



A new remarkable *Euphorbia* of the Ankarana park, in the Northwest of Madagascar.

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Abstract: A new species of *Euphorbia* from Ankarana park North of Ambilobe, similar to *Euphorbia moratii* Rauh by the cyathia but having a completely different vegetative appearance, is described here.

During our last expedition, in March, 2016, around Ankarana, accompanied by Christophe Quenel (Madabotanik) and with her partner Nadia Raheliasoa, we discovered a small population of a geophytic *Euphorbia* with similar cyathia to those of *Euphorbia moratii* Rauh, but with large, cordate, blackish-red to blackish-green leaves, on a long pedicel, which gives the plant a completely unique aspect among the Malagasy *Euphorbias*. I found in collections digitized by the Museum of Paris a sample which belongs obviously to the same species, and it is thus this plant that I have the pleasure to describe here.

Euphorbia nadiae* S. Houyelle *spec. nov.

Holotype: Madagascar: province of Antsiranana, Ambondromifehy, Ankarana park, in undergrowth, 29 March 2007, Bardot-Vaucoulon 1593 (holo:- P [P00643115]!)

Distribution : Ankarana park, North of Ambilobe. GPS: 12°57'59"S 49° 8'23"E

Diagnosis:

Euphorbia nadiae S. Houyelle is a small geophytic euphorbia with inflorescences very similar to *Euphorbia moratii* Rauh but with a completely different vegetative appearance, with a napiform root 10x3cm and especially the leaves 8x4cm, cordate, with a long pedicel 4-5cm, which alone are sufficient to characterize this new species.







5

Description:

Plant up to 20cm long (photo 1), totally underground, only some leaves are visible at the surface of the ground (photo 2, 3). **Stem** solitary, rarely branched out, 0,5-1cm in diameter, 10cm long, provided with a long napiform **root** 10cm long and of 3cm in diameter. **Stipules** almost non-existent, papery, quickly falling. **Petioles** 4-5 cm long. **Leaves** lanceolate, cordate, more or less apiculate, 8cm long and 4cm wide, dark green to blackish-red, very variable (photo 4, 5, 6, 7). The central rib is often veined with pink-pale in the blackish-red leaves. Incyathescential system subterminal, generally formed by two incyathescences. **Incyathescences** 2-4cm, generally with a dichasial branching (photo 8). **Peduncle** commonly 3cm. **Bracts** 2mm, sharp, with a widened base of 2mm. **Cyathia** are erect, carried by an ascending peduncle of 1-2cm. **Cyathophylles** are lanceolate, approximately 3mm wide and 6mm long, spread, pinkish-beige colour, reddish nervations. **Glands** are briefly pedunculate, erect, spread, pink-beige. The interglandular bracts are erect, fimbriate. **Ovary** with a short pedicel, 1mm wide and 1.5mm long, light brown. The **styles** are welded on the first third inferior, the free part of styles is erect and grooved. **Stigmas** are bifid, spherical. The male **flowers** are born on a short style 1-2mm, **anthers** are yellow. **Fruits** are egg-shaped, trilobed and grooved. **Seeds** are rough, greyish-brown.

Position in Systematics: *Euphorbia nadiae* S. Houyelle is a member of the subgenus *Euphorbia* sect. *Goniostema* Baill. Ex Boiss.

Etymology: this specific epithet is honouring Nadia Raheliarisoa who contributed to the rediscovery of some *Euphorbia* species like *Euphorbia biaculeata* Denis, *Euphorbia caput-aureum* Denis, as well as in the discovery of this remarkable *Euphorbia*.

Habitat: The species is found undergrowth, shrubby stratum 2-3m high, near the tsingy formation and near a small creek filled only during rainy season, in a rather rich and clayey soil. The vegetation is semi-deciduous. The plant is totally buried, only some leaves are visible on the ground among the dead leaves and other plant fragments.

