

# Orchids of Bhutan

## *Arachnis* (the “Esmeraldas”)

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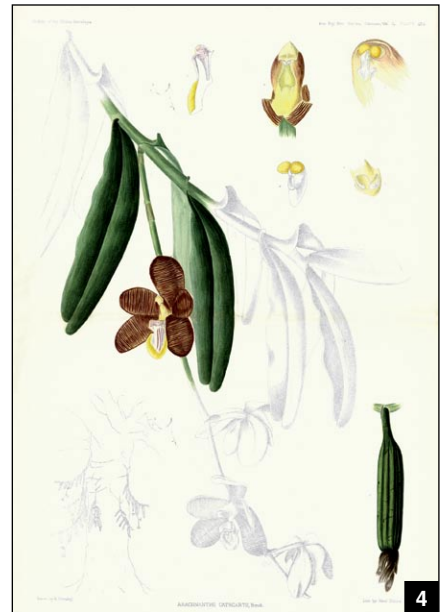


THE GENUS WITH the delightful name *Esmeralda* Rchb.f., was created by Heinrich Gustav Reichenbach in his *Xenia Orchidacea* (1862) without an explanation for his choice of name. As a type species he used a plant that was described earlier by John Lindley as *Vanda cathcartii* Lindl. Lindley writes:

“No more remarkable Orchid has been found in Northern India, and therefore it is selected to bear the name of J. F. Cathcart, Esq., who caused a noble collection of drawings to be made in Sikkim, some account of which it is to be hoped that the public will have in time from Dr. Hooker.” (Lindley 1853)

When seeing the striking flowers of *Esmeralda cathcartii* (Lindl.) Rchb.f., it is easy to understand Lindley’s excitement. However, as charming as the name “*Esmeralda*” may be, it has not survived the scrutinizing eyes of orchid taxonomists. Or perhaps it is more accurate to say orchid “laboratorians” in this case, since it is because of molecular research that the two magnificent Bhutanese *Esmeralda* species; *Em. cathcartii* and *Em. clarkei* Rchb.f., have been transferred to the previously described *Arachnis* Blume. The generic name refers to the imaginary similarity of some of the species to spiders or scorpions. This latter genus consists of 16 accepted species, two “varieties” and one natural hybrid that are distributed over much of the tropical parts of the Himalayan region, Southeast Asia and China, New Guinea and the Pacific Islands (WCSP 2021, Pearce and Cribb 2002). In Bhutan the two former *Esmeralda* species are presumably accompanied by *Arachnis labrosa* (Lindl. & Paxton) Rchb. f., originally described as *Arynchium labrosum* Lindl. & Paxton (1850), later changed to *Armadorum labrosum* (Lindl. & Paxton) Schltr. (Schlechter 1911), and finally to *Arachnis labrosa* by Reichenbach (1886). This is an enigmatic species and we have not seen any living or preserved Bhutanese material of it. In the original description of *Arynchium labrosum* Lindley writes:

“An inconspicuous stove epiphyte, with small brown and yellow flowers.” ... “For a couple of flowers of this curious little orchid, we are indebted to Sir Philip Egerton, with whom it flowered in the middle of October. It was purchased two or three years since, by Mr. Cornwall Legh, at one of Stevens’s sales of East Indian orchids; but nothing further is known of its history.” ... “No known genus can receive this singular plant, unless it is thrown into the crowd of *Saccolabes*,



among which, however, it would scarcely be sought;” ... (Lindley 1850).

*Arachnis labrosa* is included in *The Orchids of Bhutan* by Nicholas Pearce and Phillip Cribb (2002), but only as an “unlocalised record” cited from an orchid list published in an article by Marcus Würmli (1973). Würmli’s list of orchids in the Kingdom of Bhutan is based on his own research and older collections, and the citation for *Arachnis* (as “*Armadorum*”) *labrosa* is based on George King and Robert Pantling’s (1898) note for *Arachnanthe bilinguis* Benth., in their *Orchids of the Sikkim-Himalaya*, which reads: “Bhotan near the Sikkim frontier in the Rumpiti Valley at a low elevation.” The name “*Arachnanthe bilinguis*” is currently not accepted however, because it was

- [1] *Arachnis cathcartii* from Pelingtsho. Photograph by Nima Gyeltshen.
- [2] *Arachnis* (as *Arachnanthe*) *bilinguis*, plate 280 from George King and Robert Pantling’s (1898) *Orchids of the Sikkim-Himalaya*, in the *Annals of the Royal Botanic Garden of Calcutta*.
- [3] *Arachnis* (as *Vanda*) *cathcartii*, plate 23 from Joseph Dalton Hooker’s (1855) *Illustrations of Himalayan Plants*.
- [4] *Arachnis* (as *Esmeralda*) *cathcartii*, plate 278 from George King and Robert Pantling’s (1898) *Orchids of the Sikkim-Himalaya*, in *Annals of the Royal Botanic Garden of Calcutta*.

