

A synoptic revision of the genus *Lepisanthes* Blume (Sapindaceae) in Madagascar

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ABSTRACT

A taxonomic revision of the genus *Lepisanthes* Blume in Madagascar is presented. Three species are recognized based on an analysis of morphological characters in combination with eco-geographic parameters. Two infraspecific taxa recognized previously in *Aphania senegalensis* (Juss. ex Poir.) Radlk. (= *Lepisanthes senegalensis* (Juss. ex Poir.) Leenh.) are raised to the species level, viz. *L. chrysotricha* (Capuron) Buerki, Callm. & Lowry and *L. perrieri* (Capuron) Buerki, Callm. & Lowry. A third species from northwestern Madagascar is described as new, *L. sambiranensis* Buerki, Callm. & Lowry. An identification key to the Malagasy species of *Lepisanthes* is presented as well as preliminary assessments of the conservation status for each species.

KEY WORDS

Sapindaceae,
Aphania,
Lepisanthes,
Madagascar,
new species.

RÉSUMÉ

Révision synoptique du genre Lepisanthes Blume (Sapindaceae) à Madagascar.

Une révision taxonomique du genre *Lepisanthes* Blume à Madagascar est présentée. Trois espèces sont reconnues sur la base de leurs caractères morphologiques, écologiques et géographiques. Deux taxons infraspécifiques reconnus auparavant dans *Aphania senegalensis* (Juss. ex Poir.) Radlk. (= *Lepisanthes senegalensis* (Juss. ex Poir.) Leenh.) sont élevés au rang d'espèce dans le genre *Lepisanthes*: *L. chrysotricha* (Capuron) Buerki, Callm. & Lowry et *L. perrieri* (Capuron) Buerki, Callm. & Lowry. Une troisième espèce du nord-ouest de Madagascar est décrite comme nouvelle: *L. sambiranensis* Buerki, Callm. & Lowry. Une clé de détermination des espèces malgaches du genre *Lepisanthes* est présentée ainsi qu'une évaluation préliminaire du statut de conservation de chaque espèce.

MOTS CLÉS

Sapindaceae,
Aphania,
Lepisanthes,
Madagascar,
espèce nouvelle.

INTRODUCTION

As currently circumscribed the genus *Lepisanthes* Blume (Sapindaceae) comprises *c.* 25 species in tropical Africa, Madagascar, and southern and southeastern (SE) Asia from Sri Lanka to Hainan, Malesia, and northwestern Australia (Leenhouts 1969; Adema *et al.* 1994). In the most recent worldwide revision of the genus, Leenhouts (1969) adopted a broad species concept for *L. senegalensis* (Juss. ex. Poir.) Leenh. encompassing material previously placed in the genera *Aphania* Radlk. (*sensu* Radlkofer 1933, with the exception of *A. dictyophylla* Radlk.), *Manongarivea* Choux and *Sapindopsis* F.C.How & C.N.Ho (now referred to as *Howethoa* Rauschert). As defined by Leenhouts (1969), *L. senegalensis* includes a total of 32 heterotypic synonyms, it ranges widely from Africa (two synonyms) and Madagascar (one synonym) to SE Asia and New Guinea (29 synonyms). In his treatment, Leenhouts (1969) mentioned that some elements involved in this complex (especially in West Malesia) could deserve recognition at the species or subspecies rank, stating that they “may even be genetically isolated”. Moreover, he acknowledged that this broad species concept might be difficult to accept, especially for botanists working on the flora of a restricted region. Nonetheless, he justified this potential “far-going lumping” by claiming that the SE Asian specimens form a coherent group recognized by the “reduction of the leaf to

1-jugate, often with a short to very short petiole, pseudoterminal or possibly sometimes truly terminal inflorescences with subsessile cymes”.

