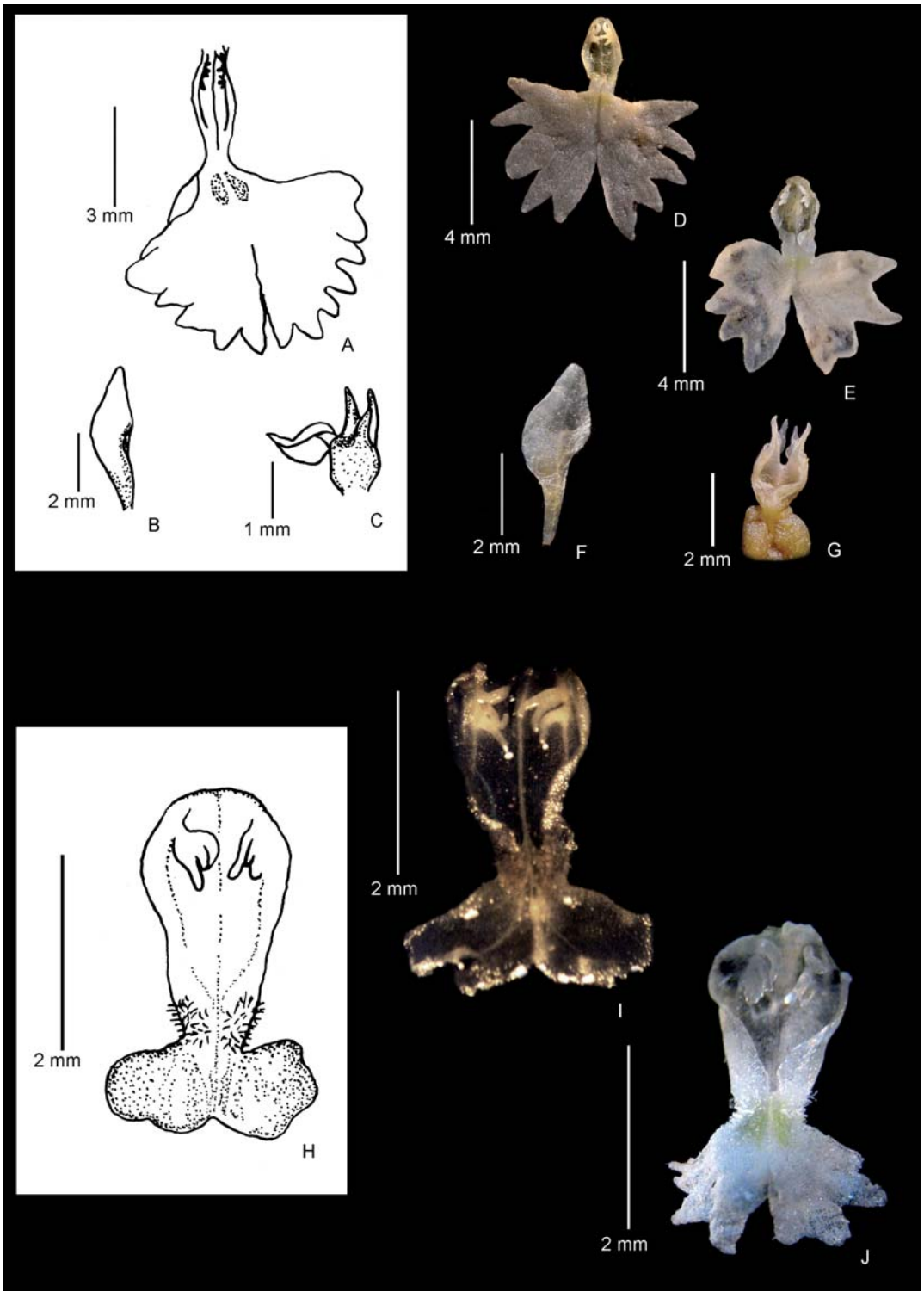

Fig. 1. – Comparison plate: '*Cheirostylis chinensis* var. *glabra* Bhaumik & M. K. Pathak'. **A.** Labellum; **B.** Petal; **C.** Column with anther-cap – *Cheirostylis moniliformis* (Griff.) Seidenf.; **D-E.** Labellum; **F.** Petal; **G.** Column – '*Cheirostylis seidenfadeniana* C. S. Kumar & F. N. Rasm.'; **H.** Labellum – *Cheirostylis parvifolia* Lindl.; **I-J.** Labellum.