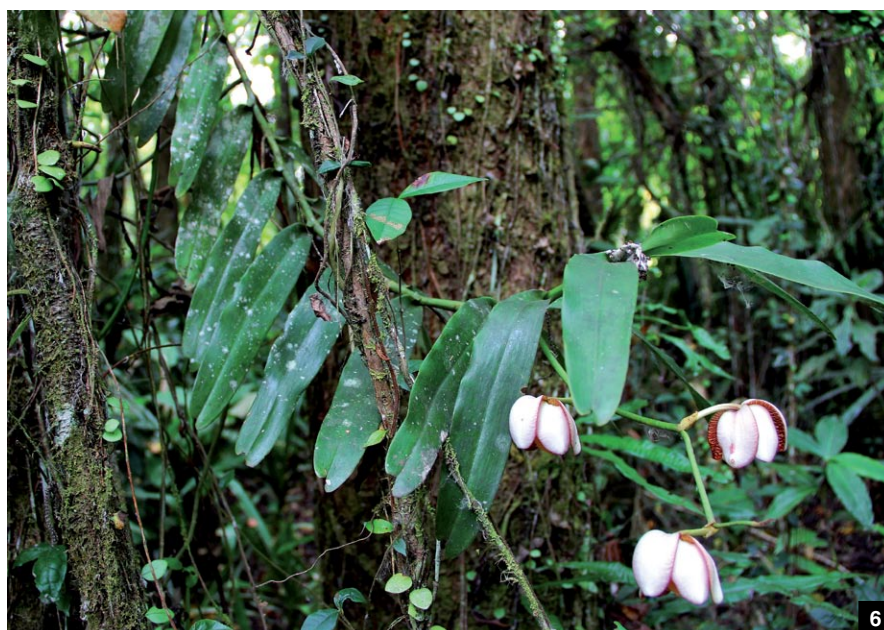


invalidly published by George Bentham (1881). Bentham just declares his opinion that "*Renanthera bilinguis* Rchb.f., would be included in the genus *Esmeralda*" by him, but no official transfer was ever made. However, the combination "*Arachnanthe bilinguis* Benth." is apparently accepted by King and Pantling (1898), who include it in *The Orchids of Sikkim-Himalaya*. But because this taxon is considered to be the same as the earlier published *Arachnis labrosa* there is no "harm" done, just some additional taxonomic confusion. The illustration of this species in *Orchids of Bhutan* is compiled from many separate dried specimens of various collections, of which none apparently originate in Bhutan (Pearce and Cribb 2002). There is however, a colored plate of "*Arachnanthe bilinguis*" (hence *Arachnis labrosa*) in King and Pantling's (1898) *The Orchids of Sikkim-Himalaya*, which presumably correlates with what they cite as coming from the Rumpti Valley, and shows very clearly what this orchid looks like. Unfortunately, the Rumpti Valley is today located on the Sikkim side of the border with Bhutan, which means that no real documentation of this species from inside Bhutan exists. In other words, we are back to square one in the case of treating the "Esmeraldas" and can only accept *Arach. cathcartii* and *Arach. clarkei* as current Bhutanese species. We do expect that *Arach. labrosa* will appear inside the Bhutanese borders someday but may have to wait a long time for that to happen since the extreme western part of Bhutan is both difficult to reach and poorly explored botanically.

*Arachnis cathcartii* (Lindl.) J.J.Sm., was originally described as *Vanda cathcartii* by John Lindley, based on a collection by Joseph Dalton Hooker at 3,000 feet (1,000 m) in the hot jungles of the state of Sikkim, India. It is a striking species that unfortunately is seldom seen in cultivation. It also appears to be rather rare in the wild, at least in Bhutan. We have seen plants in the warmer region of the country in the forests surrounding the town of Nganglam, not far from the border with the state of Assam, India. It seems to prefer a shaded and well-protected habitat growing as an epiphyte rather close to the ground. The long stems are semipendent and the large and strikingly colored flowers hang below the spreading leaves and face the ground. The sepals and petals are white externally and boldly striped with brown internally, and with a white lip, centrally striped with purple, and with an orange-brown fleshy callosity along the edges on the front lobe. It is



