

REVISION OF THE BURSERACEAE OF THE MALAYSIAN AREA  
IN A WIDER SENSE

Va. *Haplolobus*

by

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(Issued 31. XII. 1955)

This is a supplement to Husson & Lam's revision of *Haplolobus* in *Blumea* 7<sup>2</sup>, 1953, 413—458, which will be referred to in the present paper as: "Husson & Lam 1953". There is one new species (*H. mollis*, from Halmaheira) and one new forma (*H. acuminatus*, fa *glabrrior*) and the area of the genus has possibly to be extended to include Palau. I would not be surprised at all if it would turn up in some of the Philippines Islands.

Female flowers have been described for the first time of *H. borneensis*. Both in that species and in *H. clementium* the inflorescences have now been found to occasionally possess more or less abortive vegetative buds. This seems more and more a character of generic importance.

Flowers (♂) have for the first time been described for *H. megacarpus*.

***H. acuminatus*** (K. Schum.) H. J. Lam; Husson & Lam, 1953, 427.

NEW GUINEA. West New Guinea, Res. Hollandia, Cycloop Mts, Ifar-Ormu, in old forest along rivulet, 680 m: *N. N. G. For. Serv. (Versteegh) Bw. 927* (HOLL, L), tree 18 m, diam. 0.15 m, young flow. buds yellowish green; 4. XI. '54.

Leaves  $3\frac{1}{2}$ — $4\frac{1}{2}$ -jugate, petiolar medulla with 1—3 resiniferous ducts, leaflets rather narrow for the species. It exactly tallies *NIFS bb 30470* but in the number of resiniferous ducts. This is the highest altitude so far recorded for the species.

NEW GUINEA. West New Guinea, Manokwari, near Sidai, in old forest fairly common, flat country: *N. N. G. For. Serv. (Schram) Bw. 1773*, ster. (HOLL, L), tree 13 m, diam. 0.34 m, 16. III. 1955; nat. n.: mokom.

A sterile specimen but unmistakably this species. Number of resiniferous ducts 7—10; leaflets pubescent underneath.

fa. ***glabrrior***, nov. f. — *Inflorescentiis* (♀) *glabris*, *foliis subglabris*.

NEW GUINEA. West New Guinea, Res. Hollandia, Holtekang, second growth forest on rocky soil, steep slope: *N. N. G. For. Serv. (Brouwer) Bw. 1573* ♀ (HOLL, L), rather frequent, consociate, tree 14 m, diam. 0.3 m, flow. yellow, bark grey, nat. n.: kao, 25. X. '54.

This specimen comes nearest to *H. acuminatus*, but is tending towards *H. maluensis* by its entirely glabrous inflorescences (♀, 3—5 cm long) and

subglabrous leaves. The best way out seemed to provisionally create a new forma *glabrrior*.

***H. robustus*** H. J. Lam; Husson & Lam 1953, 429.

NEW GUINEA. West New Guinea, Res. Biak, Numfore Isl., nr. Namber in old forest on slope, 8 m: *N.N.G. For. Serv. (Koster) Bw. 1060* (HOLL, L), ster., tree 18 m, bark greyish brown, acid odour, 1. X. 1954, nat. n.: wom.

Closest to this species but leaves only little hairy.

