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Aloe martialii sp. nova, *In Search of the Phoenix*, *Calymmanthium substerile*...



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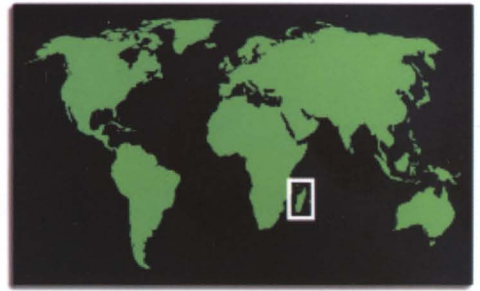
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Description of two new Madagascan taxa in the genus *Aloe* (Asphodelaceae); About *Aloe mandotoensis* J-B Castillon.

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Preliminary remark: only the French text refers to the description of botanical taxa.

I) *Aloe martialii*, a new *Aloe* (Asphodelaceae) of the section *Lomatophyllum*, in the North of Madagascar.

The possibility for researchers to access, through the Internet, types of herbarium specimens relating to botanical species described or not, have been these last years of a great help, whether for research of new species or correction of errors made in the past. In the genus *Aloe* in particular, it is generally difficult to identify a species from a description (even if it is complete) – due to the sometimes large variations of the species because of edaphic (soil) or climatic factors - if one has no sight of the Holotype or at least very good photos of the plant in situ; it is also difficult to recognize a plant by its Holotype if we have not a good knowledge of the field. Thus a number of errors made in 1966 on the *Aloe* from Madagascar by Dr. G. W. Reynolds, who at the time had not at its disposal the Type and was generally unable to reach the location of harvesting Types, could be corrected through the Internet. Recently, examination of a sample of herbarium MNHNP labeled *Aloe* cf *rosea* (formerly *Lomatophyllum roseum* H. Perrier) and coming from Ambre Mountain, 35km southwest of Antsiranana, leaves me somewhat curious, due to the fact that, in my mind, this plant was rather confined to the forests and highlands of the east coast. I wanted to confirm this fact and, on December 2008, I took the plane for Antsiranana. The search for the concerned *Aloe*, in the Montagne d’Ambre, on January 15th, 2009, was relatively easy but the plant was in bud; it was not until early February that I could see pictures of the flowering plant, and to my great satisfaction, this *Aloe* is not affine of *Aloe rosea* as I expected and represents to me a plant new to science that I am pleased to describe here:

Aloe martialii, J B-Castillon, **species nova.**

Typus: (Holo, MO), S. T. Malcomber and al, 1185, 10 February 1992

Locus typicus: In monte nominata « Ambre Mountain », apud Antsiranana urbem.

Diagnosis: Planta solitaria, acauli vel caulescente (5-10 × 2,5cm), 13-17 folia emittente. Foliis laxe rosulatis, canaliculatis, 60 x 2,5cm, uniformiter viridibus, ad apicem acutissimis ; margine ferente minusculos aculeos 1-1.5mm longos, 10-13mm distantes. Scapo simplici vel 1-2 furcato, 27-35cm longo; pedunculo basi plano-convexo 5mm lato, sub-rubro, 22cm longo et 5-7 steriles bracteas 10 × 2mm ferente. Racemo 6-10cm longo cum 15-20 laxe dispositis floribus; floreis bracteis viridibus, aliquot nervatis, 10 × 2mm ; pedicellis sub-rubris 17 × (1-1.5) mm. Perigonio ad basim obtuso, paulum arcuato, potius cylindrato, 32mm longo et 3-4mm lato, rubro et ad apicem viride; externis segmentibus per 7mm liberis; antheris stigmatibusque primo inclusis; ovario conico-cylindrato 2 × 3mm. Fructu: bacca globosa 1.5cm diam.



Aloe martialii, habitat, Madagascar (photo : J.-B. Castillon).



Aloe martialii infl. (photo : Patrice Bernet).



Aloe rosea infl. (photo : J.-B. Castillon).

Etymology:

This species is dedicated to the memory of my father Henry Martial Castillon, the only self-made man that I had the pleasure to know and appreciate.

Description:

Plant stemless or slightly caulescent (short stem 5-10cm long, 2.5 cm diameter), not suckering. Leaves triangular acute, rather thin, of a green sparkling colour, clear at base and darker above, canaliculate, approximately 60cm long, 2.5 cm wide at the base, slightly sheathing and forming a sort of small trunk; lower leaves arching and drooping, upper leaves erect; blade plain green very shiny, without any spot or drawing; margins bearing small thorns of the same green color, 1-1.5 mm high and 10-13mm apart.

Scape shorter than the leaves, about 27cm long and as long as 35cm on the largest plants, with one or two racemes; peduncle brown, plano-convex at the base and 5mm wide, 22cm long and bearing 5-7 sterile bracts on the last 7 cm; sterile bracts crumpled,

with a dorsal green vein and white margins, 2mm broad at the base and about 10mm high. Raceme 6-10cm long, carrying about 15-20 flowers rather loosely arranged. Buds upright, horizontal or bending, open flowers bending; pedicel brown $15 \times (1-1.5)$ mm; floral bract green 10×2 mm with several veins. Perianth basally obtuse, slightly shrunk above the ovary, slightly arched, rather cylindrical, 32mm long and 3mm wide at the throat, reddish and distally whitish green; external tepals connate at the base for 25mm, anthers and stigmas included at anthesis; ovary sub-cylindrical 2×3 mm. Fruit a spherical berry, 1.5 cm diameter.