The basionym of Leenhouts's (1969) broadly defined species was first published in Lamarck's *Encyclopédie botanique* (1805) as *Sapindus senegalensis* Juss. ex Poir. on the basis of two syntypes from Senegal (*Adanson s.n.* and *Adanson & Geoffrey s.n.*). However, Leenhouts (1969) adopted his concept of *L. senegalensis* without ever having seen these collections, which are deposited at P-JU, nor did he examine any of the other type material in the Paris herbarium, including that of *Manongarivea perrieri* Choux from Madagascar. In the same year, while preparing a revision of Malagasy Sapindaceae, Capuron (1969), grappling with Leenhouts's broad species concept, chose to recognize two infraspecific taxa within *Aphania senegalensis* (Juss. ex Poir.) Radlk. (= *Lepisanthes senegalensis sensu* Leenhouts 1969): *A. senegalensis* subsp. *senegalensis* f. *perrieri* (Choux) Capuron (based on *M. perrieri*) and *A. senegalensis* subsp. *chrysotricha* Capuron.

In the context of a series of revisions of Malagasy members of the family (Schatz *et al.* 1999; Buerki *et al.* in press; Callmander *et al.* unpubl. data; Philipson *et al.* unpubl. data) and the first author's doctoral dissertation research, which included a worldwide phylogenetic study of Sapindaceae (Buerki *et al.* 2009), we have re-considered the taxonomic framework of *Lepisanthes* in Madagascar and propose here the following treatment, in

which three species are recognized, one of which is described as new and two others are based on the infraspecific taxa recognized by Capuron (1969) in the genus *Aphania*.

MATERIAL AND METHODS

We have examined all the available material of *Lepisanthes* at the major herbaria with relevant collections, including those in Antananarivo (TAN and TEF), Geneva (G), Kew (K), Madrid (MA), St Louis (MO) and Paris (P). Historical collections lacking geographic coordinates were post-facto georeferenced as accurately as possible using the “Gazetteer to Malagasy Botanical Collecting Localities” (Schatz & Lescot 2005) and other sources (placed in square brackets in the citation of material examined in the taxonomic treatment that follows). Species distributions were mapped on the five bioclimatic zones of Madagascar (after Cornet 1974; adapted by Schatz 2000) using ESRI ArcView 3.3 software (ESRI 2000). The conservation status of each species was assessed using the current IUCN Red List Criteria (IUCN 2001). Calculations of the area of occupancy (AOO), extent of occurrence (EOO) and number of subpopulations were based on the methods presented in Callmander *et al.* (2007).

SYSTEMATICS

Genus *Lepisanthes* Blume

Bijdragen tot de Flora van Nederlandsch Indie 5: 237 (1825). — Type: *L. montana* Blume.

Manongarivea Choux, *Comptes rendus hebdomadaires des Séances de l'Académie des Sciences* (Paris) 182: 713. (1926); *Mémoires de l'Académie malgache* 4: 36 (1927). — Type: Madagascar, Prov. Mahajunga, Manongarivo (Ambongo), [16°16'S, 45°22'E], X.1909, fl., y.fr., *Perrier de la Bâthie* 1812 (lecto- [here designated], P 00624104!; isolecto-, K 000426188!, P 00624103!, TAN!).

REMARKS

Careful examination of the available material shows that the Malagasy collections of *Lepisanthes* differ

from the African material (which corresponds to *L. senegalensis* s.s.) by generally having a glabrous 2-branched inflorescence (vs. a pubescent much-branched inflorescence in specimens from Africa). The only exception is the material assigned below to *L. chrysotricha*, which likewise has a pubescent inflorescence, but differs from the African representatives by its golden indument that is also present on the outer part surface the sepals and petals (vs. brown indument on the inflorescence and glabrous sepals and petals in Africa).

We recognize three well-delimited species of *Lepisanthes* in Madagascar, one of which is new, whereas the two others correspond to the infraspecific taxa recognized by Capuron (1969), which we raise to the rank of species. Schatz (2001) provide a comprehensive diagnosis of the genus based on material from Madagascar.

A collection clearly assignable to *Lepisanthes* from the Masoala Peninsula in northeastern Madagascar (*Labat et al.* 3356, MO, P) does not match any of the species recognized here. It has a long inflorescence (up to 32 cm) and leaves with three pairs of leaflets that are discolorous and subcoriaceous. Moreover, this is the only Malagasy specimen of the genus known from humid evergreen forest on the east coast (all others were collected in dry to sub-humid forest on the north and western Madagascar). While this collection appears to represent a new species, adequate material is not yet available to describe it.

