

## A New Species of *Alphonsea* (Annonaceae) from Borneo

I.M. TURNER

Research Associate, Singapore Botanic Gardens and  
Royal Botanic Gardens, Kew

### Abstract

*Alphonsea borneensis* I.M. Turner is described as a new species. It is a medium-sized tree of lowland forest recorded from Sabah and Central Kalimantan.

### Introduction

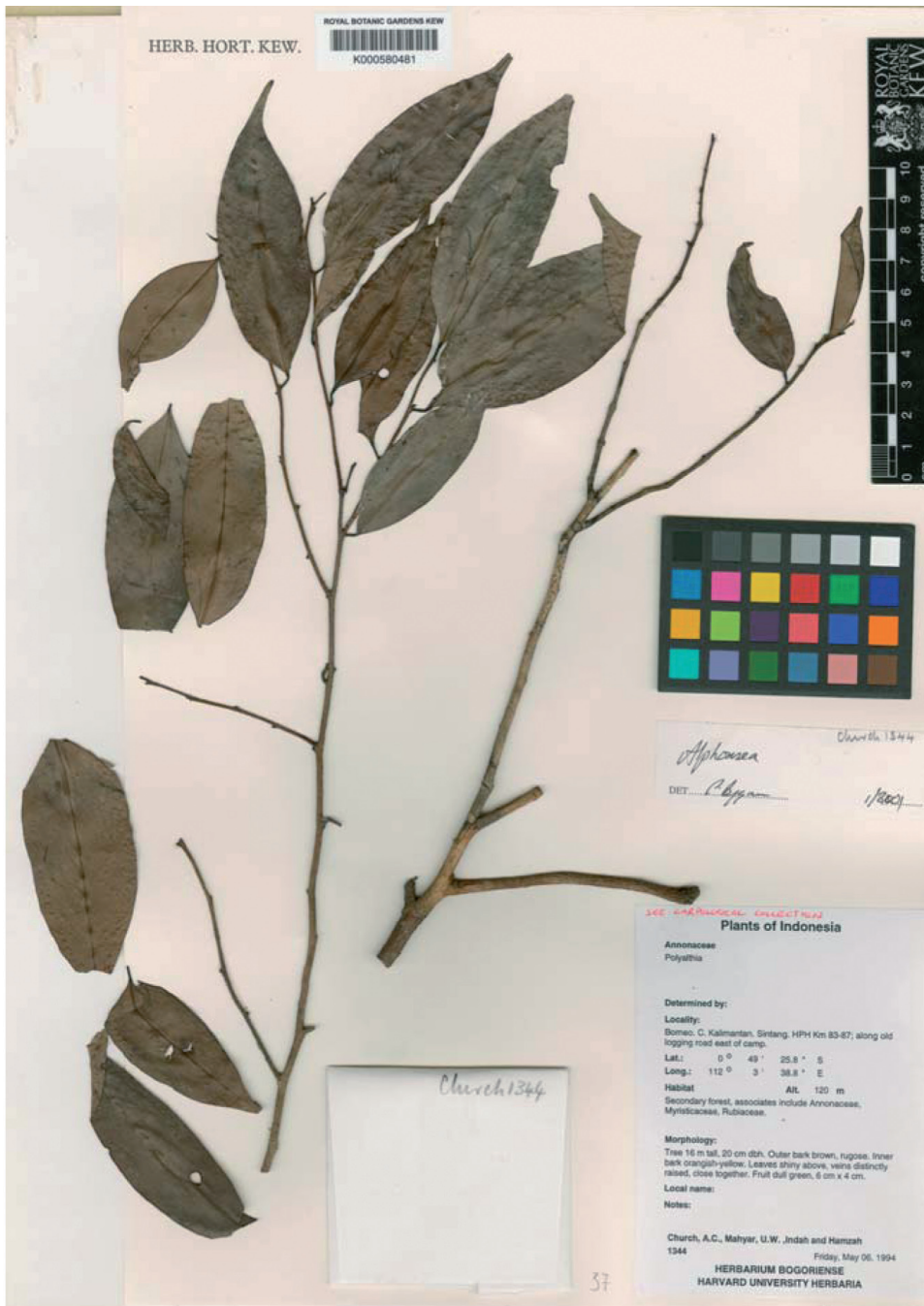
In revising the genus *Alphonsea* for the Tree Flora of Sabah and Sarawak, it became apparent that a number of distinctive fruiting specimens in various collections, notably the Sandakan Herbarium, did not match any of the species included in the revision of the genus by Kessler (1995). A new species is therefore described.