[**A-C:** after Bhaumik & Pathak, 2006; **D, F-G:** *A. Bhattacharjee 34819 A,* CAL; **E:** *A. Bhattacharjee 34819 B,* CAL; **H:** after Sathish Kumar & Rasmussen, 1987; **I:** *Sathish Kumar s.n.,* TBGT, spirit; **J:** *A. Bhattacharjee 38142 A,* CAL]

Cheirostylis yunnanensis Rolfe in Bull. Misc. Inform. Kew 1896: 201. 1896.

Typus: China. Yunnan: Mengtse, IV.1893, *Hancock 25* (holo-: K, photo!).

= *Cheirostylis munnacampensis* A. N. Rao in Nordic J. Bot. 8: 340. 1988 (synonymised by Chen & al., 2009). **Typus: India. Arunachal Pradesh:** Munna Camp (W. Kameng Dist.), 2000 m, 16.V.1984, *A. N. Rao 14567* (holo-: Orchid Herbarium Tipi!; iso-: Orchid Herbarium Tipi!).

Distribution. – India: Arunachal Pradesh, Sikkim (fide Pearce & Cribb, 2002), West Bengal; China; Myanmar; Thailand; Vietnam.

Other specimens examined. – **India. Arunachal Pradesh:** Tipi, 28.III.2002, *A. N. Rao 30862* (Orchid Herbarium Tipi). **West Bengal:** Darjeeling District, Mahananda Wildlife Sanctuary, 1 km away from Kalijhora towards Setikhola, 12.III. 2008, *T. K. Paul 43698* (CAL).

Note. – While describing *C. munnacampensis*, Rao (1988) discriminated it from *C. yunnanensis* in having oblong petals, hypochile with 7 pairs of calli and stelids almost two times longer than the rostellar arms instead of spathulate petals, hypochile with 3 or 4 pairs of calli and stelids almost as long as the rostellar arms found in *C. yunnanensis*. But *C. yunnanensis* is a highly variable species and shows variation in the shape of petals, number of calli inside the hypochile, relative length of stelids and rostellar arms. The shape of petals varies from obliquely oblong to spathulate to obliquely elliptic-lanceolate. Seidenfaden (1978) observed obtuse apices of the petals, whereas in the present study both obtuse and acute apices of petals have been found. During the present study 3-9 pairs of calli observed inside the hypochile of *C. yunnanensis*. The relative length of stelids and rostellar arms also varies in different specimens of *C. yunnanensis,* but the stelids are always longer than the rostellar arms. Considering these ranges of variation (Fig. 2), *C. munnacampensis* is confirmed as a heterotypic synonym of *C. yunnanensis.*

Cheirostylis griffithii Lindl. in J. Proc. Linn. Soc., Bot. 1: 188. 1857.

Lectotypus (designated by Seidenfaden, 1978): **India. Meghalaya:** Mamloo, *Griffith s.n.* (K-LINDL, photo!).

= *Cheirostylis mohanramii* Chaturv., Moaakum & C. S. Kumar in Nagaland Univ. SAP-Seminar Leaflet: [4]. 2009, nom. nud.

Distribution. – India: Arunachal Pradesh (fide Chowdhery, 1998), Meghalaya, Nagaland, Sikkim (fide Lucksom, 2007), Uttaranchal (fide Deva & Naithani, 1986), West Bengal; Bangladesh; China; Myanmar; Nepal; Pakistan; Thailand.

Specimens examined. – **India. Meghalaya:** East Khasi Hills District, Mawphlong forest, 7.XI.1966, *S. K. Kataki 37155* (ASSAM); Mawsmai, Khasi Hills, 19.XII.1972, *P. K. Hajra 51876* (ASSAM). **Nagaland:** Naga Hills, 1935, *N. L. Bor s.n.* (DD). **West Bengal:** Darjeeling District, Kumai, near Jaldhaka river, 1219 m, XI.1894, *Pantling 353* (CAL).

Note. – The name *C. mohanramii* Chaturv., Moaakum & C. S. Kumar was assigned to a collection from Aotsakilimi, Zunheboto district of Nagaland. It was claimed as a new species with a published photograph of an inflorescence (with three flowers) and brief information on its habit, habitat and phenology in a leaflet during a seminar organized by Department of Botany, Nagaland University on 20th April, 2009. The leaflet is also available online at «http://www.nagauniv.org.in/menu/events/SAP_SEMINAR_20April2009.pdf» and a photo-plate of *C. mohanramii* has also been deposited in CAL. However, the name *C. mohanramii* does not fulfill the conditions of an effective and valid publication as it lacks Latin diagnosis or description and type(s). After the study of dissected floral parts (photographs) of '*C. mohanramii*' sent by Dr. C. Sathish Kumar, it is found identical to *C. griffithii*. In this circumstances *C. mohanramii* does not require to be validly published.

