

Short Communication

New records of Orchidaceae from Cambodia IV

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The previous article in this series on new orchid records from Cambodia is Schuiteman *et al.* (2016). We here report on eight new records, including the following three new generic records: *Ania*, *Cylindrolobus*, and *Hetaeria*. All were found by the authors, together with Mr Neang Thy, during field trips to western and southern Cambodia in November 2016. Two species (*Cylindrolobus biflorus* and *Hetaeria oblongifolia*) were not seen in flower in the field but flowered in cultivation at the Royal Botanic Gardens, Kew, from collected living specimens, while a third, *Tropidia angulosa*, was observed only as sterile specimens.

In the interests of conservation we do not provide exact localities. Global distribution data follow Govaerts *et al.* (2017), unless indicated otherwise. Vouchers of all specimens mentioned are kept in the Kew Spirit Collection.

Species recorded

***Ania penangiiana* (Hook.f.) Summerh. (voucher specimen: Schuiteman *et al.* 16-111; Figs 1 & 2)**

This terrestrial orchid was found in flower on Mt Bokor on 27 November 2016, growing in shallow humus in rocky places under trees in open forest near a waterfall at 910 m above sea level (asl). Only few specimens were seen. This is a widespread, but not common, species that has been recorded from all neighbouring countries of

Cambodia, and is distributed from Northeast India to New Guinea.

***Cylindrolobus biflorus* (Griff.) Rauschert (voucher specimen: Schuiteman *et al.* 16-90; Figs 3 & 4)**

Formerly known as *Eria biflora* Griff., this appears to be a relatively common species on Mt Bokor, growing on branches of small, almost shrub-like trees in open, heath-like vegetation at 1,060 m asl. The short-lived flowers were photographed in cultivation at Kew. The species is, like the previous one, widespread, occurring from NE India, through Myanmar and Indochina to Sumatra, Java and Borneo.

***Dendrobium metrium* Kraenzl. (voucher specimen: Schuiteman *et al.* 16-124; Figs 5 & 6)**

Whereas almost all species of *Dendrobium* are epiphytes, *D. metrium* is one of very few terrestrial species. On Mt Bokor, where we found it in flower on 27 November 2016, only a few specimens were seen, growing on the ground in open, scrub-like forest on rocky outcrops with e.g., *Rhododendron moulmainense* Hook.f., at 980 m asl. The plants have an unusual growth habit in that new growths are often formed from the distal part of the stems, producing a somewhat scrambling habit. Seidenfaden (1992) included *D. metrium* (under the synonym *D. sociale* J.J.Sm.) in the section *Pedilonum*, but the papillose-

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Fig. 1 *Ania penangiana* (Hook.f.) Summerh., in situ. Voucher specimen: Schuiteman *et al.* 16-111.



Fig. 2 *Ania penangiana* (Hook.f.) Summerh., flower. Voucher specimen: Schuiteman *et al.* 16-111.



Fig. 3 *Cyindrolobus biflorus* (Griff.) Rauschert, in situ. Voucher specimen: Schuiteman *et al.* 16-90.



Fig. 5 *Dendrobium metrium* Kraenzl., in situ. Voucher specimen: Schuiteman *et al.* 16-124.



Fig. 4 *Cyindrolobus biflorus* (Griff.) Rauschert, flowering stem. Voucher specimen: Schuiteman *et al.* 16-90.



Fig. 6 *Dendrobium metrium* Kraenzl., flower. Voucher specimen: Schuiteman *et al.* 16-124.



Fig. 8 *Eulophia graminea* Lindl., flower. Voucher specimen: Schuiteman *et al.* 16-57.



Fig. 7 *Eulophia graminea* Lindl., in situ. Voucher specimen: Schuiteman *et al.* 16-57.



Fig. 9 *Habenaria hosseusii* Schltr., in situ. Voucher specimen: Schuiteman *et al.* 16-0.



Fig. 10 *Habenaria hosseusii* Schltr., flower. Voucher specimen: Schuiteman *et al.* 16-0.



Fig. 11 *Hetaeria oblongifolia* Blume, flowers. Voucher specimen: Kew cult. 2016-2586.



Fig. 12 *Hetaeria oblongifolia* Blume, in situ. Voucher specimen: Kew cult. 2016-2586.



Fig. 13 *Phaius indochinensis* Seidenf. & Ormerod, flowers. Voucher specimen: Schuiteman *et al.* 16-51.



Fig. 14 *Phaius indochinensis* Seidenf. & Ormerod, in situ. Voucher specimen: Schuiteman *et al.* 16-51.



Fig. 15 *Tropidia angulosa* (Lindl.) Blume, in situ.

pubescent adaxial surface of the lip is more typical of the section *Dendrobium*, to which it may well belong. So far, this species has not been included in any phylogenetic analyses. It was previously recorded from Thailand, Vietnam, Peninsular Malaysia, and Sumatra, but in spite of its relatively wide distribution it appears to be a rare species (Averyanov, 2012).

