

1. A new genus of oak*

As a result of the study of Mr. *L.L. Forman*, Scientific Officer, the Herbarium, Royal Botanic Gardens, Kew, England, a new genus of oak was described, basing on the Bornean and Thai collections. The new genus, *Trigonobalanus FORMAN* was published for the first time in *Taxon* volume 11, page 140, 1962, having *T. verticillata FORMAN* from Sabah (North Borneo), Malaysia as the type species.

Sofar only 2 species are known to exist; the second species turned up in Northern Thailand, and is formerly known as *Quercus doichangensis* A. CAMUS, based on a single flowering specimen collected by the late Dr. *J.F. ROCK* of Honolulu from Doi Chang, Chiangmai. The plant was later found occurring at Doi Inthanond, Chiangmai, locally known as *Pao Luang*

Viable seeds are kindly requested for further cytotaxonomic study by Mr. *L.L. Forman*.

For a ready information to collectors the description and illustration of *Trigonobalanus doichangensis* (A. CAMUS) FORMAN is here-with appended:—

Trigonobalanus doichangensis (A. CAMUS) FORMAN in Kew Bull. 17: 387, fig. 3, (1964).

Quercus doichangensis A. CAMUS in Bull. Soc. Bot. France 80:355 (1933).

Tree. *Branchlets* ferruginous-puberulous when young; older branchlets dark brown, covered with whitish rotund to elliptic lenticels. *Stipules* free, triangular, 1 mm. long, puberulous, very early caduous; scars inconspicuous. *Leaves* alternate; petiole 5-12 mm. long; lamina elliptic or subovate-elliptic, 8-12.5 cm. long, 3-6 cm. broad; base acute (to cuneate) and decurrent onto the petiole; apex slightly acuminate, with rounded tip; margin entire; midrib strongly elevated on lower surface, less strongly on upper surface; lateral nerves 8-11 pairs, prominent on lower surface; in the young state both surfaces densely covered with a ferruginous stellate tomentum, but upper surface soon glabrescent and then lower surface bearing only scattered, stellate and granular hairs; coriaceous. *Iflorescences* unisexual. *Male inflorescences* flexuose, solitary in the axils of normal leaves, or aggregated and arising from the axils of reduced leaves on

* Forman, L.L. : *Trigonobalanus*, a new genus of *Fagaceae*, with notes on the Classification of the family. Kew Bull. Vol. 17, No. 3, 1964. Pp. 381-396, 2 figs.

short, axillary shoots; up to 8 cm. long, ferrugineous-puberulous. *Male flowers* in alternate fascicle, each fascicle subtended by a broadly triangular basal bract 1 mm. long, and by two lateral smaller bracts. Perianth subglobular, 1.5 mm. long, connate in the lower third; lobes \pm broadly elliptic; perianth densely puberulous outside, pilose within. Stamens glabrous, 2.5 mm. long, exserted; anthers 0.75 mm. long. *Female inflorescences* solitary in the axils of the most distal leaves, otherwise similar to male. *Female flowers* solitary or, in the lower part of the 'spike,' in alternate fascicles of (2-) 3 flowers, the solitary flowers and the fascicles shortly pedunculate. Perianth-lobes rotund, puberulous, 0.75 mm. long; staminodes well developed, \pm exserted and polliferous (? always); styles c. 1 mm. long, recurved in distal part, pilose; stigmas capitate, facing outwards, often notched at the top (i.e. adaxial margin); ovary strongly 3-winged, 2 mm. long, 3-locular; ovules 2 per loculus, pendulous from near the top of the inner wall of each loculus. Cupule-rudiments in the form of separate lobes, one between each of the 3 wings of a solitary flower, the adaxial lobe less developed than the 2 abaxial ones, or each fascicle of 2 or 3 flowers surrounded by lobes corresponding to the outward-facing sides of the ovaries; each lobe covered with puberulous scales. *Fruits* strongly 3-winged, \pm broadly ovate in outline, 5 mm. long, 4-5 mm. broad, broadly rounded or truncate at the apex below the persistent perianth-lobes and styles, covered with a minute, granular indumentum. (*Seeds* not observed). *Cupules* with a 2 mm. long peduncle, usually containing 1 fruit and then shallowly divided into 2 rounded abaxial lobes and also a much reduced 3rd. adaxial lobe; cupule 3-4 mm. in diameter, 2 mm. long; when containing 3 fruits, then divided into 4 rounded lobes and also a much reduced 5th adaxial lobe; cupule 3-4 mm. wide radially, 7 mm. wide tangentially, 2 mm. long; exterior covered with c. 3 transverse rows of rounded tomentose scales; inner surface of cupule-wall densely ferrugineous-tomentose; fruit-scars \pm rounded-triangular.

THAILAND. Chiangmai Province : upper slopes of Doi Chang, between 1260 m. and 1765 m., 11 Jan. 1922 (♂ & ♀ fls.), *J.F. Rock* 1755 (A, holo-type; K, US, isotypes) :— common tree. Chienmai, Doi Nang Ka, 2 Nov. 1930 (young ♂ fls.), *Put* 3312 (BM). *Ibidem*, 19 Nov. 1930 (♂ & ♀ fls.), *Put* 3474 (BM); vernacular name "pao luang". *Ibidem*, "on rocks", 25 March 1931 (fr.), *Put* 3778 (K).

T. Smitinand



Trigonobalanus doichangensis (A. Camus) Forman

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