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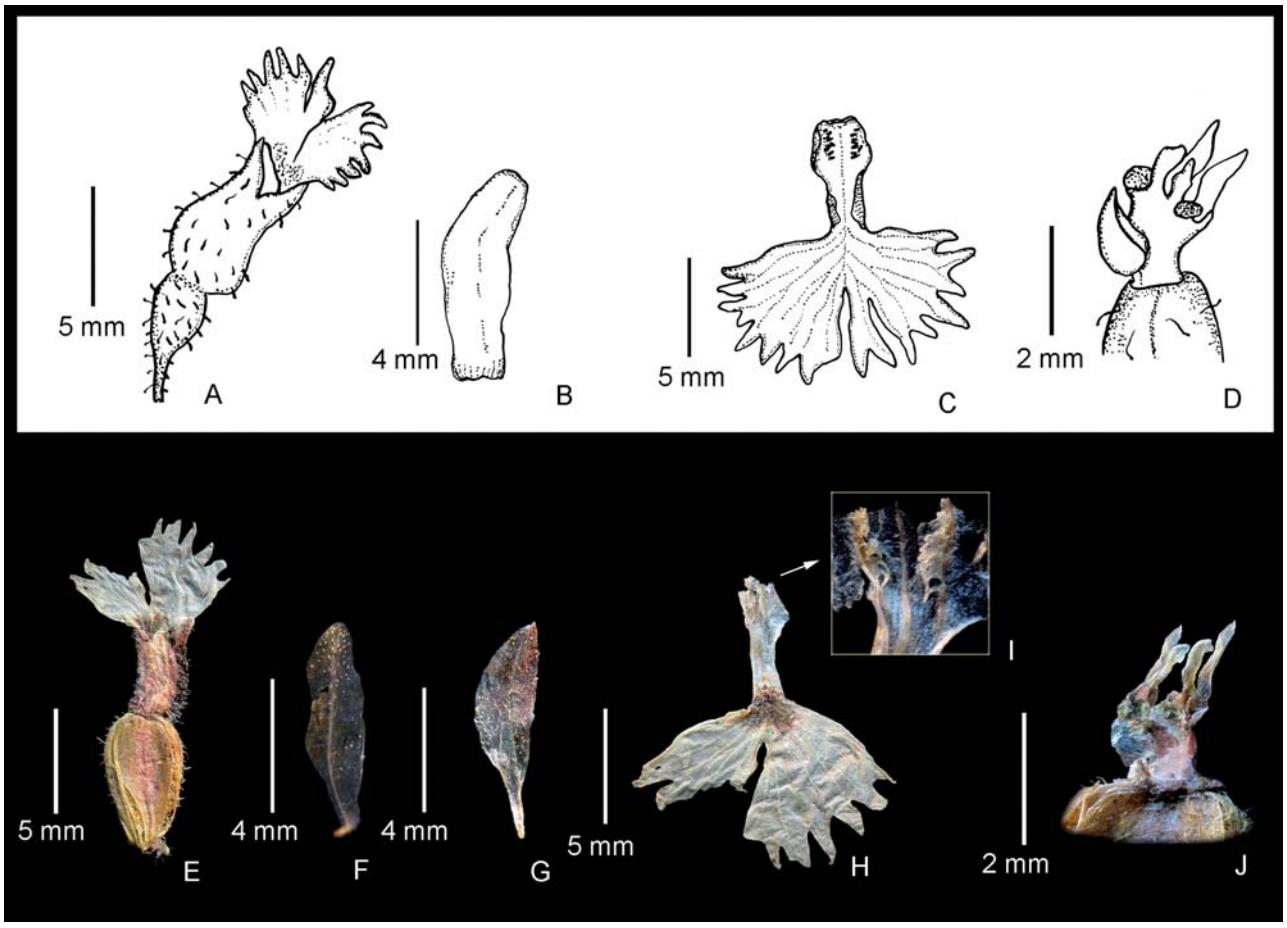

Fig. 2. – '*Cheirostylis munnacampensis* A. N. Rao'. **A.** Flower; **B.** Petal; **C.** Labellum; **D.** Column with anther-cap – *Cheirostylis yunnanensis* Rolfe; **E.** Flower; **F-G.** Petal; **H.** Labellum (partly fragmented); **I.** Portion of hypochile with appendages (magnified); **J.** Column.

[**A-D:** after Rao, 1988; **E-J:** *T. K. Paul 43698*, CAL, dissected from dry and pressed specimen]

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