

# A new species of *Campnosperma* (Anacardiaceae) from northeastern Madagascar

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## ABSTRACT

*Campnosperma zacharyi* Randrianasolo & Lowry, a distinctive new species from northeastern Madagascar, is described and illustrated. It differs from the four previously known Malagasy species of this dioecious genus by several striking foliar characters. The new species is known only from humid forests on the quartzite massif of Ankirindro NNW of the town of Maroantsetra, where it has been collected in both flower and fruit.

## KEY WORDS

Anacardiaceae,  
*Campnosperma*,  
Madagascar,  
conservation.

## RÉSUMÉ

*Une nouvelle espèce de Campnosperma (Anacardiaceae) du nord-est de Madagascar.*

*Campnosperma zacharyi* Randrianasolo & Lowry, une nouvelle espèce du nord-est de Madagascar, est décrite et illustrée. Elle se différencie des autres espèces malgaches de ce genre dioïque par plusieurs caractères remarquables des feuilles. La nouvelle espèce est connue uniquement des forêts humides du massif quartzitique d'Ankirindro au nord-nord-ouest de la ville de Maroantsetra, où elle a été récoltée en fleurs et en fruits.

## MOTS CLÉS

Anacardiaceae,  
*Campnosperma*,  
Madagascar,  
conservation.

The Malagasy members of the dioecious genus *Campnosperma* Thwaites (Anacardiaceae) were revised recently by RANDRIANASOLO & MILLER (1998), who recognized four species, two of which they described as new. While examining material gathered during the last several years in the area around Maroantsetra in northeastern Madagascar, we discovered a striking collection that does not match any of the previously known material of *Campnosperma* and clearly represents a new species, which we describe here.

***Campnosperma zacharyi* Randrianasolo & Lowry, sp. nov.**

*Haec species Campnospermatis schatzii* Randrianasolo & J.S. Mill. *affinis, sed ab eo statura minore 2-4 m tantum alta, foliis ovatis vel ellipticis rarer obovatis apice breviter acuminatis vel rotundatis base cuneatis vel breviter decurrentibus atque petiolis longissimis usque ad c. 2.4 cm longis differt.*

TYPUS. — *Antilahimena*, Schatz & Niovoson 1456, Madagascar, Toamasina Prov., Maroantsetra district, commune Ambinanitelo, Fokontany Marovovonana, on summit of Ankirindro, wind swept vegetation, 15°17'18"S, 49°32'49"E, 671 m, 22 Nov. 2002, ♂ fl. (holo-, MO!; iso-, MO!, P!, TAN!, TEF!).

Functionally dioecious trees, 2-4 m tall, twigs very often waxy with tips covered with lepidote scales. Leaves simple, alternate, persistent, semi-coriaceous, blades ovate to elliptic, rarely obovate, 2.5-11.5 cm long, 1.5-5.5 cm wide, very light yellow tan colored below (in dried material), the apex usually shortly acuminate or rounded, rarely retuse, the base cuneate or shortly decurrent cuneate, the margin entire, the adaxial surface with scattered lepidote scales, the abaxial surface evenly covered with lepidote scales, the venation brochidodromous, the midrib prominent below, the lateral veins more or less parallel and very evident above, the tertiary veins admedial; petiole 0.4-2.4 cm long, canaliculate, covered with lepidote scales or sometimes glabrous. Inflorescence axillary, paniculate, usually borne at the end of branches, 5-12 cm long, covered with lepidote scales and scattered stellate trichomes. Flowers functionally unisexual, very small, c. 1 mm long, pedicel 1-2 mm long, subtended by a very tiny

