Balanophoraceae, SE Asia: On the identity of *Balanophora involucrata* Hook.f. and *B. flava* (Hook.f.) Lidén comb. nov.

Magnus Lidén
Systematic Biology, Uppsala University, Norbyvägen 18D, 75236 Uppsala, Sweden.
E-mail: magnus.liden@ebc.uu.se.

[Received 20.02.2019; Revised 07.05.2019; Accepted 08.05.2019; Published 30.06.2019]

**Abstract**
Correct names are established for two species confused under the name *Balanophora involucrata* Hook.f. A new combination *B. flava* (Hook.f.) Lidén is necessitated.

**Keywords:** *Balanophora involucrata, Balanophora flava, SE Asia, Nomenclature*

*Balanophora* sect. *Dibivolva* (Tiegh.) B.Hansen, distributed in the Himalayas and into Indochina and China, is technically defined by three tepals and a collar (“involucrum”) of fused scale-leaves on flowering stems. The section thus circumscribed includes a dioecious and a monoecious taxon. Hooker (1856), in a study of Indian species of *Balanophora*, treated them as a single species, *B. involucrata* Hook.f., and recognized the taxa at varietal level. In his global monograph, Hansen (1972), having seen only museum specimens, likewise treated them as conspecific, but without formal subdivision. van Tiegheim (1907) and Huang & Murata (2003), on the other hand, recognized two species, as there are striking characters correlated with the monoecy/dioecy distinction, and no intermediates are known, same for colour of stems and number of male flowers which, according to Hooker, can vary within populations.

Male plants of the dioecious species have bracts fused into a bee cake pattern of alveoli from which emerge long-stalked flowers with yellow to whitish perianth (Figure 1), whereas the monoecious species has free bracts and short-stalked male flowers with red perianth (Figure 2). A similar distinction is found between the female flowers (Figures 1, 2). Possibly there are also differences in host plant preferences. Both, Hooker and Hansen recorded several woody species, but without discriminating between the two forms.

With these substantial differences, and lack of intermediates, I see no reason at all to question the recent taxonomic conclusions by Huang & Murata. Unfortunately, however, they erroneously applied the epithet *involucrata* to the dioecious taxon while using *fargesii* for the monoecious one.

Hooker (1856 pl. IV, V, VI) illustrated the monoecious taxon as *B. involucrata* without varietal designation (although it was given as *? rubra* in the text). The dioecious taxon was recognized as var. *flava* and var. *cathcartii*. Subsequently, van Tiegheim (1907) elevated *flava* and *cathcartii* to specific rank under *Bivolva*, keeping *involucrata* for the monoecious taxon. Finally, Hansen (1972) selected a monoecious Hooker specimen in K as lectotype for the name *Balanophora involucrata*.

A new species level combination is thus needed under *Balanophora* for the dioecious taxon, for which *flava* and *cathcartii*, being simultaneously published (1856 at varietal rank,
1907 at species rank), are competing epithets. As *flava* is represented by herbarium specimens (incl. a lectotype), *cathcartii* only by pickled material, *flava* is my preferred choice.


*Balanophora harlandii* Hook.f. is another dioecious species with long-stalked male flowers emerging from hexagonal pits of a bee-cake structure of fused bracts (this is also
emphasised by Huang & Murata), but it is distinguished from *B. flava* by spiral or at most sub-opposite leaves, colour, host and altitude preferences. Their close morphological similarity nevertheless brings into question the circumscription of sect. *Dibivolva*, which is based only on the presence of an “involucrum”, as it seems highly probable that *B. flava* is more closely related to *B. harlandii* than to *B. involucrata*.


**LITERATURE CITED**