*Alphonsea borneensis* I.M. Turner, *sp. nov.*

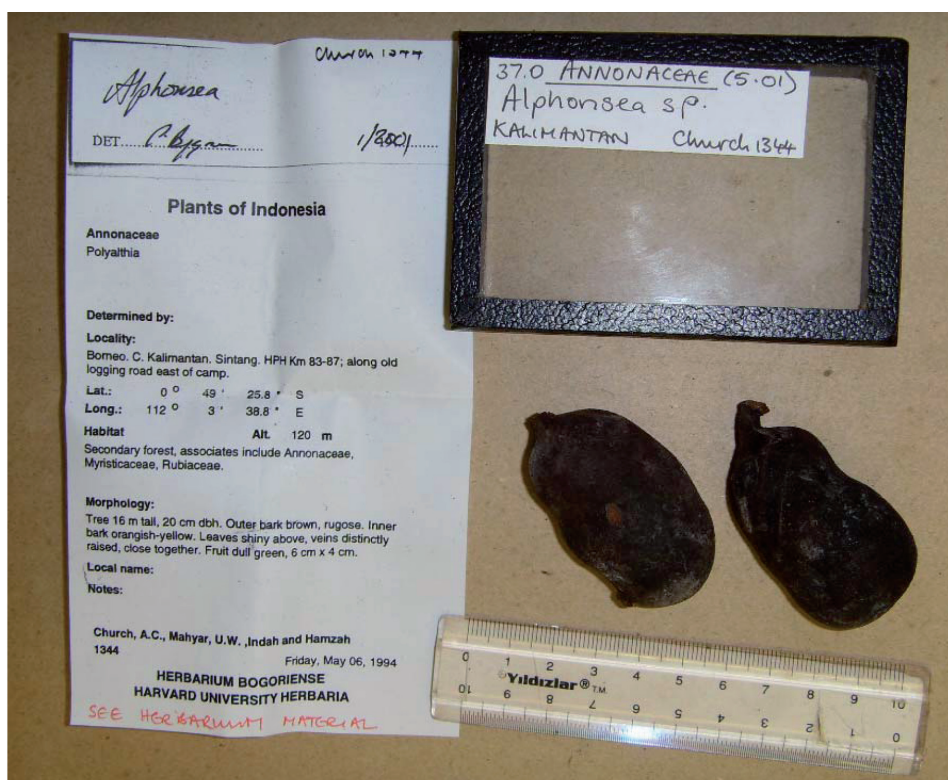
*Alphonsea javanicae similis, foliis chartaceis, fructibus maioribus differt.* –

**Typus:** Borneo, Kalimantan, Central Kalimantan, Sintang, HPH km 83-87, along old logging road east of camp (0°49'25.8", 112°3'38.8"), 6 May 1994, A.C. Church *et al.* 1344 [holo, K (barcode: K000580481); iso, A [×2], BO, K, L[×2]]. **Figs. 1 & 2.**

**Tree** to 16 m tall, 20 cm dbh. **Twigs** pale grey or grey-brown, drying longitudinally wrinkled, often with raised lenticels, youngest twigs red-brown with adpressed pale hairs. **Leaves** chartaceous, drying fairly uniformly brown or grey-brown, glabrous, except for short hairs along midrib above; midrib flush to slightly sunken above, prominent below in dry leaves, lateral nerves slightly raised on both surfaces in dry leaves, lamina ovate to (narrowly) elliptic, 4-13 × 1.5-5 cm, base acute to obtuse, apex acuminate, lateral nerves 10-18 pairs, obscure to the naked eye but visible under magnification, looping well within the margin with secondary loops outside, tertiary and higher orders of venation visible under magnification from below, more obscure from above; petiole 2-5 mm long, 0.5-1 mm thick, drying black or dark brown, rugose. **Flowers** unknown. Fruiting pedicel, 8-18 mm long, 3-3.5 mm thick, calyx sometimes persisting. **Monocarps** to 6, ellipsoidal to globose, to 6 × 4



**Figure 1.** Photograph of the herbarium specimen that forms part of the holotype of *Alphonsea borneensis*, *sp. nov.* © The Board of Trustees of the Royal Botanic Gardens, Kew. Reproduced with the consent of the Royal Botanic Gardens, Kew.