triangular bract c. 1 mm long and 0.5 mm with; sepals 4, c. 0.5 mm long and 0.8 mm wide, glabrous; petals 4, yellow when dried (described as orange on live plants), 0.7-1.1 mm long, 0.7-1 mm wide, ovate, glabrous, imbricate. Staminate flowers with 8 stamens, 4 epipetalous and 4 alternipetalous, 0.8-1 mm long, the filament broadened at the base, 0.5-0.6 mm long, the anthers subglobose to ovate, basifixed, introrse, 0.2-0.3 mm long, yellow, opening by longitudinal slits; disk cupuliform with an atrophied vestigial ovary in the middle. Pistillate flowers with 8 staminodes each c. 0.3-0.4 mm long, cupuliform disk much thicker than in staminate flowers; ovary covered with lepidote scales, 0.7-0.8 mm long, 0.5-0.6 mm broad, asymmetric, with two incompletely divided locules and a single curved ovule, the style almost absent, stigma subdiscoidal, incompletely divided into two lobes. Fruits almost globose, asymmetric, 5 mm long and broad, covered with lepidote scales, endocarp bony, seed containing 1 curved embryo. — Fig. 1.

*Campnosperma zacharyi* closely resembles *C. schatzii* Randrianasolo & J.S. Mill. due to its long pedicels and medium leaf size, but can be distinguished vegetatively by its more generally ovate or elliptic leaves (vs usually obovate or oblanceolate in *C. schatzii*), shortly acuminate leaf apices (vs emarginated, retuse or rounded in the four previously described Malagasy species, *C. lepidotum* Capuron ex Randrianasolo & J.S. Mill., *C. micranteium* Marchand, *C. parviflorum* Capuron ex J.S. Mill. & Randrianasolo and *C. schatzii*), cuneate or shortly decurrent cuneate leaf bases (vs long-cuneate decurrent in *C. schatzii*), and mature leaf petiole length up to 2.4 cm (vs up to only 1 cm in *C. schatzii*). In addition, the color of the undersurface of dried leaves is somewhat light tan compared to the generally brown color in *C. schatzii*. Our new species further differs from *C. schatzii* in its small stature (2-4 m tall vs 5-12 m tall).

DISTRIBUTION AND PHENOLOGY. — *Campnosperma zacharyi* is known only from mid-elevation humid forest on the quartzite massif of Ankirindro to the NNE of Maroantsetra, where it occurs from about 640 m to the summit at 671 m. Staminate and pistillate flowering mate-

