EDINBURGH JOURNAL OF BOTANY 63 (2&3): 253–256 (2006)
doi:10.1017/S096042860600059X
Issued 30 November 2006

A NEW SPECIES OF *DRYPETES* (*PUTRANJIVACEAE*) FROM THE CENTRAL AFRICAN REPUBLIC

D. J. HARRIS & A. H. WORTLEY

The new species *Drypetes bakembei* D.J.Harris & Wortley (*Putranjivaceae*), from tropical forest in the south west Central African Republic, is described and illustrated.

Keywords. Central African Republic, *Drypetes*, Dzanga-Sangha Reserve, *Malpighiales*, *Putranjivaceae*.

INTRODUCTION

Drypetes Vahl is a large genus (c.200 species; Mabberley, 1987) which is probably paraphyletic (Wurdack *et al.*, 2004). Part of the order *Malpighiales*, and long considered part of *Phyllanthoideae* in *Euphorbiaceae* (e.g. Hutchinson, 1912; Webster, 1994; Radcliffe-Smith, 2001) it has recently been excluded from this family on the basis of molecular data and placed in *Putranjivaceae*, also in *Malpighiales* (Angiosperm Phylogeny Group, 1998; Chase *et al.*, 2002; Wurdack *et al.*, 2004). The new species *Drypetes bakembei* is described here based on an examination of the specimens highlighted by Harris (2002) as differing from the other known species.

Drypetes bakembei D.J.Harris & Wortley, **sp. nov. Fig. 1.**
D. paxii Hutch. affinis sed petiolis glabris (nec pubescentibus), venis lateralibus 5–8 (nec 10–11), foliis margine dentato (nec subintegro), staminibus 10 (nec 4). – Type: Central African Republic, Sangha-Mbaere, Lidjombo to Salcapa, 2°38′N, 16°06′E, 2 iii 1996, *Harris* 5477 (holo E; iso BR, K, MO, WAG).

Drypetes sp. A in Harris, The Vascular Plants of the Dzanga-Sangha Reserve 86 (2002).

Tree, dioecious, to 25 m tall and 30 cm diameter at breast height (dbh), bole irregularly fluted, some medium-sized individuals (6–10 cm dbh) with many scattered 2–5 cm-long spines on trunk. *Bark*, when fresh, whitish, green beneath; slash with red, pink and orange fibres and no smell of mustard oils when fresh. *Twigs* dark red-brown when young, soon with slightly corky, dull greyish-yellow bark, glabrous. *Leaf buds* with distinctive overlapping pattern of dark red-brown scales, each scale pale at margin. *Petioles* dark red-brown, glabrous, slightly swollen and slightly channelled above, 3–8 mm long. *Stipules* to 5 mm long, lanceolate, red-brown,

Royal Botanic Garden Edinburgh, 20A Inverleith Row, Edinburgh EH3 5LR, UK. E-mail for correspondence: d.harris@rbge.ac.uk