The monotypic genus *Manongarivea* was described by Choux (1926, with a supplementary description appearing in 1927) on the basis of two syntypes (*Perrier de la Bâthie* 1744 and 1812). In the present treatment, however, these collections are regarded as belonging to two different species, *L. chrysotricha* and *L. perrieri*, respectively. By designating *Perrier de la Bâthie* 1744 as the type of his new taxon *Aphania senegalensis* subsp. *chrysotricha*, Capuron (1969) implicitly limited the taxon described by Choux to *Perrier de la Bâthie* 1812, and thereby lectotypified the name, although he did not explicitly indicate his intention to do so. Here we formalize this decision and refine it by designating one of the two sheets of *Perrier de la Bâthie* 1812 in the Paris herbarium as the lectotype.

KEY TO THE MALAGASY SPECIES OF *LEPISANTHES* BLUME

1. Inflorescence and outer surface of the sepals and petals golden pubescent; western Madagascar (Bemaraha and Causse de Kelifely, W of the Mahavavy River) ... 1. *L. chrysotricha*
- Inflorescence and outer surface of the sepals and petals glabrous; northern and northwestern Madagascar 2
2. Leaflets 1 or 2 (or rarely 3) pairs, 7-10(-15) cm long; petiole and rachis slender (1-1.5 mm diameter in dried material), combined length 0.5-2.5(-11) cm; northern Madagascar (S of Majunga to Montagne d'Ambre, Ankarana AP and Daraina region); on limestone and basement rock 2. *L. perrieri*
- Leaflets (2 or) 3 (or 4) pairs, 12-15(-25) cm long; petiole and rachis stout (c. 2 mm diameter in dried material), combined length 7-15(-22) cm; northwestern Madagascar (Kalabenono and Manongarivo massifs); on sandstone 3. *L. sambiranensis*

1. *Lepisanthes chrysotricha*
(Capuron) Buerki, Callm. & Lowry,
comb. et stat. nov.

Aphania senegalensis subsp. *chrysotricha* Capuron, *Mémoires du Muséum d'Histoire naturelle* (Paris), sér. B, 19: 82, pl. 19 (1969). — Type: Madagascar, Prov. Mahajunga, forêt de Kasiza, sur le causse du Tampoketsa (Ambongo), rive gauche de la Mahavavy, [16°59'S, 45°47'E], X.1908, fl., y.fr., *Perrier de la Bâthie 1744* (holo-, P [mounted on 2 sheets, P 00727174! and P 00727175!]).

ADDITIONAL MATERIAL EXAMINED. — **Madagascar.** Prov. Mahajunga, bords de la Manambolo, Bemaraha AP, [18°41'S, 44°46'E], 150-750 m, X.1964, fl., *Morat 1224* (G, MA, MO, P, TAN, TEF). — Forêt de l'Antsingy (bordure occidentale du Bemaraha), Bemaraha AP, [18°40'S, 44°44'E], 1.IX.1953, fl., *Service Forestier 8435* (G, MO, P, TEF).

DISTRIBUTION AND ECOLOGY

Lepisanthes chrysotricha is endemic to western Madagascar (Bemaraha and Causse de Kelifely, Ambongo), where it occurs exclusively on limestone substrates (Fig. 1).

REMARKS

Lepisanthes chrysotricha is a small tree to 7 m tall known only from three collections made in deciduous forest on limestone in western Madagascar. This species can easily be distinguished from all other Malagasy members of the genus by the golden indument covering its entire inflorescence and the outer surface of its sepals and petals, by its leaves with two pairs of leaflets that are usually c. 7 cm long, and by its petiole and rachis, whose

combined length does not usually exceed 4.5 cm. Fruits of this species are not known.

CONSERVATION STATUS

With an EOO of 433 km², an AOO of 27 km², and two subpopulations, one of which is situated within a protected area (Bemaraha), *Lepisanthes chrysotricha* is assigned a preliminary status of Endangered (EN B1ab(iii); B2ab(iii)).

2. *Lepisanthes perrieri*
(Choux) Buerki, Callm. & Lowry,
comb. et stat. nov.