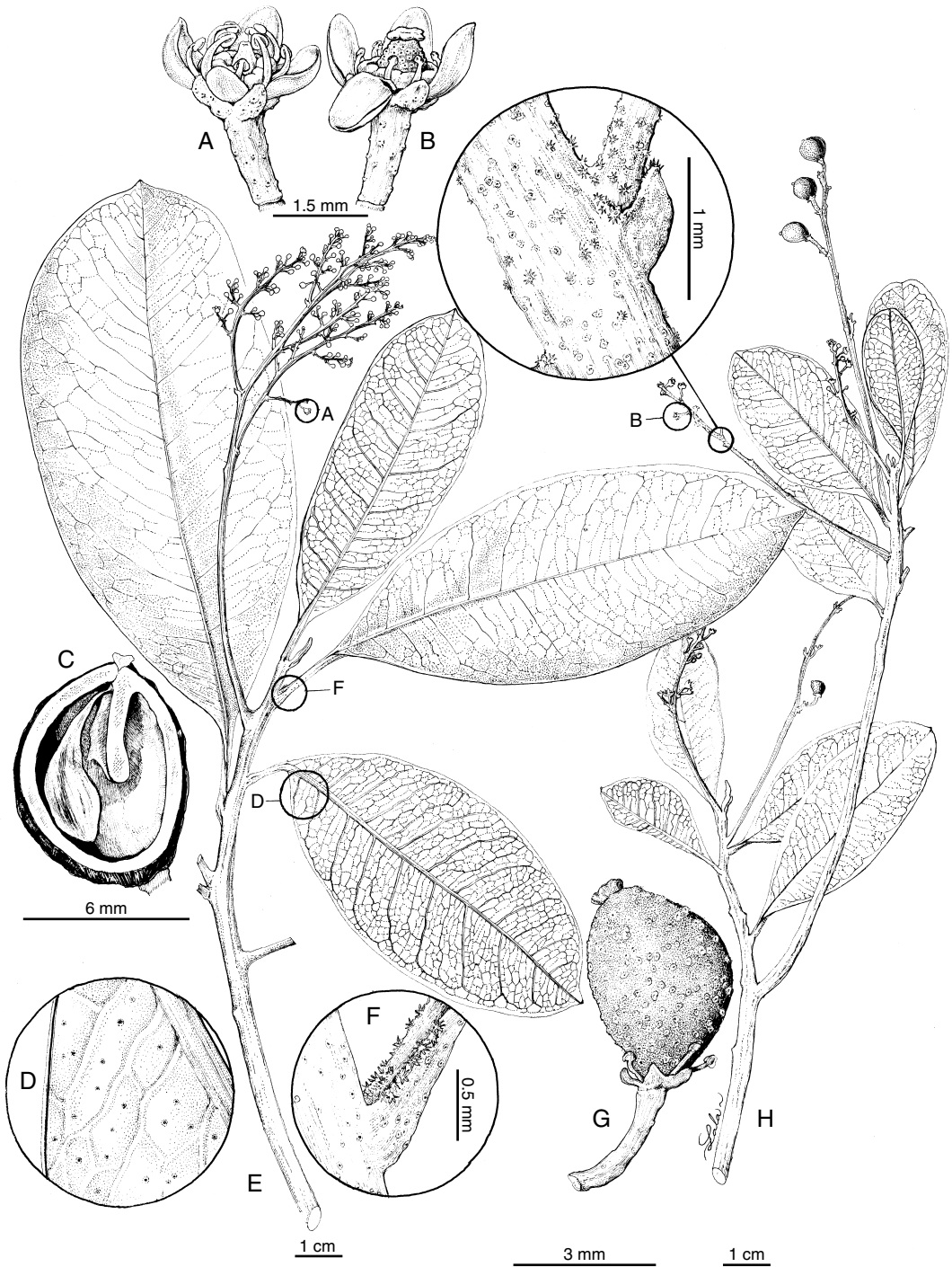


FIG. 1. — *Campnosperma zacharyi* Randrianasolo & Lowry: **A**, staminate flower; **B**, pistillate flower; **C**, fruit (cross section); **D**, lower leaf surface; **E**, branch of male plant; **F**, base of petiole; **G**, young fruit; **H**, branch of female plant. A, D-F, *Antilahimena et al.* 1456; B, C, G, H, *Antilahimena et al.* 1455.

rial has been collected in November, and fruiting specimens have been gathered in January.

**ETYMOLOGY.** — The species epithet honors our colleague Zachary ROGERS, who has a remarkable passion and love for the flora of Madagascar.

**CONSERVATION STATUS.** — Application of the IUCN (2001) threat criteria indicates that *Campnosperma zacharyi* should be assigned a preliminary status of Endangered (EN B1ab2ab) based on the fact that it has both an Extent of Occurrence and an Area of Occupancy less than 100 km<sup>2</sup> (known from just two subpopulations, neither of which falls within Madagascar's protected areas network), and that human pressure can be expected to cause continued decline in existing populations.

**PARATYPES.** — MADAGASCAR: *Prov. Toamasina*: *Antilahimena*, Pascal & Ramaroson 1662, Maroantsetra dist., commune Ambinanitelo, Fokotany Marovonana, Ankirindro mountain, 15°17'37"S, 49°33'10"E, 640 m, 10 Jan. 2003, fr. (MO, P, TEF); *Antilahimena*, Schatz & Niovoson 1455, Maroantsetra dist., commune Ambinanitelo, Fokotany Marovonana, Makira forest, on summit of Ankirindro,

wind swept vegetation, 15°17'18"S, 49°32'49"E, 671 m, 22 Nov. 2002, ♀ fl., y. fr. (MO, P, TEF).

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