

## X. NOTES ON OSMOXYLON (ARALIACEAE), II

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The mainly East Malesian araliaceous trees and shrubs characterized by inflorescences with 'false fruits' were first accorded generic rank by Miquel (1863) under the name *Osmoxylon*. The name stood for the elegance of the vegetative parts of the plants as depicted by Rumphius and once collected by Zippelius. In the next decade, working partly from his own collections and emphasizing the distinctive inflorescences and their biology, Beccari (1878) added several species with palmately lobed or dissected leaves and described the characteristic reproductive mechanism. In a further study, however, Boerlage (1887) separated the palmately veined species as *Eschweilera*. This latter name was a homonym and Harms (1894) not unnaturally proposed *Boerlagiodendron*. Eighty years later, revision for Flora Malesiana brought about a reassessment and, as some species appeared to be 'intermediate' (notably *B. dinagatense* Merr. and *B. simplicifolium* Elmer, respectively from Dinagat Island and NE Mindanao in the Philippines) the two genera were merged by Philipson (1976, 1979) without recognition of any formal subdivisions.

Further study indicates, however, that the former *Boerlagiodendron* and *Osmoxylon s.s.* do form distinct groups. *Osmoxylon dinagatense* (Merr.) Philipson and *O. simplicifolium* (Elmer) Philipson may have simple leaves, but both have – though rather small – a typical erect '*Boerlagiodendron*' inflorescence. In *O. simplicifolium*, based on Elmer 13689 from NE Mindanao (Philippines), the leaves are coarsely toothed and feature craspedodromous venation. There is a further record from Samar [PNH 117163 (*Gutierrez et al.*)] *Osmoxylon dinagatense*, based on BS 35220 (*Ramos & Pascasio*) from Dinagat Island, is similar but the leaf apex is more obtuse and the margins are merely crenate, the teeth obscure. I interpret these species as representative of miniaturization, a process also evident within *O. micranthum* (Harms) Philipson. Little is known of their ecology; however, Dinagat is known to have serpentine surface rock and in Samar the collection of *O. simplicifolium* was recorded from forest on limestone. Both species are shrubs or small trees to 4 m. With respect to *O. oblongifolium* Philipson (no. 8 in Philipson, 1979), also described as having simple leaves, its author has noted that the petiolar crests are sometimes fimbriate and the leaf-blades occasionally have a small triangular lobe on each side below the middle. The plants are moreover stream-bank dwellers and the leaves are clustered at branch ends. All these indicate membership of the *Boerlagiodendron* group.

*Osmoxylon s.s.* thus becomes a well-circumscribed group of six closely related species all characterized by simple entire leaves with brochidodromous venation, simple petiolar basal crests (when present), and more or less diffuse, somewhat decumbent inflorescences. One of its members, *O. miquelii* Boerl., was nicely illustrated by Boerlage. It encompasses species numbered 1, 4, 5, 6, and 7 in Philipson (1979) as well as *O. corneri*

Conn & Frodin from Guadalcanal. The remaining species in the genus, for the most part 'honorary palms' with erect, more or less compact, many-rayed inflorescences and usually bearing palmately lobed leaves, pertain to the *Boerlagiodendron* group. The two are in my opinion amply distinct, with subgeneric or even a restoration of generic rank for *Boerlagiodendron* worthy of consideration.

All the species are associated more or less with, for the region, a relatively oceanic climate; they are moreover found mostly in submontane forest and scrub and often also on limestone. None of the known or possibly localities has been frequently visited. *Osmoxylon umbelliferum* (Lam.) Merr. remains very imperfectly known, and only in 1996 was *O. miquelii* recollected for the first time (see below). Of particular interest is the marked distributional disjunction between far western New Guinea and New Ireland. Elsewhere in *Araliaceae*, within Papuasias both *Gastonia serratifolia* (Miq.) Philipson (as presently conceived) and *Delarbraea paradoxa* Vieill. subsp. *paradoxa* exhibit a somewhat similar disjunction. Between the Moluccas and the Solomons, the latter has been collected only on Kar Kar Island and near Teptep (Madang Province) and in New Britain. The former has no known records between the Vogelkop (Kepala Burung) and the central Solomons; it is replaced on the mainland and in New Ireland and the Northern Solomons by *G. spectabilis* (Harms) Philipson, a species which is now also known to occur in NE Queensland. It is possible that, collecting gaps and habitat considerations aside, these patterns relate to tectonic displacement along the Sorong Fault, a strike-slip zone initiated 20 Ma and associated with clockwise rotation of the Caroline Plate and its convergence with New Guinea (Hall, 1996). An attempt has recently been made to explain disjunctions within New Zealand in similar terms, by reference to the Alpine Fault (Heads, 1998).

