What is the Current Status of Cirrhopetalum?

To examine the current status of the “genus” Cirrhopetalum there is worth in understanding the history surrounding the description of the genus, which includes needed insertion into the discussion the genus Bulbophyllum. The oldest name given to the genus Bulbophyllum was Phyllorkis from Louis-Marie Aubert du Petit-Thouars in 1809. In 1822, Louis-Marie Aubert du Petit-Thouars, described the genus, giving the genus the name Bulbophyllum in his book, *Historire particuliere des plantes orchidees recuellies sur les trois lies Australes d’Afrique, de France, de Bourbon et de Madagascar*. At the time of the descriptions of species in the genus Bulbophyllum, species of Cirrhopetalum were included in Bulbophyllum.

Royal Botanic Gardens Kew, Plants of the World Online presents Cirrhopetalum was first described by John Lindley in 1830 in his *Genera and Species of Orchidaceous Plants*. Although Kew provides the date of 1830 as the date described, other sources present Lindley having described Cirrhopetalum in 1824. In *Genera and Species of Orchidaceous Plants*, Lindley writes, “even Cirrhopetalum itself is less distinct from Bolbophyllum (Bulbophyllum) than would appear from the inspection of the first and second species. Further into the document as Lindley is describing Bolbophyllum (Bulbophyllum) *radiatum* he reports, “Bulb. radiatum approaches Cirrhopetalum from, but differs in the equal size of its sepals, and it forms a transition from Cirrhopetalum to Bolbophyllum (Bulbophyllum).” Lindley continues building the genus Cirrhopetalum on page 58, XXXII. Cirrhopetalum. Lindl. In *Botanical Register* 832. (Oct. 1824). Orch. scel. no. 149. – Zygoglossum. Lindley describes Cirr. *thouarsii*, Cirr. *roxburghii*, Cirr. *vaginatum*, Cirr. *blumii*, Cirr. *wallichii*, and Cirr. *macreai*. In my opinion the action of describing the six Cirrhopetalum species separate from Bulbophyllum sets the stage for the taxonomical vacillation of the genus Cirrhopetalum between Cirrhopetalum and a sub section of Bulbophyllum.

In 1861, Heinrich Gustav Reichenbach wrote in the *Annals of Botany* 6 (1861) 259 about genus Bulbophyllum section Cirrhopetalum (Lindl.) moving the Cirrhopetalum type species, Cirr. *thouarsii* to the type species of Bulbophyllum, Bulb. *longiflorium*. The description formally merges Cirrhopetalum from a recognized genus to a section of the genus Bulbophyllum. Johannes Jacobus Smith Bulbophyllum Thou. Sect. Cirrhopetalum, perpetuated the case to keep Cirrhopetalum within the genus of Bulbophyllum. In 1973, Gunnar Seidenfaden in *Notes on Cirrhopetalum*, furthers the case to keep Cirrhopetalum in the genus of Bulbophyllum.

In 1970, Henry Teuscher penned an article published in the *American Orchid Society Bulletin,* *Cirrhopetalum refractum* in which he declares, “I prefer to keep the genus Cirrhopetalum separate from Bulbophyllum for horticulture reasons.”

Betchtel, et la. (1981) in the work, *The Manual of Cultivated Orchid Species*, pronounced, “Bulbophyllum is such an unwieldy genus in terms of number of species that any attempt to subdivide it should be welcomed.”

Dr. Clair Ossian declared his position concerning the Cirrhopetalum and Bulbophyllum debate in the *American Orchid Society Bulletin*, February 1983, volume 52, number 2, article, *Noteworthy Bulbophyllums and Cirrhopetalums – Part 1 – Large-Flowered, Umbellate Forms*, when he disclosed, “I checked into the awards records for Cirrhopetalum and the closely allied genus Bulbophyllum.” Dr. Ossian acknowledges the Cirrhopetalum and Bulbophyllum disagreement when he discloses, “I have chosen to call the species in this first section Cirrhopetalum, though some authors place them in the genus Bulbophyllum.” Discussions of the merits of both sides of the argument can be found in Seidenfaden (1973 and 1979), where he supports combining them both under the name Bulbophyllum. Others, including Teuscher (1974), Bechtel, et la. (1981), call for separation into the two distinct genera. There is considerable merit to both sides of the argument. Cirrhopetalum can only be separated from Bulbophyllum with difficulty, but there are a number of features that allow one to recognize and to use the concept of Cirrhopetalum in a practical sense.”