***Eulophia graminea* Lindl. (voucher specimen: Schuiteman *et al.* 16-57; Figs 7 & 8)**

In general, this is a common, even somewhat weedy species of open, disturbed places, although it also occurs in closed forest (Pedersen *et al.*, 2014). Outside its natural range it is naturalized in Australia, South Africa and USA (Pemberton *et al.*, 2008). We found this species in humid, old-growth, evergreen forest in Pursat Province near Pramaoy, at 350 m asl. Only a single specimen was seen in flower, on 24 November 2016. It occurs over much of tropical Asia, from Pakistan to China, as well as Sumatra, Java, Borneo and the Philippines. *Eulophia graminea* was already listed as occurring in Cambodia by Govaerts *et al.* (2017), but it was not recorded from Cambodia by Seidenfaden (1992). As we have not seen a reference to an exact locality for Cambodia, the present record may be the first from a known locality in this country.

***Habenaria hosseusii* Schltr. (voucher specimen: Schuiteman *et al.* 16-0; Figs 9 & 10)**

Dozens of flowering specimens of this long-spurred orchid were found on 20 November 2016 on an eroded limestone hill near Takream Village in Battambang Province, at 150 m asl. Two other species of *Habenaria* were also observed in flower there: *H. lindleyana* Steud. and *H. dentata* (Sw.) Schltr. The vegetation was an open, secondary forest of young trees without epiphytes, and there were signs of burning. The present species differs in minute details from *H. dentirostrata* Tang & F.T.Wang, which has already been recorded from Cambodia (Leti *et al.*, 2013), and the two species may in fact be conspecific (Kurzweil, 2009). *Habenaria hosseusii* has been recorded from Thailand and Laos.

***Hetaeria oblongifolia* Blume (voucher specimen: Kew cult. 2016-2586; Figs 11 & 12)**

The flowers of this inconspicuous terrestrial orchid are only about 3.5 mm long. As in all species of the genus *Hetaeria*, they are not resupinated, which means that the lip is held uppermost; in most other orchids, the lip is held lowermost. Like *Eulophia graminea* mentioned above, this species was found in humid, old-growth, evergreen forest in Pursat Province near Pramaoy, at 350 m asl. It is widespread throughout tropical and subtropical Asia, from Sri Lanka to Japan, and south-eastwards to Australia and New Caledonia.

***Phaius indochinensis* Seidenf. & Ormerod (voucher specimen: Schuiteman *et al.* 16-51; Figs 13 & 14)**

This is undoubtedly the showiest orchid reported in the present paper, with flowers 6–8 cm across. It proved to be common in humid evergreen montane forest in Pursat Province, about 24 km SW of Pramoy, at 870 m

asl, growing in leaf litter in dense shade. Only two or three specimens out of hundreds were seen in flower on 23 November 2016. It often grew together with *Plocoglottis bokorensis* Seidenf., which is superficially similar in appearance when not in flower. However, the latter has distinct, ovoid pseudobulbs at the base of the slender stems, whereas the stems of *P. indochinensis* are uniformly terete. *Phaius indochinensis* is also known from Laos (Schuiteman *et al.*, 2008), Thailand and Vietnam, and has been misidentified as *P. indigofer* Hassk. (Seidenfaden, 1992, as “*indigoferus*”), a species that probably does not occur in Thailand and Indochina.

***Tropidia angulosa* (Lindl.) Blume (not vouchered; Fig. 15)**

Several specimens, long past flowering, were discovered not far from a population of *Hetaeria oblongifolia*, mentioned above. A few living specimens that we collected for cultivation did not survive for more than a few weeks, with the stems rapidly turning black. It has been our experience that, unlike most orchids, *Tropidia* does not respond well to being bare-rooted. Consequently, it is difficult to bring the species into cultivation from wild-collected material. The present species, with its two broad, almost opposite leaves and short terminal raceme, has been reported from all of Cambodia’s neighbouring countries, and there can be little doubt that the plant we photographed is indeed *T. angulosa*. A good photograph of a flowering specimen can be found in Seidenfaden (1992) and Averyanov (2008). The species is widely distributed from Northeast India to South Japan, and south to Java, Bali and the Philippines. It is common in Vietnam in “all kinds of lowland and submontane forests on any soils. 0–1,600 m” (Averyanov, 2008).

Conclusions

Fieldwork in almost any area in Cambodia where there is still natural vegetation left reveals new orchid records. At the same time, suitable habitats are still being destroyed, and there can be little doubt that species have already been lost before they could be recorded. Most of the limestone hills that we visited in Battambang Province showed signs of heavy disturbance, with little if any of the original forest cover left. We can only suspect that sensitive and endemic species may have disappeared from these hills, which are entirely surrounded by cultivated land. We will probably never know.

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