Discussion

This *Aloe* belongs to the *Lomatophyllum* group and is totally different from all the relevant species in Madagascar by its tiny thorns, glossy dark green color of the leaf which is thickness negligible and very elongated. The plant closest to it by the leaves is *A. lomatophylloides* from Rodrigues island in the Mascarene archipelago, but the latter suckers freely, has leaves longer and broader at the base, smaller flowers, shorter bracts; geographical distance and other features make surely it a different species.

A. martialii has nothing to do with *Aloe rosea*, which has large thorns, more racemes, pink flowers; the dorsal surface of the leaf is embossed and flowers are different in shape and color, as it is shown in the pictures. This plant that I knew by the examination of the Holotype cited above has been recently reported by Mr Alexander Viossat who saw and photographed it in situ at Ambre Mountain. *Aloe martialii* is a species of dark forests, growing in moist humus on rocks and tree trunks and it appears to be rare and localized to the area north of Madagascar. Since type harvested by Malcomber and others, this plant has become very rare in the Ambre Mountain and only two plants were found.

The Madagascan species which seems closest to it is *A. schilliana* Rowley & Newton, but the latter, which seemed to exist only near Ambanja and was recently found near Maromandia, is different, among other things, by the inflorescences longer than the leaves (80cm), different leaves and especially the existence of numerous bulbils on the stem.

Other species of horticultural interest I have noted in the vicinity are: *Medinilla* sp, *Medinilla ambrensis* and *sedifolia* (Melastomataceae); *Angraecum germinyianum*, *Bulbophyllum* sp, *Oeceoclades ambrensis*, *Gastorchis humblotii* (Orchidaceae); *Impatiens* sp (Balsaminaceae); *Asplenium nidus* (Aspleniaceae) and various ferns; *Pandanus* sp (Pandanaceae); *Kalanchoe uniflora* (Crassulaceae).

Acknowledgments:

I thank my friend Patrick Bernet who accepted to delay by a week his return to Reunion island and so was able to take pictures of the flowering plant; my thanks go also to Mr. Alexander Viossat who reminded me the existence of this *Aloe* in the Ambre Mountain.



Aloe fievetii var. *ambatofinandrahanensis* - habitat, Madagascar
(photo: J-B. Castillon)



Aloe fievetii var. *ambatofinandrahanensis*, habitat, Madagascar. (photo : J.-B. Castillon).



Aloe fievetii var. *fievetii*, habitat, Madagascar. (photo : J.-B. Castillon).

II) *Aloe fievetii* Reynolds var *ambatofinandrahanensis*, new variety.

The following variety is quite unique and far away from the typical species by approximately 100 kilometers.

Aloe fievetii Reynolds **var** *ambatofinandrahanensis*, J-B Castillon, **var nov.**

Typus: JB Castillon N ° 46 (Holo, Tan), September 15, 2009. (Iso, P).

Locus typicus: Mountains between Ambatofinandrahana and Ivato; 1900m alt.

Diagnosis: *A. fievetii* affinis sed planta minore and rariores surculos emittente; foliis brevioribus, crassioribus and rubro-coeruleo coloratis (pro viride vel rubro-viride); spinis rubris majoribus; inflorescentia brevior, praecipue differt.

Description: Plant much smaller, few suckering; leaves shorter and narrower at the base, fatter, a little lorate, cross section circular to elliptical (upper and lower surfaces convex), dominant blue color (often blue- red on the upper surface and blue-green on the other side); spines more robust red with black tip and less distance apart, juice orange and excessively bitter; inflorescence shorter, 30-50 cm long; the flowers are less intensely coloured : purple-pink buds, flowers bright orange-yellow with green veins.



Aloe mandotoensis, form of the original description (photo : J.-B. Castillon).



Aloe mandotoensis, form described as *Aloe fontainei* (photo : J.-B. Castillon).

III) Note about *Aloe mandotoensis*, J-B Castillon, *J. Bot. Soc. Bot. France* 21: 7-9(2003).

A. mandotoensis has been described from a plant found near Mandoto (several kilometers) on a rocky area relatively wet and surrounded by rice fields; the same *Aloe* has been recently described again under the name *A. fontainei* by N. Rebmann, from another plant also coming from the surroundings of Mandoto. The differences that can be observed between these two plants come mainly from the fact that habitats are different (very dry area for *A. fontainei*, more humid location for *A. mandotoensis*), so the behavior of plants is also different. Because the two sites are separated by a distance of 6km at most and that there is no other *Aloe* in the immediate vicinity of Mandoto, it is clear that it is a matter of the same species and therefore the only valid name is *A. mandotoensis*, given the prior description of *A. mandotoensis* (more than 4 years). I therefore propose the following synonymy:

A. mandotoensis, JB Castillon; Type: Castillon 3, granitic rocks nearby Mandoto, alt 1400m; 22 May 2001, (holo, P; iso, P); **J. Bot. Soc. Bot. France 21: 7-9 (2003)**.

= *A. fontainei* N. Rebmann, Type : N. Rebmann N° 18, 18 Aout 2005 (Holotype, BR) ;falaises et dômes granitiques, 13km à l'Est de Mandoto, 1300m ; in **Cact. Adv. Inter.** nr.82, Apr. 2009.

A slightly different form of *A. mandotoensis* was just discovered two months ago, about 20km away from the village Amborompotsy on the main road :Ambatofinandrahana – Malaimbandy, and it is obvious that this is a simple variation of the same plant. The concerned *Aloe* is relatively polymorphic but with a set of features which make it easily recognizable. I give 2 different pictures of this *Aloe* from different environments to show its variability; no doubt, both plants are the same species!

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