Manongarivea perrieri Choux, *Comptes rendus hebdomadaires des Séances de l'Académie des Sciences* (Paris) 182: 713. (1926); *Mémoires de l'Académie malgache* 4: 36 (1927). — *Aphania senegalensis* f. *perrieri* (Choux) Capuron, *Mémoires du Muséum d'Histoire naturelle* (Paris), sér. B, 19: 82. — Type: Madagascar, Prov. Mahajunga, Manongarivo (Ambongo), [16°16'S, 45°22'E], X.1909, fl., y.fr., *Perrier de la Bâthie 1812* (lecto- [here designated], P 00624104!; isolecto-, K 000426188!, P 00624103!, TAN!).

NOTES. — As indicated above, Capuron (1969) used one of the syntypes of *Manongarivea perrieri* (*Perrier de la Bâthie 1744*) as the type of his name *Aphania senegalensis* subsp. *chrysotricha*, implicitly leaving only *Perrier de la Bâthie 1812* associated with Choux's name. Here we formalize this choice, designating one of the two sheets in the Paris Herbarium as the lectotype of *M. perrieri*.

ADDITIONAL MATERIAL EXAMINED. — **Madagascar.** Prov. Antsiranana, Ankarana AP, 12°54'32"S, 49°06'35"E, 172 m, 7.XII.2006, y.fr., *Andriamihajarivo et al. 1047*

(MO, P, TAN). — Ankarana AP, 12°49'00"S, 49°01'17"E, 150 m, 12-20.X.1993, fl., *Andrianantoanina* 368 (MA, MO, P, TAN). — Ankarana PA, 2 km avant le village d'Ambondromifehy, 12°52'36"S, 49°13'13"E, 276 m, 21.XI.1995, fr., *Andrianantoanina* & *Bezara* 892 (G, MO, P, TAN). — Montagne d'Ambre AP, c. 8 km à l'est du village de Bobakilandy, 12°37'37"S, 49°6'26"E, 533 m, 5.XII.1995, fr., *Andrianantoanina* & *Bezara* 896 (G, MO, P, TAN). — Ankarana AP, 12°55'23"S, 49°05'11"E, 150 m, 20.X.2001, fl., *Bardot-Vaucoulon* & *Andrianantoanina* 820 (P [2 sheets], TAN). — Ankarana AP, 100 m, 12°57'35"S, 49°07'15"E, 30.X.2001, fr., *Bardot-Vaucoulon* & *Andrianantoanina* 871 (K, MO, P [2 sheets], TAN). — Ankarana AP, 12°58'52"S, 49°06'26"E, 125 m, 12.III.2001, fl., *Bardot-Vaucoulon* & *Andrianantoanina* 901 (K, MO, P [2 sheets], TAN). — Ankarana AP, 12°53'38"S, 49°06'47"E, 130 m, 9.XII.1997, fr., *Bardot-Vaucoulon* & *Toly* 1042 (K, MO, P [2 sheets], TAN). — Abattoir, 22.XII.1916, fl., *Decary* 77 (P). — Ankarana AP, 12°54'40"S, 49°06'31"E, 180 m, 19.XI.1996, fl., y.fr., *Labat* 2772 (K, L, MO, P, TAN, WAG). — Daraina, forêt de Binara, 13°15'S, 49°37'E, 300 m, 5.XI.2001, fl., *Gautier* & *Ravelonarivo* 4045 (G, TEF, DARAINA, P, MO, K). — Daraina, forêt de Bekaraoka, 13°06'S, 49°42'E, 450 m, 22.XI.2006, fl., *Gautier* & *Chatelain* 4912 (G, TEF, DARAINA, P, MO, K). — Ankarana AP, 100-200 m, 12°51'S, 49°04'E, 22-26.XI.1992, fl., *Malcomber et al.* 1821 (K [2 sheets], G, MO, P, TAN). — Ankarana AP, 100-200 m, 12°51'S, 49°04'E, 22-26.XI.1992, y.fr., *Malcomber et al.* 1823 (K, MO, P). — *Malcomber et al.* 1882 (MO). — Ankarana AP, 100-200 m, 12°51'S, 49°04'E, 22-26.XI.1992, fl., *Malcomber et al.* 1886 (MO, P, TAN, WAG). — Ankarana AP, 100-200 m, 12°51'S, 49°04'E, 22-26.XI.1992, fr., *Malcomber et al.* 1887 (MA, MO, P, TAN). — Ankarana AP, 12°52'S, 49°14'E, 320 m, 24.XI.1993, fr., *McPherson* 14525 (MO, P, TAN, TEF). — Nosy Mitsiou, [12°54'S, 48°36'E], X.1936, fl., *Perrier de la Bâthie* 18775 (G, MO, P). — Ampondrabe, 12°58'18"S, 49°41'57"E, 200 m, 5.XI.2005, fl., *Rakotonandrasana et al.* 953 (CNARP, MO, P, TAN). — Befarafara, 13°05'26"S, 049°34'32"E, 100 m, 15.XI.2005, fl., *Rakotonandrasana et al.* 1002 (CNARP, MO, P, TAN). — Daraina, forêt de Bobakora, 13°11'4"S, 49°45'30"E, 200 m, 11.XI.2005, fl., *Rakotonandrajaona et al.* 378 (CNARP, MO, P, TAN). — Daraina, forêt d'Antsahabe, 13°13'S, 49°33'E, 340 m, fr., 28.I.2006, *Ranarison et al.* 1134 (G, DARAINA, MO, K, P, TEF). — Ananjaka, 13°06'00"S, 049°10'07"E, 155 m, 6. XI. 2004, fl., *Randrianaivo et al.* 1093 (CNARP, MO, P, TAN). — Antsisikala, forêt d'Analabe, 12°11'49"S, 049°11'51"E, 184 m, 11.XII.2005, fl., *Randrianaivo et al.* 1336 (CNARP, MO, P, TAN). — Ankarana AP, 12°58'57"S, 049°09'50"E, 127 m, 10.XII.2007, fr., *Randrianasolo S. et al.* 630 (CNARP, MO, P, TAN). — Ankijomantsina, 13°07'40"S, 49°27'53"E, 100 m, 31.X.2005, fl., *Ratovoson et al.* 1044 (CNARP, MO, P,

