TWO NEW SUBSPECIES OF PARKIA (LEGUMINOSAE: MIMOSOIDEAE) IN MALESIA

HELEN FORTUNE HOPKINS

Ecology Centre, Sunderland Polytechnic, Sunderland, SR1 3SD, U.K.¹

The revision of *Parkia* R. Br. for Flora Malesiana has led to the recognition of two new taxa whose names are published here. Full descriptions and lists of specimens seen will be published elsewhere.

Parkia sumatrana Miq.

Material of *Parkia* from South-east Asia with oblong leaflets and alternate leaves falls into two groups – one with narrow, glabrous, sometimes twisted pods (from Burma, Thailand, Laos, Cambodia, Vietnam and the Malay Peninsula, and perhaps Borneo? see below), and another with broad, flat, velutinous pods (from Sumatra, Borneo and Sulawesi).

The material from Indochina was previously known as either *P. streptocarpa* or *P. dongnaiensis*, until these names were equated with *P. sumatrana* by Nielsen (1980), and Nielsen and Santisuk (1985) describe the flowers as having long corolla lobes (8 mm). Little flowering material is available of the form with broad velutinous pods, but *Waturandang 206* from Sulawesi has only short corolla lobes (1.5–2 mm) fused below for 2 mm, and then free again towards the base. Further material is necessary to determine whether this difference is constant, or perhaps an artefact of preservation. Until possible floral differences are resolved, or until further morphological differences are found, when it might be necessary to treat these two taxa as separate species, subspecific status seems appropriate.

Miquel described *P. sumatrana* from sterile material at U (*Diepenhorst in Teijsmann 2133 HB*, W Sumatra, Priaman). However, the isotype at BO has an almost mature pod, which is broad and bears some pubescence on the valves. This pod closely resembles that of *P. macrocarpa* Miq. (*Teijsmann 4217 HB*, isotype BO; the holotype at U is sterile). *Parkia macrocarpa* is known only from the type and its leaves appear to be those of *P. speciosa* Hassk.; it is thus likely that its name is based on a mixed collection. *Parkia macrocarpa* was first equated with *P. speciosa* by Prain (1898).

Nielsen (1980) also included *P. insignis* Kurz [J. As. Soc. Beng. 42 (1873) 73; type: Burma, Martaban, *Kurz 1742* CAL, n.v.] under *P. sumatrana* on the basis of the leaf characters described by Kurz.

¹⁾ Present address: Masons Arms, Hutton Roof, Carnforth, Lancs LA6 2PE, U.K.

KEY TO THE SUBSPECIES

1a. Pods 4.2-5.4 cm wide, valves velutinous, especially near the sutures, shallowly corrugated over the seeds; leaflets 12-21 pairs per pinna

a. subsp. sumatrana

b. Pods c. 2 cm wide, valves glabrous, markedly swollen over the seeds and constricted between them; leaflets 16-33 pairs per pinna b. subsp. streptocarpa

a. subsp. sumatrana

Parkia sumatrana Miq., Fl. Ind. Bat. Suppl. 1 (1861) 284. — Type: W Sumatra, Priaman, Diepenhorst in Teijsmann 2133 HB (U, holo; BO, iso).

Parkia macrocarpa Miq., Fl. Ind. Bat. Suppl. 1 (1861) 284; Benth., Trans. Linn. Soc. Lond. 30 (1875) 361, p.p., excl. leaves. — Type: E Sumatra, Lampong Prov., near Mangala, Teijsmann 4217 (U, holo; BO, iso).

Distribution – Sumatra, Borneo, and Sulawesi.

Habitat & Ecology – Known from forest at low altitude; apparently uncommon.

b. subsp. streptocarpa (Hance) H.C.F. Hopkins, stat. nov.

Parkia sumatrana Miq.; sensu Whitm., Tree Fl. Mal. 1 (1972) 282; Nielsen, Adansonia sér. 2, 19 (1980) 339; Santisuk, Vanasarn 38 (1980) f. 3; Nielsen, Fl. Camb. Laos Vietnam 19 (1981) 11, pl. 1; Nielsen & Santisuk, Fl. Thailand 4 (1985) 137; Corner, Wayside Trees Mal. 3rd ed., 1 (1988) 459.