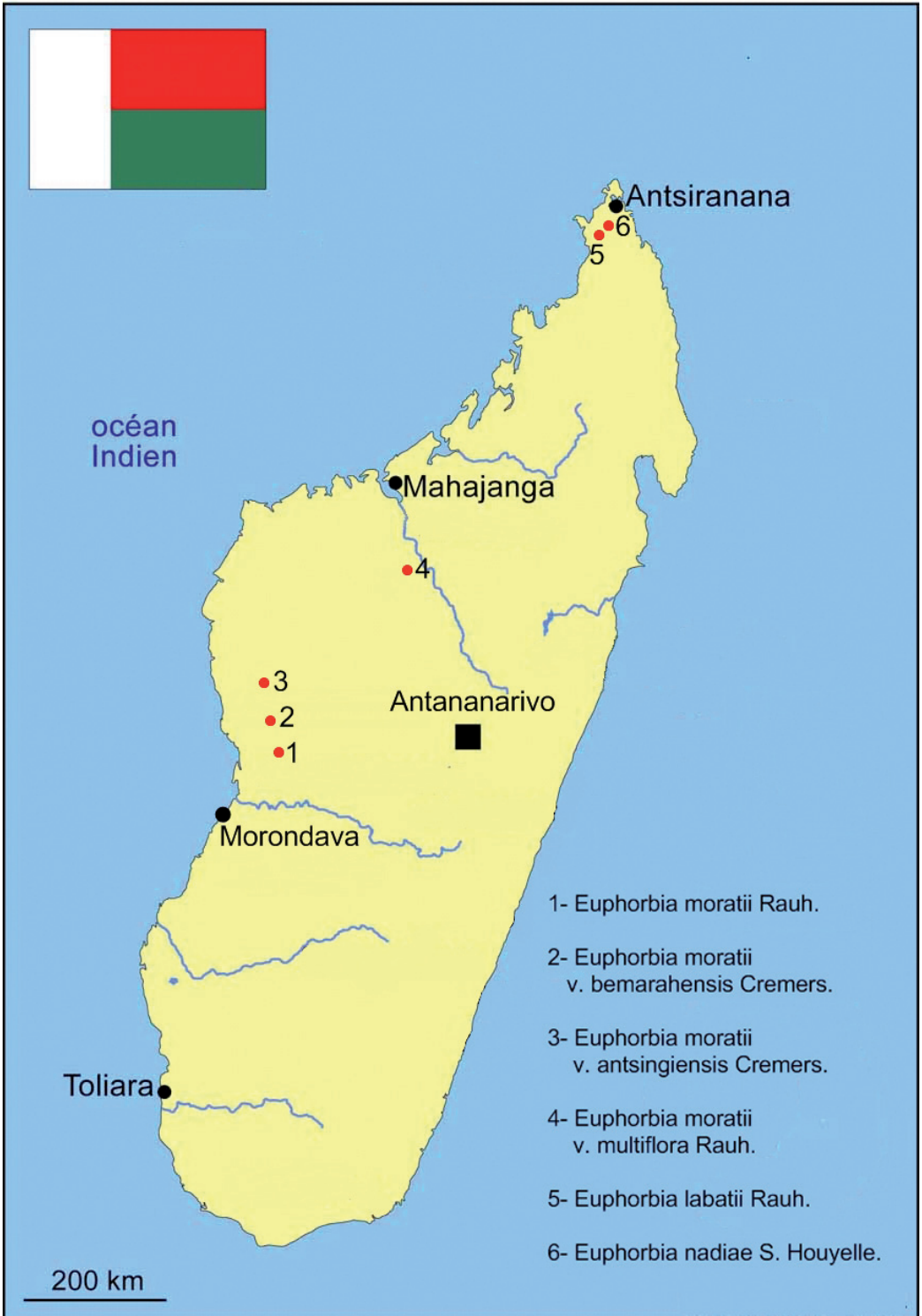
Discussion:

Euphorbia nadiae S. Houyelle is relatively close to *Euphorbia moratii* Rauh (1970.) and its subspecies described by Pr. Rauh and G. Cremers, *Euphorbia moratii* v. *antsingensis* Cremers (1984.) *Euphorbia moratii* v. *bemarahensis* Cremers (1984.) and *Euphorbia moratii* v. *multiflora* Rauh (1991.).

This type of *Euphorbia* is common to the West of Madagascar between Antsafiabositra and Majunga and up to the south end of Bemahara. *E. nadiae* S. Houyelle is found in this extensive area which is Ankarana, approximately 500km further north, where a single geophytic *Euphorbia* was described up to now, *Euphorbia labatii* Rauh (1999.).



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Having said that, this plant is known and already proposed for sale at certain Malagasy, American, Thai and other suppliers since several years ago. It is labelled under the name *Euphorbia labatii* ‘red leaves’. Our new species *Euphorbia nadiae* S. Houyelle is nevertheless very different from *Euphorbia labatii* Rauh, if we refer to the description of the latter. First of all, the leaves are green, oval, briefly apiculate, shortly petiolate in *Euphorbia labatii* Rauh while they are blackish-red, cordate, more or less apiculate, with a long petiole in *Euphorbia nadiae* S. Houyelle. Moreover, cyathia are pendular, cyathophylles erect in *Euphorbia labatii* Rauh while cyathophylles are spread in *Euphorbia nadiae* S. Houyelle. The floral characters show that our new species is closer to *Euphorbia moratii* Rauh than to *Euphorbia labatii* Rauh. Below, a table is proposed to compare some characters between these species (*E. moratii* Rauh, *E. labatii* Rauh and *E. nadiae* S. Houyelle).

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Table 1 : Comparative characters of 3 species:

	<i>Euphorbia moratii</i>	<i>Euphorbia nadiae</i>	<i>Euphorbia labatii</i>
Roots	Napiform/Tuberous	Napiform	Tuberous
Stipules	Papery, quickly deciduous	Papery, quickly deciduous	Papery, deciduous
Leaves			
Petiole	5-10mm	40-50mm	10-15mm
Limb	Oval	Lanceolate, cordate	Oval, margin sometimes undulate
Colour	Green, irregularly stained with white	Blackish-red to blackish-green, sometimes with a pale pink veine along the central rib	Green
Incyathescences			
Cyathia	Erect	Erect	Pendular
Cyathophylles	Spread, lanceolate, beige-pinkish	Spread, lanceolate, beige-pinkish, with marked nervation	Erect orbicular, mucronate, beige-pinkish



8

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