Dr. Ossian voices the main points of separation between Cirrhopetalum and Bulbophyllum are in Cirrhopetalum the dorsal sepal is much smaller than the lateral sepals, the lateral sepals have inrolled and generally adnate margins, and there is generally an umbellate inflorescence. Dr. Ossian pronounces his position to the case, “I find myself somewhere in the middle of the argument, allowing the merit of a combination with Bulbophyllum, but recognizing that the group is quite distinct in a practical sense.”

In the *Nordic Journal of Botany*, volume 14, Issue 6, December 1994, Leslie A. Garay, Fritz Hamer, Emly Siegerist note in the abstract that the genus Cirrhopetalum was realigned as a section in the genus of the Bulbophyllum alliance. The specific reason given for the realignment is due to primary characters derived from its type species.

In the *Molecular Phylogenetics and Evolution*, volume 143, February 2020, Ai-Qun Hu et la. promote the Cirrhopetalum alliance as a species rich group within the genus Bulbophyllum. There are references that the monophyletic status of Cirrhopetalum has been challenged by prior studies. Secondary to DNA sequence data, Hu’s group reconstructed the phylogeny. The results of the phylogenetic analyses and ancestral character state construction in this study “provide unequivocal evidence for the recognition of an amended Cirrhopetalum alliance.”

John Lindley’s original work with Cirrhopetalum promoted Cirrhopetalum as a distinctive genus. Reichenbach’s writings realigned Cirrhopetalum as a section under the genus Bulbophyllum. Taxonomical effort during the 1970’s and 1980’s furthers confusion secondary to taxonomists differing opinions about Cirrhopetalum’s position as an independent genus versus a section of the genus Bulbophyllum. Further evaluation in the 1990’s endorsed the position for the realignment of Cirrhopetalum as a section of Bulbophyllum. Then Ai-Qun Hu et la. via DNA sequencing and reconstruction of Cirrhopetalum phylogeny concluded unequivocal evidence for the recognition of an amended Cirrhopetalum alliance. It appears the Cirrhopetalum placement discussion will continue until full agreement with the taxonomic community is reached.

References

Bechtel, P., Cribb, P., and Launert, E. (1981). *The Manuel of Cultivated Orchid Species.* MIT Press. Cambridge, Massachusetts.

Comber, J. (1984). *Bulbophyllum section Cirrhopetalum in Java*. *Orchid Digest*. 48. 77 – 82.

Garay, L., Hamer, F., and Siegerist, E. (1994). The genus Cirrhopetalum and the genera of the Bulbophyllum alliance. Nordic Journal of Botany. 14 (6): 609 – 646.

Teuscher, H. (1970). Cirrhopetalum *refractum*. *American Orchid Society Bulletin*. 39 (10): 903 – 906. Retrieved 11/23/2023.

Hu, A., Gale, S., Liu, Z., et la. (2020). *Molecular phylogenetics and floral evolution of the Cirrhopetalum alliance (Bulbophyllum, Orchidaceae): Evolutionary transitions and phylogenetic signal variation*. *Molecular Phylogenetics and Evolution*, vol. 143. Retrieved 11/22/2023.

Lindley, J. (1830). *Genera and species of Orchidaceous Plants*. London, Ridgways, Piccadilly. Retrieved 11/22/2023.

Ossian, C. (1983). *Noteworthy Bulbophyllums and Cirrhopetalums – part 1 – large-flowered, umbellate forms*. *American Orchid Society Bulletin*. 52 (2): 108 – 117.

Reichenbach, H. (1861). *Sander’s Orchid Guide*. Sander and Sons, St. Albans.

Royal Botanic Gardens Kew Plants of the World Online. (n. d.). *Bulbophyllum*. Accessed: 11/22/2023. [https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:325894-2](https://powo.science.kew.org/taxon/urn%3Alsid%3Aipni.org%3Anames%3A325894-2)

Seidenfaden, G. (1973). *Notes on Cirrhopetalum*. Dansk Bot. Ark. 29: 1 – 260.

Smith, J. (1912). Bulbophyllum Thou. Section Cirrhopetalum. Bull. J. Bot. Buit. Ser. 2, 8: 19 – 29. Retrieved 11/21/2023.

Vermeulen, J., (1987). *Orchid monographs, Volume 2: A taxonomic revision of the continental African Bulbophyllinae*. Leiden, New York.