

Furtado (1934) described two new species of *Pinanga*, *P. clemensiae* and *P. sessilifolia*, among others, in the same paper. *P. sessilifolia* is described as being very similar to *P. clemensiae* but differing in having sessile leaves. The type specimens of these two species are indeed very similar and differ only in the length of the petiole. Furthermore, recently collected material illustrates a range in petiole length from an almost sessile leaf to one with a well-developed petiole. Fruit characters and features of leaf texture and indumentum are similar throughout and I do not believe that the two taxa described by Furtado can be retained as distinct. In choosing *P. sessilifolia* as the name for this taxon, I have been able to rid the genus of the confusion between *P. clemensiae* and *P. clemensii*, the latter a quite distinct taxon described by Furtado in the same paper as the other two names.

In Martelli (1934), *P. albescens* var. *sarawakensis* is described, based on a collection from Sarawak in Kew, presumed to have been collected by Hewitt, but with no date or locality. The variety was distinguished by having the leaf divided into three segments, differences in indumentum on the lower lamina surface, and the unbranched glabrous inflorescence. Typical *P. albescens* may have leaves divided into leaflets, and have a simple inflorescence. However, the glabrous inflorescence of the variety *sarawakensis* is distinctive; fruit accompanying the holotype of the variety but not mentioned by Beccari is quite distinct from that of *P. albescens*. This specimen is in fact *P. sessilifolia* Furtado, and *P. albescens* var. *sarawakensis* is hence transferred to synonymy.

6. *Pinanga albescens* Becc. ex Hubert Winkler in Engl. Bot. Jahrb. 48: 89 (1912). Type: S Borneo, between Batu Babi and Lumovia, *Hubert Winkler* 2880 (BO).

Pseudopinanga albescens (Becc.) Burret in Notizbl. Bot. Gart. Mus. Berlin-Dahlem 13: 193 (1936).

Burret (1936) established the genus *Pseudopinanga* and transferred *Pinanga albescens* to it. Following Moore (1973), I do not regard *Pseudopinanga* as being distinct from *Pinanga* (see under No. 7 *P. aristata* and *P. pilosa*).

7. *Pinanga aristata* (Burret) Dransfield comb. nov.

Pseudopinanga aristata Burret in Notizbl. Bot. Gart. Mus. Berlin-Dahlem 13: 191 (1936). Type: Borneo, Kinabalu; *J. & M. S. Clemens* 27259 (holotype B†; isotype K).

Pinanga pilosa (Burret) Dransfield comb. nov.

Pseudopinanga pilosa Burret in Notizbl. Bot. Gart. Mus. Berlin-Dahlem 13: 186 (1936). Type: Borneo, Kinabalu, *J. & M. S. Clemens* 29205 (holotype B†; isotype K).

P. pilosa var. *gracilior* Burret, op. cit.: 191 (1936). Type: Borneo, Kinabalu, *J. & M. S. Clemens* 29204 (holotype B†; isotype K).

These two species were among several described by Burret in a new genus *Pseudopinanga*; other taxa were transferred there from *Pinanga*. *Pseudopinanga* was separated from *Pinanga* on the single character difference of the united calyx of the pistillate flower in the new genus, and the separate calyx lobes

in *Pinanga*. I follow Moore (1973) in regarding this as insufficient grounds for splitting the genus *Pinanga*; furthermore intermediate states are observable.

Although Moore (l.c.) has included *Pseudopinanga* in *Pinanga*, there has been no transfer of those species first described in *Pseudopinanga* to *Pinanga*. *P. aristata* and *P. pilosa* are here formally transferred (see also notes under *Pinanga albescens*). *P. pilosa* may well be conspecific with *P. trichoneura* Becc. ex Martelli, based on Hallier 3163 from Amai Ambit in Western Borneo; unfortunately the type, supposedly in Bogor, has not been traced, and the fragment in Florence is too small to be of help in elucidating this. I have therefore preferred to continue to use Burret's name until the type of *P. trichoneura* is found.

The other species described as new in *Pseudopinanga* are best not transferred to *Pinanga* until they are either recollected or duplicate specimens located and re-examined.

8. *Pinanga capitata* Becc. ex Gibbs in J. Linn. Soc. Bot. 42: 168 (1914).
Type: Borneo, Kinabalu, Gibbs 4219 (holotype BM).

I have long been puzzled by the polymorphism of the large montane Bornean species of *Pinanga* which bear inflorescences with many branches. In the G. Mulu National Park, two superficially very distinct taxa belonging to this form of *Pinanga* grow side by side in upper montane forest on the ridge of G. Mulu itself. One of the two taxa bears leaves with leaflets diverging from the rachis at an acute angle, with the terminal compound pair of leaflets joined along part of their length; the other taxon is strikingly different, bearing leaflets which diverge at right or obtuse angles, with the two terminal leaflets strictly opposite and divaricate, not joined together. I have seen very few specimens of this second taxon; a photograph in Florence herbarium, which appears to be of a leaf of this taxon from a collection by Lobb from Borneo, is annotated 'Nenga? divaricata Becc.' and 'Gigliolia?' by Beccari, and 'Certainly not *Gigliolia insignis*, pinnae with 2-3 primary nerves. Probably *Kentia*, genus quid?' by H. E. Moore. Since this collection by Lobb, a few collections have been made in the 4th and 5th Divisions of Sarawak and in Brunei. This small range of specimens has allowed me to build up some conception of the variation of the divaricate *Pinanga*.

The non-divaricate leafleted *Pinanga* appears to be similar to species described from Kinabalu, in particular four species, two described by Beccari and two by Furtado. *P. capitata* Becc. ex Gibbs is based on a collection of a high altitude pinang with a rather congested crownshaft; *P. clemensii* Furtado is also based on a high altitude pinang, but without the congested crownshaft. The inflorescences of these two taxa are almost indistinguishable; similarly the leaves differ only in size and I am sure these two taxa are conspecific. *P. capitata* is probably a particularly exposed form of the other taxon. Many other collections from the upper reaches of Kinabalu suggest that *P. capitata* is a common constituent of upper montane forest. *P. gibbsiana* Becc. and *P. dallasensis* Furtado were both based on collections from the lower slopes of Kinabalu, and represent much more robust plants with much larger inflorescences, the former having distichously arranged flower groups, the latter with spirally arranged flower groups. Superficially, these two taxa appear to be very closely related, if not conspecific; the apparently rather precise difference in arrangement of flower groups which was used by