TAN). — Antsisikala, 12°50'02"E, 049°12'38"S, 100 m, 3.XII.2007, fr., *Ratovoson et al.* 1416 (CNARP, MO, P, TAN). — Ankarana AP, 160-200 m, 12°54'S, 49°08'E, 10.XI.2006, fl., *Z. S. Rogers et al.* 1160 (MO, P, TAN, G, K, US). — 23 km S of Anivorano, 40 km N of Ambilobe, 12°53'S, 49°12'E, 200 m, 24.X.1992, fl., *Schatz et al.* 2409 (MO, P, TAN). — Massif de la Montagne d'Ambre, [12°30'S, 49°05'E], c. 300 m., 19.X.1958, fl., y.fr., *Service Forestier* 11343 (G, K, MO, P, TEF). — Windsor Castle, [12°14'S, 49°10'30"E], c. 100 m., 4.XI.1955, fr., *Service Forestier* 15168 (TEF). — Ambondromifehy, [12°53'30"S, 49°12'30"E], c. 300 m, 24.X.1959, fl., y.fr., *Service Forestier* 15189 (TEF). — Près d'Ambohimagodra, [13°01'30"S, 49°08'E], c. 100 m., 12.XI.1958, fr., *Service Forestier* 18951 (TEF). — Ankarana, forêt de Marovato, massif de l'Ankerana, [12°48'30"S, 49°09'E], 200 m, 14.XI.1958, fr., *Service Forestier* 20008 (P, TEF). — S du Pic Raynaud, [12°28'30"S, 49°26'30"E], 100-400 m, 9.XI.1961, fl., *Service Forestier* 20364 (P, TEF). — S du Pic Raynaud, [12°28'30"S, 49°26'30"E], 100-400 m, 9.XI.1961, fl., *Service Forestier* 20365 (TEF). — Nord de Vohémar, Mafokovo, [13°18'S, 49°51'E], [50-450 m], 18.XII.1966, y.fr., *Service Forestier* 27370 (P, TEF). Prov. Mahajanga, Manongarivo, Ambongo, [16°16'S 45°22'E], 2.X.1910, fl., y.fr., *Perrier de la Bâthie* 1812 (P). — Soalala, Ambongo, [16°06'S, 45°19'E], XII.1926, fl., y.fr., *Perrier de la Bâthie* 17842 (P [2 sheets]). — Bongolava, Borizini, 15°38'58"S, 47°35'03"E, 217 m, 16.XI.2004, fl., *Ramananjahary et al.* 133 (MO, P, TEF). — Bongolava, Borizini, 15°34'00"S, 47°29'55"E, 115 m, 27.XI.2004, fr., *Ramananjahary et al.* 166 (MO, P, TEF). — Prov. Mahajanga, Antsianitia STF, 20 m, 15°35'18"S, 46°26'01"E, 20.V.2001, fr., *R. Randrianaivo et al.* 645 (CNARP, MO, P, TAN). — Ambondro, Analalava, [15°01'S, 47°16'E], 1.X.1958, fr., *Service Forestier* 10778 (P, TEF). — Massif forestier de Bora, [14°54'S, 48°13'E], 100-411 m, 29.XI.1961, fr., *Service Forestier* 18496 (P, TEF). — Forêt d'Ambondro-Ampasy, [15°01'S, 47°16'E], 50 m, 29.X-3.XI.1958, fr., *Service Forestier* 18811 (P, TEF). — Soalala, village le plus proche Anjiafitatra, [15°26'S, 46°37'E], 100 m, 13.X.1967, fl., *Service Forestier* 21383 (MO, P, TEF). — N de Soalala (baie de Baly), [16°05'S, 45°09'E], 100 m, 22.XI.1965, fr., *Service Forestier* 24248 (TEF). — Plateau de Berivotra, [15°54'S, 46°34'30"E], 100 m, 24.XI.1965, fl., *Service Forestier* 24293 (P, TEF).