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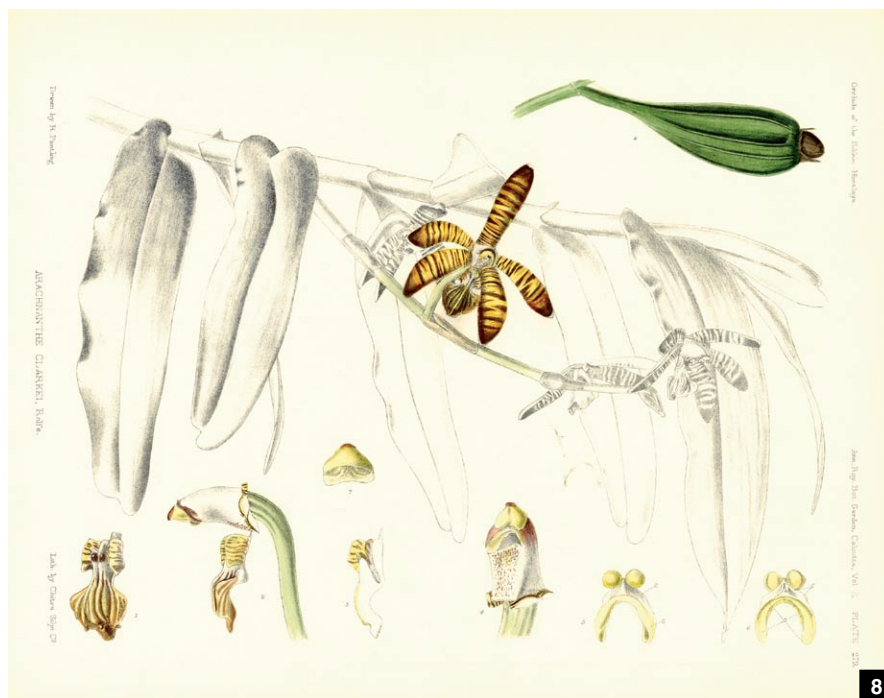
- [5] The hot and humid rainforest near the Indian border is the home of *Arachnis cathcartii* in Bhutan.
- [6] A healthy plant of *Arachnis cathcartii* from Pelingsho.
- [7] Forest Ranger Kezang Rinzin is stationed in the border town of Nganglam and knows where the rare *Arachnis cathcartii* grows.
- [8] *Arachnis* (as *Esmeralda*) *clarkei*, plate 279 from George King and Robert Pantling's (1898) *Orchids of the Sikkim-Himalaya*, in *Annals of the Royal Botanic Garden of Calcutta*.
- [9] Natural habitat of *Arachnis clarkei* from Trongsa.



quite understandable that Lindley was excited by this discovery.

*Arachnis clarkei* (Rchb.f.) J.J.Sm., was originally described by Reichenbach as *Esmeralda clarkei* Rchb.f. (1886), just to be transferred to *Vanda clarkei* (Rchb.f.) N.E.Br., in 1888 by Nicholas Edward Brown. It was then transferred to *Arachnis* by Johannes Jacobus Smith in 1912. But this orchid has generally been treated as *Esmeralda clarkei* and it was not until recently that molecular research revealed it should be included in *Arachnis* again. Perhaps the last word has yet to be spoken about the validity of these genera, but we follow the latest version of available nomenclatural lists here. In any case, *Arach. clarkei* is a striking species well worth cultivating for its boldly colored flowers. As opposed to *Arach. cathcartii*, which appears to have a very restricted distribution in the warmer tropics of the foothills of the Himalayas in Bhutan and nearby regions of India, *Arach. clarkei* is listed as having a very large area of distribution, which is listed as Nepal, northern parts of India, Southeast Asia and China (Pearce and Cribb 2002, Seidenfaden 1988, WCSP 2021). This large distribution must be taken with some caution however, because the documentation from China probably refers to a different species described by Paul Ormerod (2014) as *Arachnis bouffordii* Ormerod. This particular species comes from Hainan Island and differs from *Arach. clarkei* by having a white lip spotted with purple, among other details. Ormerod also mentions the existence of an “undescribed doppelgänger” in Yunnan, China, which is illustrated in *The Wild Orchids of Yunnan* (Xu et al. 2010) as “*Esmeralda clarkei*.” The Yunnan plant supposedly differs from *Arach. bouffordii* in having a thick callus projecting over the base of the spur (Ormerod 2014). In Bhutan, *Arach. clarkei* occurs at a slightly higher elevation than *Arach. cathcartii* and can be described as an intermediate- to slightly cool-growing orchid and may be easier to cultivate for that reason. We have found it growing as an epiphyte in rather shady conditions with the elongate stems hanging more-or-less pendent with sometimes only a few roots attached to its host and short few-flowered inflorescences displaying boldly striped “scorpion-looking” flowers.

In an article by Dr. Geoffrey Alton Craig Herklots at the British Embassy, Kathmandu, Nepal, and published in the *American Orchid Society Bulletin* of December 1964, a key to the cultivation of *Arach. clarkei* is provided: “This orchid



is of easy cultivation and may be grown successfully in a basket containing broken brick, dried cow dung and living moss, which eventually clothes most of the roots, and kept damp in at least 50% shade.” A similar culture will probably work for *Arach. cathcartii* as well, but this species needs to be kept considerably warmer.

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[10] The Thunder Dragon Orchid Team at the *Arachnis cathcartii* habitat near Nganglam. From left: Choki Gyeltshen, Pem Zam, Tandin Wangchuk, Stig Dalström, Kezang Rinzin.

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