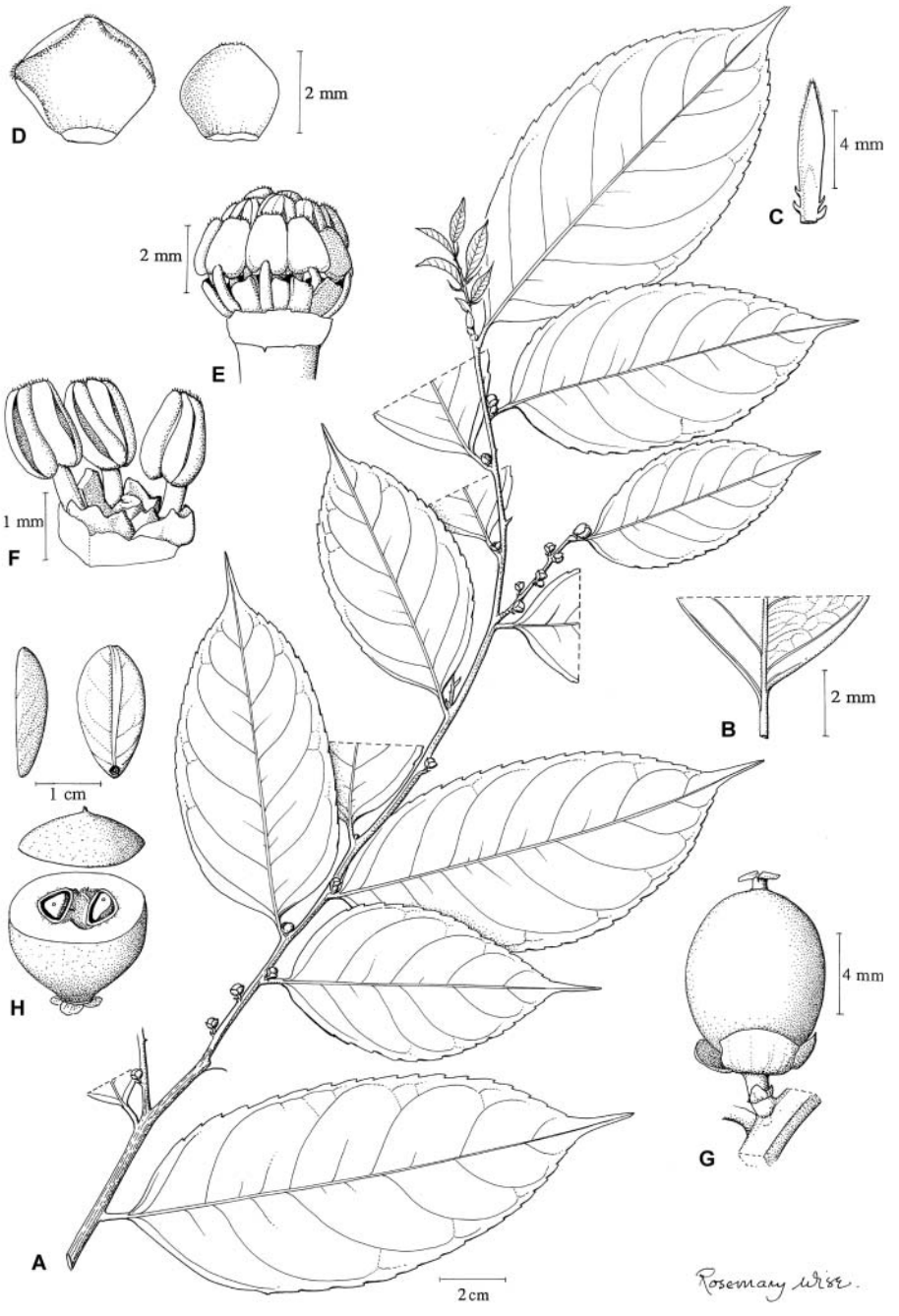

FIG. 1. *Drypetes bakembei* D.J.Harris & Wortley: A, branch of male plant; B, leaf base and petiole; C, stipule; D, perianth parts; E, male flower, perianth removed; F, detail of stamens and disk; G, immature fruit; H, fruit and seed (A–F, *Harris* 5477; G, *Harris* 5561; H, *Remis* 105-95). Drawn by Rosemary Wise.

glabrous, early-caducous. *Leaves* simple, alternate; lamina 40–150 × 20–70 mm, lanceolate, oblong to elliptic, ovate or obovate, long acuminate apically, cuneate to rounded basally, slightly to clearly asymmetric and slightly decurrent on petiole, thinly leathery or papery, shiny pale blue-green above, dull pale yellow-green below, glabrous, eglandular; margin slightly toothed and sometimes crinkled; midrib flat or slightly impressed above, slightly prominent below; with 5–8 pairs of secondary veins; tertiary venation obscure, reticulate. *Inflorescence* axillary, of single or paired flowers. *Bracts and bracteoles* 1 mm long, transversely elliptic, glabrous except for palely ciliate margin. *Flower buds* globular, aestivation imbricate. *Male flowers* with pedicels 1 mm long, stout, dark brown, glabrous; perianth tetramerous, 3 mm long, lobes orbicular with obtuse apex, dark brown, fleshy, leathery, the inner pair completely smooth and glabrous, the outer pair very slightly pubescent, with palely ciliate margin; disk inside the stamens, with irregularly-peaked surface and crenate margin, 1 mm wide, pale brown; stamens 10; filaments 0.2 mm long in mature bud, stout, free, inserted on receptacle, yellowish, glabrous; anthers more-or-less cylindrical and slightly bent, 1.5 mm long, yellow, glabrous. *Female flowers* with pedicels 1 mm long, becoming longer in fruit; perianth tetramerous, 3–5 mm long, lobes ovate-squarish, greenish-brown, glabrous with palely ciliate margin; gynoecium superior, mature style not seen, stigma bilobed (female flowers known only from very young fruiting material). *Fruit* bilocular, ellipsoid, 20–25 × 18–20 × 10–20 mm, hard, indehiscent, bright green ripening to reddish-brown when fresh, glabrous, wall 2–5 mm thick; fruit subtended by the hardened, accrescent calyx; remains of style and stigma persistent, to 2 mm across. *Seeds* one per locule, 8 × 6 × 3 mm, flattened kidney-shaped, brown, glabrous. Unless otherwise stated the measurements and colours are based on dried material.

Distribution, habitat and phenology. *Drypetes bakembei* is known only from mixed species *terra firma* forest in the Dzanga-Sangha Dense Forest Reserve in the south west of the Central African Republic. We suspect that it occurs in adjacent parts of Cameroon and the Republic of Congo with similar and contiguous vegetation. The flowering period peaks from March to May; the fruiting period from May to August.