DISTRIBUTION AND ECOLOGY

Lepisanthes perrieri occurs in semi-deciduous and deciduous forests from western Madagascar (Ambongo, Soalala) to the far north of the island (Montagne d'Ambre PN, Ankarana RS and Daraina) and appears to grow on limestone and basement rock (Fig. 1).

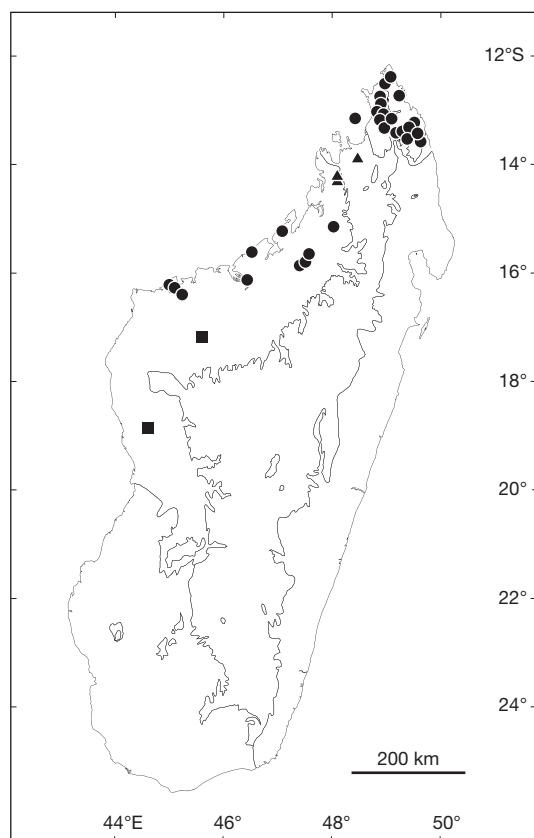


FIG. 1. — Distributions of *Lepisanthes* Blume mapped on the bioclimatic zones of Madagascar (after Cornet 1974; see Schatz 2000): *L. chrysotricha* (Capuron) Buerki, Callm. & Lowry (■), *L. perrieri* (Choux) Buerki, Callm. & Lowry (●), and *L. sambiranensis* Buerki, Callm. & Lowry (▲).

REMARKS

Lepisanthes perrieri can easily be distinguished by its leaves usually with just a single or two (rarely three) pairs of leaflets (vs. consistently two pairs in *L. chrysotricha* and three or rarely two or four in *L. sambiranensis*), a petiole and rachis that combined usually measure less than 2.5 (occasionally up to 11) cm (vs. 4.5–[6] cm in *L. chrysotricha* and 7–15[–22] cm in *L. sambiranensis*), and a glabrous inflorescence (vs. golden indument covering the whole inflorescence in *L. chrysotricha*, but glabrous in *L. sambiranensis*).