#### KEY TO SPECIES

- 1 Petiole base with a single partially or wholly developed crest ..... 2
- Petiole base without crests (Guadalcanal) ..... **2. *O. corneri***
- 2 Leaf-blades oblong or obovate, the lateral veins more or less spreading ..... 3
- Leaf-blades oblanceolate (to 33 by 7.5 cm), the lateral veins arching, ascending (New Ireland) ..... **3. *O. lanceolatum***
- 3 Leaf-blades narrowly obovate or oblong (Moluccas, western New Guinea) ..... 4
- Leaf-blades broadly obovate (Bougainville, Guadalcanal) ..... **5. *O. spathipedunculatum***
- 4 Main rays of inflorescence-branches 8–12 cm long; secondary rays articulated near base (North Moluccas, western New Guinea) ..... 5
- Main rays of inflorescence-branches c. 30 cm long; secondary rays not articulated (Ambon) ..... **6. *O. umbelliferum***
- 5 Fertile flowers at ends of secondary rays 15–18. Basal crest on petiole fully developed (Halmahera) ..... **1. *O. articulatum***
- Fertile flowers at ends of secondary rays 20–30. Basal crest on petiole only partially developed (western New Guinea) ..... **4. *O. miquelii***

The last three species seem mutually very closely related. If further collections come to hand, particularly of *O. umbelliferum*, taxonomic realignments may become necessary.

#### ENUMERATION OF SPECIES

##### 1. *Osmoxylon articulatum* Philipson, Blumea 23 (1976) 103.

A tree to 25 m in forest on clay over schists.

Distribution — Moluccas: Halmahera: without precise locality *Pleyte 290* (holo L; K). Bacan: G. Sibela near Waiaua, 900 m, buds, 22 October 1974, *de Vogel 3551* (K, L).

##### 2. *Osmoxylon corneri* Conn & Frodin in Conn, Handbooks Fl. Papua New Guinea 3 (1995) 275.

A sparingly branched tree, 35 ft. (10.5 m), the branches erect, the inflorescence rays spreading outwards.

Distribution — Solomon Islands: Guadalcanal: Mt Popomanasiu, 4400 ft. (1340 m), fl., 31 October 1965, *RSS 160* (*Corner*) (holo K).

##### 3. *Osmoxylon lanceolatum* Philipson, Blumea 23 (1976) 104.

Trees to 16 m or perhaps more with few branches, these ascending to a greater or lesser degree, the flushes not palm-like; fruits greyish.

Distribution — Bismarck Archipelago: New Ireland: Namatanai, Danfu R. area, inland from Manga, 2900 ft. (885 m), *NGF 46080* (*Sands & Coode*) (holo LAE; K). Idem, 8 mi. inland from Manga, 2700 ft. (825 m), *NGF 46103* (*Coode, Sands & Yakas Lelean*) (K, LAE). Idem, *Sands 795* (K). Lelet Plateau, north rim and slopes below, 700–900 m, January 1973, *Frodin* (obs.).

##### 4. *Osmoxylon miquelii* Boerl., Ann. Jard. Bot. Buitenzorg 6 (1887) 125.

Small to medium trees. Miquel (1863) reported, from Zippelius' notes, a height of 40–50 ft. (12–15 m).

Distribution — New Guinea: sine loc. (vicinity of Teluk Triton, KBT Fakfak), *Zippelius s.n.* (anno 1828) (holo L; K). Vogelkop (Kepala Burung), Ayawasi (S 1° 14', E 132° 12'), 475 m, limestone ridge, 19 January 1996, *Polak 1009* (L). Vicinity of Ayawasi, limestone outcrop, 23 March 1996, *Ridsdale 2387* (L).

##### 5. *Osmoxylon spathipedunculatum* (Philipson) Philipson, Blumea 23 (1976) 103. — *Meryta spathipedunculata* Philipson, Bull. Brit. Mus. (Nat. Hist.), Bot. 1 (1951) 12.

Trees to 18 m with spreading branches.

Distribution — Solomon Islands: Bougainville: Pavairi, 2800 ft. (855 m), fr., 24 January 1967, *NGF 31156* (*Lavarack & Ridsdale*) (K, LAE). Guadalcanal: Mt Jonapau, 3000 ft. (915 m), fr., 6 November 1962, *BSIP 1055* (*Whitmore & Womersley*) (K). Vulolo, Mt Tutuve, 1200 m, *Kajewski 2527* (holo BM).

6. *Osmoxylon umbelliferum* (Lam.) Merr., Interpr. Rumph. Hb. Amb. (1917) 406. — [*Pseudo-santalum amboinense* Rumph., Hb. Amb. 2 (1741) 54, t. 12, nom. inval.] — *Aralia umbellifera* Lam., Encycl. 1 (1783) 225. — *Osmoxylon amboinense* Miq., Ann. Mus. Bot. Lugd.-Bat. 1 (1863) 6, p.p., typo incluso (nom. superfl.).

Distribution — Moluccas: Ambon and possibly also Ceram and the Sula Islands (Rumphius). No collections known.

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