Etymology. This species is named after Jean Bakembe who helped collect most of the specimens cited here. Jean Bakembe is a remarkable botanist who has spent many days helping to identify *Drypetes* species. *Drypetes bakembei* is named in his honour as recognition of the contribution he has made to our understanding of the taxonomy of the trees in the south west Central African Republic.

Other specimens examined. CENTRAL AFRICAN REPUBLIC. Sangha-Mbaere Prefecture: 45 km S of Lidjombo, 2°21′N, 16°09′E, 15 xii 1988, *Harris & Fay* 1708 (E, MO); 2°21′N, 16°11′E, 24 v 1988, *Harris & Fay* 761 (E, MO); 2°21′N, 16°10′E, 19 v 1988, *Harris & Fay* 702 (E, MO), 25 v 1988, *Harris & Fay* 779 (E, MO), 29 ix 1988, *Harris & Fay* 1249 (MO), 2°22′N, 16°09′E, 12 v 1988, *Gentry & Harris* 62780 (E, MO); Bai Hoku, 2°52′N, 16°28′E, 30 viii 1995, *Remis* 105-95 (E), 17 v 1996, *Harris* 5561 (E, MO); Kongana camp, 2°47′N, 16°25′E, 21 xii 1993, *Harris* 4126 (E, MO), 4127 (E, MO); Lidjombo to Salcapa, 2°38′N, 16°06′E, 2 iii 1996, *Harris* 5477 (E, MO); Yandoumbe to Mambongo stream, 2°55′N, 16°16′E, 6 i 1994, *Harris* 4238 (E, MO).

Discussion

Drypetes bakembei differs from the most similar species, *D. paxii*, in both vegetative and reproductive characters. *Drypetes bakembei* lacks the distinctive, finely-ribbed bark typical of *D. paxii*, and often has spines on the trunk (*D. paxii* never has). Its twigs, even when young, and petioles are glabrous, whereas in *Drypetes paxii* they are usually hairy. The leaves of *Drypetes bakembei* have fewer (5–8 compared with 10–11) secondary veins which do not loop at the margin as they do in *D. paxii*; the leaves are also more strongly toothed than those of *D. paxii*, with fewer and larger teeth. The male flowers have 10 stamens rather than the four seen in *Drypetes paxii*. This combination of characteristics clearly shows that the specimens studied here belong to a new species of *Drypetes*.

Acknowledgements

D.J.H. thanks the Minister of Water, Forests and the Environment and the High Commissioner for Tertiary Education and Research of the Central African Republic, and the directors and staff of the Dzanga-Sangha project, and would like to acknowledge funding from the Leverhulme Trust. A.H.W. was funded whilst writing this paper by the Sibbald Trust of the Royal Botanic Garden Edinburgh. The authors would also like to thank Robert Mill for assistance with the Latin diagnosis, Rosemary Wise for the illustrations, and two anonymous reviewers for their helpful comments on the manuscript.

References

Angiosperm Phylogeny Group (1998). An ordinal classification for the families of flowering plants. *Ann. Missouri Bot. Gard.* 85(4): 531–553.

Chase, M. W., Zmarzty, S., Lledó, M. D., Wurdack, K. J., Swensen, S. M. & Fay, M. F. (2002). When in doubt, put it in Flacourtiaceae: a molecular phylogenetic analysis based on plastid *rbcL* DNA sequences. *Kew Bull.* 57: 141–181.

Harris, D. J. (2002). The Vascular Plants of the Dzanga-Sangha Reserve. *Scripta Botanica Belgica* 23. Brussels: National Botanic Garden (Belgium).

Hutchinson, J. (1912). CXXII. Euphorbiaceae. In: Thiselton-Dyer, W. T. (ed.) *Flora of Tropical Africa* VI(1): 441–1020. London: Lovell Reeve & Co. Limited.

Mabberley, D. J. (1987). *The Plant Book*. Cambridge: Cambridge University Press.

Radcliffe-Smith, A. (2001). *Genera Euphorbiacearum*. London: Royal Botanic Gardens, Kew.

Webster, G. L. (1994). Synopsis of the genera and suprageneric taxa of Euphorbiaceae. *Ann. Missouri Bot. Gard.* 81(1): 33–144.

Wurdack, K. J., Hoffmann, P., Samuel, R., De Bruijn, A., Van der Bank, M. & Chase, M. W. (2004). Molecular phylogenetic analysis of Phyllanthaceae (Phyllanthoideae pro parte, Euphorbiaceae sensu lato) using plastid *rbcL* DNA sequences. *Amer. J. Bot.* 91(11): 1882–1900.

Received 31 July 2006; accepted for publication 12 September 2006