**Figure 2.** Photograph of the carpological specimen that forms part of the holotype of *Alphonsea borneensis*, *sp. nov.*

cm, drying black, apex rounded or with short broad nipple, smooth, minutely warty sometimes with very short brown hairs visible under magnification, stipe 3-10 mm long, 6 mm thick. **Seeds** ca 8, lunar, ca 20 × 10 × 4 mm.

*Specimens examined:* MALAYSIA, **Sabah.** Ulu Sungai Pingas-Pingas, Keningau District, Interior Division, Sumbing Jimpin, *SAN 122061* (SAN); Upper Sg Miau near Mt Muruk Miau, Sipitang District, Interior Division, *Pius & Dauni, SAN 143151* (SAN); Hiaw Fok Logging Area, Marak-Parak on the National Park Boundary, Kota Merudu District, Kudat Division, *Aban Gibot, SAN 100010* (SAN [x2]); Sepilok, Sandakan District, Sandakan Division, *de Wilde et al. SAN 144001* (K, SAN); Permodalan Plantation, Sg Kertam, Sandakan District, Sandakan Division, *Aban Gibot, SAN 96834* (SAN [x2]); Mostyn, Madai Forest Reserve, Lahad Datu District, Tawau Division, *S. Lantoh, SAN 67746* (SAN); Madai, Kunak District, Tawau Division, *Mansus & Suali, SAN 117726* (SAN); about 8 miles from Kampung Merungin, Ranau District, West Coast Division, *Leopold & Saikeh, SAN 82589* (SAN).

*Note:* This is a species of lowland forest, with one collection (SAN 100010) from lower montane forest on ultrabasic substrate at 1200 m. Quite widely collected in Sabah, once from Central Kalimantan (type).

A pertinent question is why, in the absence of flowers, is this species described in the genus *Alphonsea*? The arborescent form and multi-carpellate and multi-ovulate state of the specimens limits the choice of genus among those occurring in Borneo to *Alphonsea* and its near miliusoid relatives *Mitrephora* and *Pseuduvaria*. Species of the latter two genera typically have leaves with regular ‘herring-bone venation’ of distinct sets of lateral nerves arching in parallel, whereas *Alphonsea borneensis* has fairly obscure venation, very similar to other Bornean *Alphonsea* species. A number of the specimens listed above have been previously determined as ‘*Alphonsea* sp.’

The large monocarps of *Alphonsea borneensis* that dry black and apparently glabrous to the naked eye are distinctive. The only other species of *Alphonsea* in Borneo with fruits similar is *A. javanica* Scheff., but it has more cylindrical monocarps to 2.5 cm in diameter whereas those of *A. borneensis* are ellipsoidal, or more rarely globose, and reach 4 cm in diameter. The obvious difference between *A. javanica* and *A. borneensis* is in the leaves. *Alphonsea javanica* has coriaceous leaves with a shiny upper surface, whereas *A. borneensis* has chartaceous leaves with a smooth but not markedly shiny upper surface. The foliage of *A. borneensis* is very similar to that of *A. kinabaluensis* J. Sinclair but the monocarps are much larger and not brown hairy.

### Acknowledgements

I am grateful to the Arnold Arboretum, Forest Research Institute of Malaysia and Singapore Botanic Gardens for financial assistance towards this research and Royal Botanic Gardens, Kew, for facilities essential to its completion. Dr J. F. Veldkamp (L) kindly translated the diagnosis into Latin. John Sugau, Joan Pereira and Suzana Sabran are thanked for their help during my visit to Sandakan and for the subsequent loan of material.

### Reference

- Kessler, P. J. A. 1995. Studies on the tribe Saccopetalae (Annonaceae) – IV. Revision of the genus *Alphonsea* Hook.f. & Thomson. *Botanische Jahrbücher für Systematik, Pflanzengeschichte und Pflanzengeographie* **118**: 81-112.