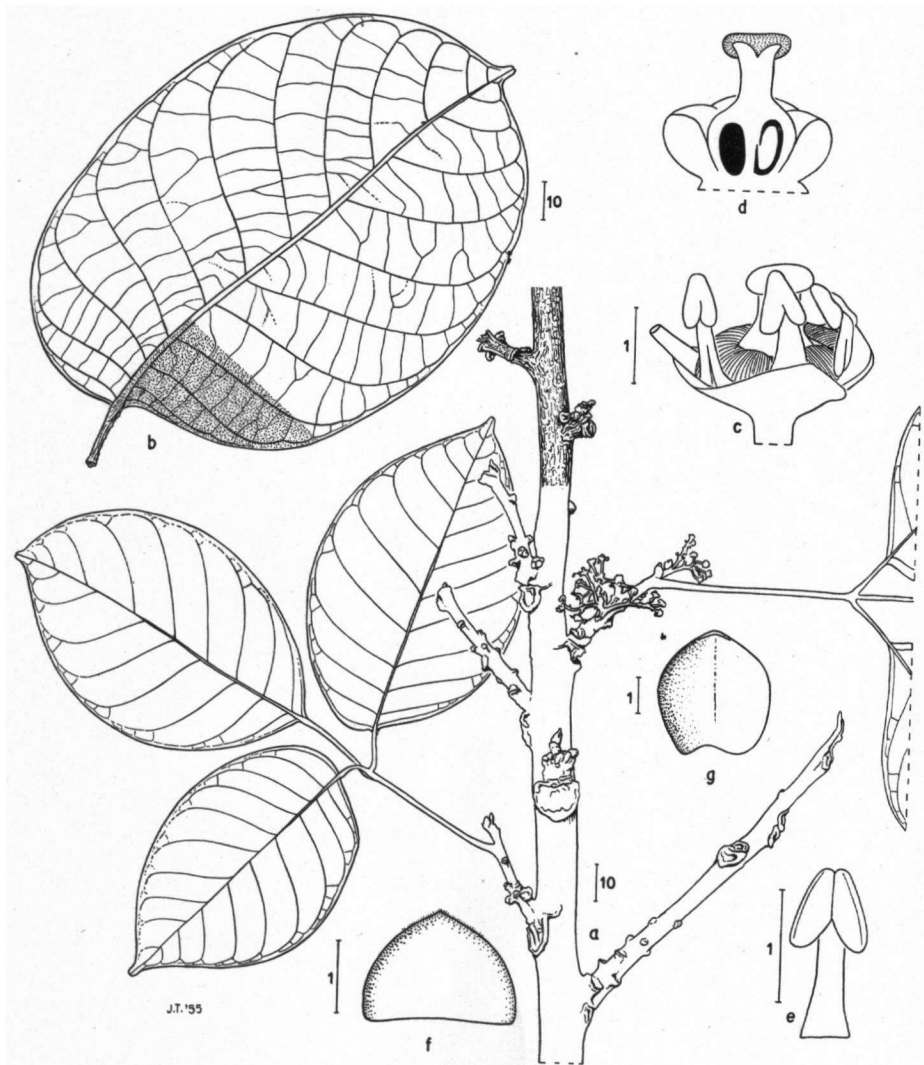


Fig. 1 — *H. mollis* H. J. Lam — a. branchlet with leaves and inflorescences; b. leaflet showing venation; c. ♀ flower without corolla; d. gynoecium and disc, long. section; e. stamen; f. sepal, outside; g. petal, inside; dimensions in mm — from type specimen.

**H. ? mollis** H. J. Lam, nov. spec. — *Fig. 1.*

Arbor. Ramuli c. 1 cm crassi, verrucosi, medulla aresinosa. *Folia*  $1\frac{1}{2}$ — $3\frac{1}{2}$ -jugata, petiolo basi ad 0.5 cm crasso, supra cum parte inferiore rhachidis anguste deplanato, haud vel vix sulcato, verruculoso, 3.5—8 cm longo, medulla 8—10 ductis resiniferis percursa; *foliola* elliptica ad obovata, plus minusve bullata, lateralia basi latiora interdum subcordata, plerumque plus minusve obliqua, apice breviter abrupte acuminata, supra glabra, subtus molliter brevopilosa, 7—19 × 5—11.5 cm, petioluli laterales 1—2.2, terminales 2.2—6.2 cm longi; nervi supra vix vel haud, subtus valde prominentes, secundarii 8—15, basales saepe S-formes, omnes curvati, angulo 70°—80° de costa adscendentes, prope margines subarcuatim conjuncti, tertiarii prominuli distanter transversi, reticulacione minuta praecipue supra conspicua. *Inflorescentiae* (♀ tantum videmus) parvae, subpilosae, in ramulis brevibus lateralibus congestae, axillis folii vel foliorum delapsorum insertae, ab ima basi ramificatae, 1.5—2 cm longae, pauciflorae. *Flores* ♀ parvi glabri, (in sicco) 0.3 cm longi, basi 0.2 cm diam.; calyx patens; petala late deltoidea apice minute inflexo-apiculata; discus crassus 6-undulatus, stamina 6 monodynamia c. 0.15 cm longa, filamentis filiformibus, extus discum insertis, antheris subacutis, ut apparet sterilibus; ovarium 0.15 cm altum subglobosum, stylo brevi, stigmatate depresso-clavato; flores ♂ ignoti. *Infructescentiae* et fructus ignoti.

MOLUCCAS. Halmahera, G. Sembilan, in forest, 600 m: *Pleyte 345* ♀ (BO; L, type), tree, 20 m, common, flow. yellow, 29. IX. '51.

As far as leaf characters are concerned, this species seems related to *H. moluccanus*, but it is clearly different from that species in the following characters:

|                                | <i>moluccanus</i> | <i>mollis</i> |
|--------------------------------|-------------------|---------------|
| petiolar res. ducts .....      | 10—40             | 8—10          |
| dimensions leaflets .....      | 13—38 × 7—18      | 7—19 × 5—12   |
| prop. length : width ditto ... | 2—2.5             | 1.2—2         |
| pubescence .....               | none              | below         |
| length ♀ inflor. ....          | 7—18.5            | 1.5—2         |

As fruits are so far unknown, the generic identity is not fully certain.

