



A New Aloe (Asphodelaceae) from Northern Madagascar.

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Key-Words: *Aloe*, Asphodelaceae, Madagascar.

Abstract: Description of a new *Aloe* from the North of Madagascar.

Introduction

Humbert's herbarium sample N° 22358, collected at the time of his mission Humbert 1948-1949 in Madagascar which is in the Herbarium of "Museum National d'Histoire Naturelle de Paris", carries the following annotations: "*Aloe capitata* Baker; environs d'Andapa – bassin de la Lokoho ; collines de quartzite aux environs immédiats de la ville ; acaule, feuilles en rosette ; périanthe rouge corail plus ou moins lavé de jaune . NB : des rosettes vivantes ont été envoyées par avion à Tananarive-Tsimbazaza" written on the bottom to the left and on the right is the mention of "Herb. Mus. Paris; *Aloe trachyticola* (Perr) Reynolds". This mention and the fact that G. Cremers in the article [1] devoted to the description of *Aloe guillaumetii* and *Aloe peyrierasii* points out the presence of *Aloe trachyticola* in the North of the large Island led me to find out if this *Aloe*, which is known to me only from Mount Ibity and the surrounding mountains, could be found so far from the major town Antsirabe. I thus made, for this purpose, at the end of July 2007, a reconnoitre in a 4x4 from the town Ambilobe to the East coast; the dilapidated state of the road which passes by the village of Maromokotra, from where, in August 2006, *Kalanchoe maromokotrensis* (Crassulaceae) was described [2], enabled me to reach Iharana (in the past Voehemar) only after 9 hours of a dusty and tiring track; fortunately, afterwards, the roads towards Sambava and Andapa were in a rather good state. The quartzite hills around Andapa are easily locatable and I quickly found the required *Aloe*; the herbarium sheet quoted above represents a young plant of it. Contrary to what was written or said, there is no *Aloe trachyticola* in this area but a plant looking a little like the known varieties of *A. capitata* judging by its flowers and it is sufficiently different from both to deserve the status of species. I am pleased to describe it here.



1 *Aloe rodolphei* ; a single rosette.
(photo : J.-B. Castillon).



2. *Aloe rodolphei* ; several rosettes.
(photó : J.-B. Castillon).

Aloe rodolphei, J-B Castillon, **sp nov.**

Diagnosis : Floribus, *A. capitata* varietatibusque affinis est sed, planta subolifera, foliorum colore dissimile, inflorescentia bulbillos gerente, floreis pedicellis potius aequalibus, naturale differt.

Locality: On quartzite hills near the town Andapa.

Typus : [J-B Castillon N° 38; 5 Augusto 2007 ; (Holo, TAN)] . (Paratypus : Humbert ; 22358 ; P) .

Description

Plant with 1-3 rosettes, stemless and suckering; dense rosette of about 30 leaves. Leaves green, triangular with rounded apices, 20 ' 4cm to 30 ' 6cm, erect in the main rosette, falcate in the other ones; upper surface flat or slightly concave, lower surface convex; margins armed with yellow teeth 2mm long, sometimes 2-3 gathered and 4-10mm apart. Inflorescences 100cm long, 1-4 branched; main peduncle without sterile bracts, 40-50cm long; secondary peduncles with 5-10 sterile bracts; emission of bulbils along the peduncle, isolated or 1-5 grouped together at the starting point of ramifications; racemes capitata 6-8cm diameter, the pedicellate portion 2-4cm long, the main raceme bearing about 70 flowers, others less provided with 30 flowers. Flowers yellow, hanging at anthesis; buds reddish, erect or nutant; top buds opening first; faded or fertilized flowers drawn up; floral bracts whitish, scarious, 5x5mm, with 3 black central nerves; pedicels reddish, 16-24mm, about the same length on a raceme. Perianth yellow, 23mm long, cylindrical and slightly widened to the mouth; outer segments free, yellow orange, with 3 darker veins; inner segments free, clear yellow, with an orange yellow dorsal keel; filaments greenish yellow, 25mm long; anthers first 1-3mm exserted and then included by retraction filament; style 20mm, green; stigma first included and then 3mm exserted; ovary, green olive, cylindrical, 5x2mm. Fruit a capsule.



3. Plant with several rosettes showing the bulbils.
(photo : J.-B. Castillon).



4. Bulbils at the starting point of ramifications.
(photo : J.-B. Castillon).



5. Plants with suckers and racemes of buds.
(photo : J.-B. Castillon).



6. Raceme with equal pedicels.
(photo : J.-B. Castillon).



7. Raceme of flowers.
(photo : J.-B. Castillon).



8. Inflorescences of *Kalanchoe maromokotrensensis*.
(photo : J.-B. Castillon).

Discussion

Aloe rodolphe is reminiscent of *A. capitata* judging by its flowers and the fact that the first buds to open are the top ones. By its appearance and its leaf colour, it is different from all the varieties of *A. capitata* previously recognized by H. Perrier and – if one excludes the *trachyticola* variety which was regarded as species with full agreement shared by G.W.Reynolds – it has the shortest leaves; on a bunch, the floral pedicels are about equal lengths, which is not the case for the varieties of *A. capitata*. Its nearest ally is *A. mitsioana* J-B Castillon [3] which has green reddish leaves and produces suckers; leaves of the latter are longer, its inflorescences often shorter than the leaves - which is not the case with *A. rodolphe* - and the pedicels are very unequal. Moreover, *A. rodolphe* makes bulbils on the inflorescences, on average 1-5 on the peduncle, at the starting point of ramifications, which is not true for *A. mitsioana* and the plants of Reynolds group 6 [4]; it should be noted that young 15cm diameter plants of *A. rodolphe* are floriferous, which is also enough to differentiate it from the various races recognized by Reynolds allied to *Aloe capitata*. The fact that the plant sometimes makes several rosettes is singular and I only noted it for *A. capitata* near Arivonimamo, 100km away from the capital Antananarivo. Here is a table giving the main differential characters of this new *Aloe*:

<i>Aloe</i>	Leaf length	Suckers	Bulbils	Pedicels
<i>capitata capitata</i>	50cm	No	No	Unequal
<i>capitata gneissicola</i>	40-50cm	No	No	Unequal
<i>capitata sylvicola</i>	50-60cm	No	No	Unequal
<i>capitata quartziticola</i>	30-40cm	No	No	Unequal
<i>capitata cipolinicola</i>	60cm	No	No	Unequal
<i>mitsioana</i>	40-50cm	Yes	No	Unequal
<i>rodolphe</i>	20-30cm	Yes	Yes	Equal

Important remark: Only the French text refers to the official botanical description of *Aloe rodolphe*.

Etymology: This plant is dedicated to Rodolphe Castillon who grows and propagates the succulent plants of Madagascar.

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- [1] G. Cremers "Aloe nouveaux du Nord de Madagascar". *Adansonia*, ser 2, 15 (4) : 497-503, 1976.
- [2] Descoings & Rebmann "Une très belle espèce nouvelle de *Kalanchoe* (Crassulaceae): *K. maromkotrensis*" *Succulentes* N°3- Août 2006.
- [3] J-B Castillon " Two new species of *Aloe* (Asphodelaceae) from Madagascar" *Bradleya* 24/2006, pages 67-72.
- [4] G.W.Reynolds "The Aloes of Tropical Africa and Madagascar"; The Trustees- The Aloes Book Fund; Po Box 234; Mbabane; Swaziland; September 1966.