Blumea 57, 2013: 215–216
www.ingentaconnect.com/content/nhn/blumea

RESEARCH ARTICLE

http://dx.doi.org/10.3767/000651913X662858

Hulemacanthus species (*Acanthaceae*: *Barlerieae*) in New Guinea

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Key words

Acanthaceae
Barlerieae
Clerodendrum
Hulemacanthus
Lamiales
New Guinea

Abstract A reassessment of *Hulemacanthus* type material has led to the recognition of two species in New Guinea. *Clerodendrum friesii* becomes a synonym of *Hulemacanthus novoguineenis*.

Published on 10 January 2013

INTRODUCTION

Hulemacanthus S.Moore (*Acanthaceae*) is placed within the tribe *Barlerieae* (McDade et al. 2008) and is endemic to New Guinea. Three species have been described, with a fourth, unpublished name, '*H. grandiflorus*', appearing on *Gillison 22485* (BRI, L). However, Willis (1966) cited *Hulemacanthus* as having only one species and this has been followed by later authors (Johns 1995: 109, Mabberley 1987: 281, McDade et al. 2008: 1145, Mabberley 2009: 416), despite the absence of a published revision in which the three described species have been reduced to one. An account of *Acanthaceae* for Flora Malesiana has not yet been undertaken and so we present here an evaluation of *Hulemacanthus*, including *Clerodendrum friesii* K.Schum. (*Lamiaceae*, formerly *Verbenaceae*) in synonymy.

REASSESSMENT

A revision of *Clerodendrum* and allied genera by the first author for Flora Malesiana resulted in the present paper, through the rediscovery of type material of *Clerodendrum friesii*. Since its description by Schumann (1905), *C. friesii* has been recognised in the few major accounts of the genus in Malesia (Lam 1919: 278, Lam & Bakhuizen van den Brink 1921: 94) and later, by Moldenke (1986: 471). Moldenke (1986: 472) stated that the holotype at B had been lost, but one of us (JW) located an isotype at UPS. Examination of this type material showed that it was conspecific with *Hulemacanthus novoguineensis*. The type of *C. friesii* has broad, tubular-infundibuliform corollas, rather than the narrow, cylindrical corolla tubes that are characteristic in *Clerodendrum*. The presence of sunken nodes (which would have been swollen when fresh) and cystoliths provided additional evidence for its transfer.

Hulemacanthus novoguineensis is conspecific with *H. whitei* S.Moore (the type species of the genus), and an earlier name which must, therefore, replace *H. whitei.* Prior to the description of *H. whitei*, *H. novoguineensis* had been described in a different genus (*Phlogacanthus* Nees) due to the resemblance of the pollen to that of *Phlogacanthus* (Lindau 1905). However, Bremekamp (1957) noted that the flowers on the type of '*P. novoguineensis*' are badly damaged, and so Lindau may therefore have been unable to make the connection with *Hulemacanthus*, a genus which has pollen closely resembling that of *Phlogacanthus*. When Bremekamp (1957) made the new combination, *H. novoguineensis*, he did not comment on his perception of the dissimilarity between that species and *H. whitei*. He only stated Moore's opinion concerning the similarity of the pollen of *H. whitei* to *Graptophyllum* Nees, and then contested it: stating that following his study "this does not seem probable" (Bremekamp 1957: 153). Therefore, both *H. novoguineensis* and *H. whitei* were previously accepted based on scanty direct comparison.

Following a re-examination of the type material and non-type collections of *Hulemacanthus* (40 specimens in total), we have found that floral characters are continuous across all of the collections. However, vegetatively we believe that petiole length and, to a lesser degree, leaf width, can be used to separate two species. *Hulemacanthus novoguineensis* (now including *H. whitei* and *C. friesii*) appears to be a long-petioled species whereas the leaves of *H. densiflorus* Bremek. have much shorter petioles. We acknowledge that they may, in due course, be considered a single, variable species, in which case *H. novoguineensis* would have priority over *H. densiflorus*. They do not appear separable by distribution or ecology. Further study in the field and molecular analysis are required to draw firm conclusions.

KEY TO THE SPECIES

1. Petioles 3–7(–13) cm long; leaves up to 10.5 cm wide . . . . . 2. *H. novoguineensis*
1. Petioles 0.5–1(–2) cm long; leaves up to 7.5 cm wide . . . . . 1. *H. densiflorus*

1. *Hulemacanthus densiflorus* Bremek.

Hulemacanthus densiflorus Bremek. (1957) 152. — Type: *Aet & Idjan 817* [Exped. van Dijk] (holo BO, image seen; iso K), West Papua, Memperawaja, near Seroei [Serui], 16 Sept. 1939.

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Specimens examined. Aet 146 (K); *Aet & Idjan 63* (K), *817* (BO, K), *819* (K) – *Carr 16372* (BM) – *Hartley TGH 11458* (K); *Henty NGF 49242* (K) – *Johns 7747*, *7770* (K) – *Kalkman BW 3465* (K) – *Larivita & Katik LAE 70504* (K) – *Sands 1089* (K), *6884* (2 sheets); *Sayers NGF 13295* (K); *Streimann & Kairo NGF 39224* (K) – *Van Royen & Sleumer 7607* (BM, K) – *Wiakabu et al. LAE 73794* (K); *Womersley NGF 24783*, *NGF 37147* (K).

2. *Hulemacanthus novoguineensis* (Lindau) Bremek.

Hulemacanthus novoguineensis (Lindau) Bremek. (1957) 152. — *Phlogacanthus novoguineensis* Lindau (1905) 388. — Type: *Schlechter 16301* (holo B†; iso BM, K), Kaiser-Wilhelmsland [Papua New Guinea], 17 July 1907.

Clerodendrum friesii K.Schum. (1905) 372. — Type: *Nyman 730* (holo B†; iso UPS, image seen), Kaiser-Wilhelmsland [Papua New Guinea], Sattelberg, July 1899, *syn. nov*.

Hulemacanthus whitei S.Moore (1920) 194. — Type: *White 530* (holo BM) Papua, Deva Deva, July/Aug. 1918, *syn. nov*.

Specimens examined. Cruttwell 612 (K) – *Gillison & Kairo NGF 25694* (K) – *Hartley 10585* (K) – *Katik LAE 70718*, *LAE 74854* (K); *Katik & Kairo LAE 64275* (K) – *Millar NGF 23484*, *NGF 40980* (K); *Moi & Kairo 121* (K) – *Nyman 730* (UPS) – *Ridsdale NGF 31692* (K) – *Schlechter 16301* (BM, K); *Streiman & Students NGF 45039* (K) – *Takeuchi et al. 13730*, *16178* (K) – *White 388*, *530* (BM).

Acknowledgements We thank Tom Daniel (California Academy of Sciences), David Mabberley (Royal Botanic Gardens & Domain Trust, Sydney) and Lucinda McDade and Erin Tripp (Rancho Santa Ana Botanical Garden, California) for valuable information, as well as staff at the herbaria that we have consulted during this work (B, BM, BO, K, L, UPS).

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