CONSERVATION STATUS

With an EOO of 74 179 km², an AOO of 133 km², and 19 subpopulations, six of which are situated

within a protected area (Ankarana, Baie de Baly), *Lepisanthes perrieri* is assigned a preliminary status of Least Concern (LC).

3. *Lepisanthes sambiranensis*

Buerki, Callm. & Lowry, sp. nov.

(Fig. 2)

Haec species a congeneris madagascariensibus foliorum petiolo cum rhachide (7-)15(-22) cm longo, foliolis (2-vel) 3- (vel 4-) jugatis, fructu sphaerico brunneolo atque exocarpio sicco differt.

TYPUS. — Madagascar. Prov. Antsiranana, Kalabenono, Ambilobe, Beramanja, Anketrabe, forêt de Kalabenono, 13°38'41"S, 48°40'27"E, 730 m, fr., *Callmänder, Jo Vasaba & Malaza* 627 (holo-, P!; iso-, G!, K!, MO!, TAN!).

PARATYPES. — Madagascar. Prov. Antsiranana, massif du Manongarivo, escarpement gréseux dominant la rive gauche de l'Antsahankolona, à l'est d'Analantsoa, bords d'un ruisseau, [14°06'E, 48°18'S], 450 m, XI.1954, fr., *Service Forestier* 11479 (P, TEF). — Manongarivo RS, à l'est d'Ankaramibe, Bekolosy, 14°03'05"S, 48°17'07"E, 600–800 m, 10.XII.1993, fr., *Rakotomalala & Fernand* 77 (MO, P, TAN).

DESCRIPTION

Shrub 3–4 m tall; stems c. 8–10 mm in diam., glabrous, brownish, striate. Leaves paripinnate, petiole and rachis stout (c. 2 mm diameter in dried material), 7–15(–22) cm long (combined), glabrous, striate, light green (brownish at the base), slightly compressed; leaflets (2 or) 3 (or 4) pairs, subopposite to alternate, subcoriaceous, green, 12–15(–25) × 3–5(–8) cm, elliptic, base acuminate, margin entire, apex acuminate to cuspidate, acumen 1.5–2 cm, pseudostipules lacking; petiolules 1 cm, glabrous, brown, conduplicate, woody. Inflorescence axillary, 14–18 cm, paniculate, 2-branched, glabrous. Flowers unknown. Fruit spherical, brownish, 2-carpellate, generally only one carpel developing at maturity, 8–15 mm in diam. (the second carpel reduced, 1.5–5 mm in diam.), glabrous, exocarp dry, slightly punctate, thin (< 1 mm), endocarp dry, reddish; style apparently gynobasic, persistent, capitate, 1 mm; peduncle glabrous, 8–12 mm, articulate in the basal third; 1-seeded, subspherical, c. 6–12 mm in diam.