**H. celebicus** H. J. Lam; Husson & Lam 1953, 435.

PALAU. Todai-yama, in primary forests, 300 m: *Kanehira 1874* ? (NY), tree, ster., Aug. 1932.

The locality is interesting, but the identification is doubtful. Collectors are invited to look for better material.

**H. maluensis** (Lauterb.) H. J. Lam; Husson & Lam 1953, 436.

NEW GUINEA. Papua, North. Div., Divinikoari Hill, about 3 km of Divinikoari Village, in fairly low rain forest on summit of low hill, 50 m: *Hoogland 3723* ♀ (CANB, L), tree, 15 m, bole 8 m, diam. 0.3 m, bark grey-brown, orange-brown inside, coarsely flaky, sapwood straw, heartwood yellow-brown, flow. green, 22. VIII. '53, nat. n.: ongo.

**H. floribundus** (K. Schum.) H. J. Lam; Husson & Lam, 1953, 436.

NEW GUINEA. Papua, North. Div., 2 km NE of Sangara homestead, 10 km W of Popondetta, 200 m, on steep slope of gully: *Hoogland & Womersley 3258* (CANB,

L, LAE), ♀, tree 15 m, bole 8 m, 0.2 m diam., bark pale brown with rather many fairly large horizontal lenticels, flow. green, disc-lobes orange; nat. n.: ongo, joudopu; 8. VII. '53. — West New Guinea, Hollandia, nr Tami, in old forest on flat ground, 2 m alt, fairly frequent: *N. N. G. For. Serv. (Sohram) Bw. 1634* (HOLL, L), ster.; tree 32 m, diam. 0.41 m, bark brown, longitudinally furrowed, 17. I. 1955, nat. n.: dja'ato; kenari; same locality and collector *Bw. 1630* (HOLL, L), tree 19 m, bark greyish.

**H. megacarpus** H. J. Lam; Husson & Lam 1953, 443. — *Fig. 2.*

NEW GUINEA. West New Guinea, Res. Biak, Numfore Isl., nr Namber, in old forest on slope fairly frequent, 7 m alt.: *N. N. G. For. Serv. (Koster) Bw. 1015* (HOLL, L) ♂ type, tree 15 m, diam. 0.38 m, bark d. brown, flow. buds green, 22. IX. 1954, nat. n.: nas; same locality and collector *Bw. 1004* (HOLL, L), ster.

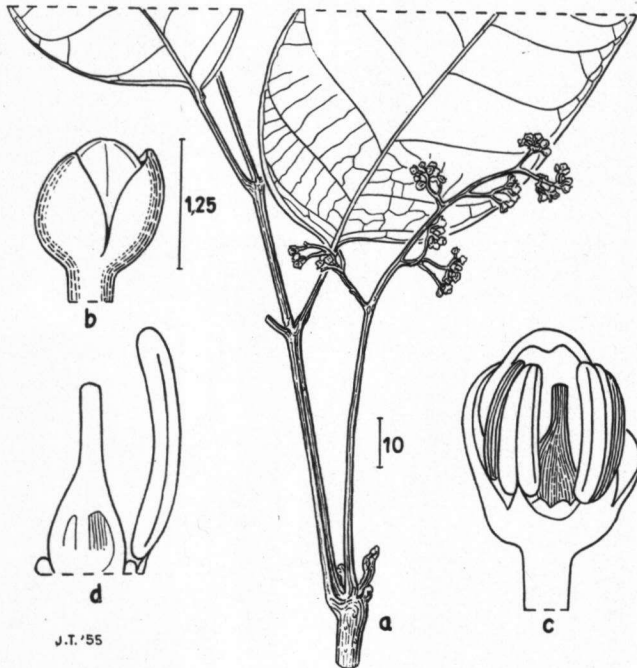


Fig. 2 — *H. megacarpus* H. J. Lam — a. ♂ inflorescence; b. ♂ flower outside; c. ditto, long. section; ditto, showing stamen, disc and pistillum; dimensions in mm — from ♂ type specimen.

Though the type specimen (*Beccari 2225*) bears only fruits, the vegetative characters of the above specimens are so strikingly like those of the type that there seems little reason for doubt regarding their identity.

*Bw 1015* is proposed to serve as the ♂ type: *Inflorescentiae* ♂ axillares glabrae paniculatae (unam tantum videmus) c. 11 cm longae, ramuli laterales usque ad 2 cm longi, ultimi cymosi, bracteis minutis triangularibus. *Flores* ♂ glabri 0.15 cm longi; calyx trifidus sepalis fere liberis; petala apice inflexo-apiculata; stamina 6, antheris 0.1 cm longis, filamentis breviter deltoideis extus discum liberis; discus annularis 6-undulatus pro

genere minutissimus; pistillum sterile vasculiforme staminibus paulo brevius triloculare.