Parkia streptocarpa Hance, J. Bot. Lond. 14 (1876) 258; Pierre, Fl. For. Cochinchine 5 (1899) tab. 393B; Gagnepain, Fl. Gén. Indo-Chine 2 (1913) 109; Craib, Fl. Siam Enum. 1 (1928) 541; Pham Hoang Ho, Ill. Fl. S. Viet-Nam ed. 2, 1 (1970) 810, f. 2047. — Type: Cambodia, island of Phu Kok, Gulf of Siam, Pierre s.n., Feb. 1874, Herb. Hance 19224 (BM, holo; BM, BO, E, K, NY, P, probable isotypes, labelled either Pierre 1435 or 1425).

Parkia dongnaiensis Pierre, Fl. For. Cochinchine 5 (1899) tab. 393A; Gagnepain, Fl. Gén. Indo-Chine 2 (1913) 109; Craib, Fl. Siam Enum. 1 (1928) 541; Pham Hoang Ho, Ill. Fl. S. Viet-Nam ed. 2, 1 (1970) 809, f. 2046. — Type: Vietnam, Chiao-xhan (Bao-chian) in praefectura Bien-hoa, Feb 1877, Pierre 5817 (P, holo).

Distribution – Burma, Thailand, Laos, Cambodia, Vietnam, Malay Peninsula. Perhaps occurs in Borneo (*Kostermans 10237*, *Hallier 2420*).

Habitat & Ecology – Scattered in dry evergreen forest, often along streams and in hilly areas.

Parkia singularis Miq.

As noted by Miquel (1861) the foliage of *P. singularis* is distinct from that of other species of *Parkia*, since it has opposite and decussate leaves with few, large leaflets. Specimens from the western part of the range (Sumatra and Malay Peninsula) usually have fewer, larger leaflets than those from Borneo, and the leaflets are ovate with an acute apex, while those from Borneo are usually more oblong, often asymmetrical, and with a rounded or emarginate apex. However, there is often a range in leaflet size and shape on any one sheet, and even when considering only the largest leaflet

per leaf, morphological and geographical separation are not complete. A minority of specimens from Kalimantan (*Oekoepo 3484*, *Budding 75 & 327*, *Mogea 4159*) belong to the nominate subspecies, with large, ovate leaflets.

KEY TO THE SUBSPECIES

- 1a. Leaflets 3 (or 4) pairs per pinna, \pm ovate, up to 8.5(-12) cm long, apex acute, base \pm symmetrical, attenuate; pinnae 1 or 2 pairs a. subsp. singularis
- b. Leaflets (2-)4-5(-7) pairs per pinna, ± elliptical to oblong, up to 5.5(-6.5) cm long, apex rounded or emarginate, base often asymmetrical, rounded or obtuse; pinnae 2(-4) pairs b. subsp. borneensis

a. subsp. singularis

Parkia singularis Miq., Fl. Ind. Bat. 1 (1858) 1078; Fl. Ind. Bat. Suppl. 1 (1860) 105, ibid. (1861) 285; Merrill, J. Straits Branch Roy. Asiat. Soc. 76 (1917) 84, ibid., Special No. 86 (1921) 295; Whitm., Tree Fl. Mal. 1 (1972) 281. — Type: Sumatra, near Paja Kombo, Teijsmann 896 HB (U, holo).

Distribution - Malay Peninsula, Sumatra, and occasionally in Kalimantan.

Habitat & Ecology – In primary lowland forest including dipterocarp forest and *Agathis* forest on acid, sandy, waterlogged soil, and on loamy soil.

b. subsp. borneensis H.C.F. Hopkins, subsp. nov.

Parkia singularis Miq.: sensu Cockburn, Trees Sabah 1 (1976) 193, f. 42.

A subsp. singulari foliolis numerosioribus plerumque usque ad 4-5 (nec 3)-jugis, minoribus usque ad 5.5(-6.5) [nec 8.5(-12)] cm, subellipticis vel oblongis (nec ovatis), apice rotundatis vel emarginatis (nec acutis), base plerumque asymmetricis, rotundatis, vel obtusis (nec symmetricis et attenuatis) differt. — Typus: Sabah, Sandakan F. R., Cuadra BNB F. D. A2363 (K, holo; BO, KEP, NY, SING, US, iso).

Distribution – Borneo: Kalimantan, Sarawak and Sabah.

Habitat & Ecology – In primary lowland forest, including dipterocarp forest and freshwater swamp forest; on podsols, sandy clay and sandy loam.

ACKNOWLEDGEMENTS

I thank the herbaria cited for access to their collections, and B. Verdcourt for help with the Latin diagnosis.