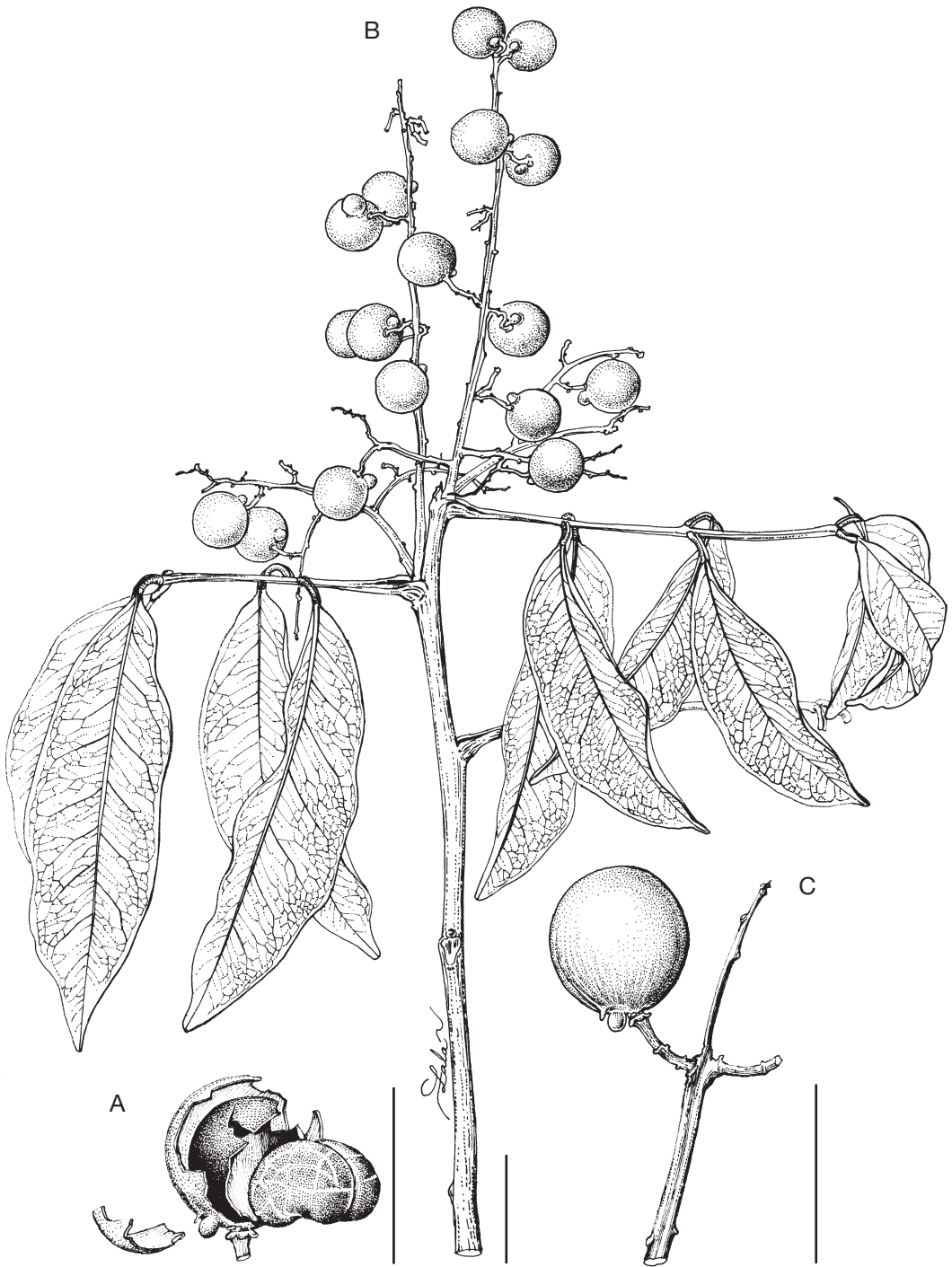


FIG. 2. — *Lepisanthes sambiranensis* Buerki, Callm. & Lowry: **A**, seed; **B**, fruiting branch; **C**, detail of a fruit. A-C, Callmänder, Jo Vassaha & Malaza 627 (holotype, P). Scale bars: A, 3 cm; B, C, 2 cm.

DISTRIBUTION AND ECOLOGY

Lepisanthes sambiranensis is endemic to sub-humid forests on sandstone substrates in the Kalabenono and Manongarivo massifs in northwestern Madagascar (Fig. 1).

REMARKS

Lepisanthes sambiranensis differs from the other Malagasy members of the genus by its long, stout petiole and rachis, which have a combined length of 7–15 (–22) cm, and a diameter of c. 2 mm (vs. usually no more than 5 cm long, and 1.5 mm diameter in the other species), usually three pairs of leaflets (vs. usually only one or two pairs in *L. perrieri* and two in *L. chrysotricha*), leaflets 12–15 (–25) cm long (vs. rarely more than 7–10 cm in the other taxa), and spherical brownish fruit with a dry exocarp (vs. oblong to ellipsoid, rarely spherical in *L. perrieri*, but always with a fleshy exocarp becoming black when dry; unknown in *L. chrysotricha*).

ETYMOLOGY

The species epithet refers to the Sambirano biogeographic region to which *Lepisanthes sambiranensis* appears to be restricted.

CONSERVATION STATUS

With an EOO of 146 km², an AOO of 27 km², and two subpopulations, only one of which is situated within a protected area (Manongarivo), *Lepisanthes sambiranensis* is assigned a preliminary status of Endangered (EN B1ab(iii); B2ab(iii)).

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