The flowers are unusual for the genus in so far as the sepals are almost free, the disc is exceptionally shallow, the filaments very short (in old buds), and the anthers very long.

**H. clementium** A. M. Husson; Husson & Lam, 1953, 449.

NEW GUINEA. West New Guinea, Res. Hollandia, Cycloop Mts, Ifar-Ormu, in old forest on slope, 700 m: *N. N. G. For. Serv. (Versteegh) Bw. 935* ♀ (HOLL, L), tree about 25 m, diam. 0.2 m, flow. yellowish-green, fruit green; same locality, 600 m: *Van Royen 3782* ♀ (HOLL, L), tree 15 m, bole 8 m, diam. 0.3 m, buttresses  $1 \times 0.5 \times 0.15$  m, flow. buds green, lvs olive green with brownish nerves, 14. X. '54.

The two specimens are identical mutually and very close to the type, though somewhat tending towards *Docters van Leeuwen 10800*. The leaflets are of the smaller type, about 3—14 by 2—5.2 cm, with 6—11 secondary nerves and 1—3 petiolar resiniferous ducts. The leaf apex is more or less long acuminate (acumen 0.5—2 cm). The ♀ inflorescences not rarely bear an obsolete vegetative bud. They are few-flowered and 0.5—3 cm long.

**H. aneityensis** (Guill.) A. M. Husson; Husson & Lam, 1953, 449.

SOLOMONS, without further indication of locality, received from Chief. For. Off. by letter No. D. 6299, sterile (K); San Christoval, same sender and letter (K).

Though there are some leaves only there is no doubt that they represent this characteristic species.

**H.? borneensis** H. J. Lam; Husson & Lam 1953, 452 — *Fig. 3*.

BORNEO. Brit. N. Borneo, Mt Kinabalu, Penibukan W. ridge, 1500 m: *J. & M. S. Clemens 50337* ♀ (BM; L, type ♀), tree, 0.2 m in diam., tall, flow. yellowish, 17. XI. 1933.

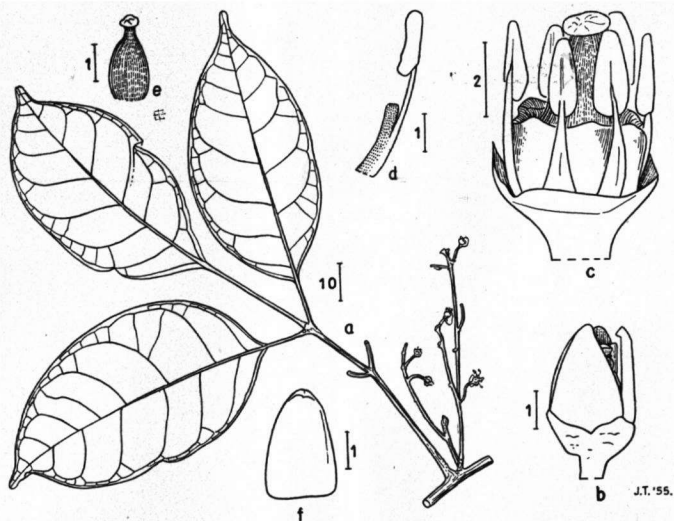


Fig. 3 — *H. borneensis* H. J. Lam — a. leaf and inflorescence; b. ♀ flow. outside; c. ditto, without corolla; d. long. section of disc and stamen; e. ovary; f. petal inside; dimensions in mm — from ♀ type specimen.

The first female specimen recorded and therefore proposed as the ♀ type: *Inflorescentiae* ♀ axillares vel laterales, laxae, saepe gemma vegetativa (abortiva ?) munitae, glabrae, pauciflorae, plerumque ab ima basi ramificatae, 3—6 cm longae, bracteae caducae; *flores* pro genere magni, 0.3—0.35 cm longi, glabri; petala 0.3 cm longa, 0.2 cm lata, oblongo-deltaeidea, apice minute inflexo-apiculata; stamina 6 monodynamia 0.2 cm longa, antheris (sterilibus ?) oblongis, filamentis basi dilatatis disco 6-undulato 0.1 cm alto plus minusve pro dimidio extus adnatis; ovarium 0.2 cm altum vasculiforme stylo brevi stigmatate deplanato coronatum.

The female inflorescences are about half as long as the male ones. Despite a slight difference in the venation type, which is hard to describe, the vegetative parts match those of the male type very well. There are about 3 res. ducts in the petiolar medulla. Fruits are still unknown. As moreover the vegetative characters resemble somewhat those of *Santiria apiculata* Benn., there is still some doubt as to the generic identity.