



Three new species of Aloes from Madagascar

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The author describes here for the first time 3 new *Aloe* species of Madagascar:

Aloe edouardii sp. nov., *Aloe estevei* sp. nov. and *Aloe richaudii* sp. nov.

The region West of Fianarantsoa is rich in inselbergs where diversified rupicolous vegetation grows.



Aloe edouardii, habitat, rosette avec hampe florale passée (photo : N. Rebmann).

On the road to Andoharanomaitso, I found many succulent species. On small granitic domes, my driver Edouard Andriamboavonjy perceived, not far from the track, a species of *Aloe* in flowers, a new species which I dedicated to him: *Aloe edouardii* sp. nov.

On more impressive inselbergs, along a track which follows the river on the South side *Aloe capitata* var. *quartziticola*, *Aloe acutissima*, *Pachypodium densiflorum*, *Senecio crassissimus*, and *Euphorbia fianarantsoa* grow. To the northwest of Andoharanomaitso the magnificent *Aloe haworthioides* is to be found, whereas in the South, I was able to find *Aloe fievetii* which grows in large number on a very big inselberg.

Aloe edouardii N. Rebmann sp. nov. grows on granitic domes in black humus, in slightly shaded places.

On the road to Isorana, near this village and near the hamlet of Halalava, I discovered a new species of *Aloe*, *Aloe estevei* N. Rebmann sp. nov. which grows on granitic cliffs exposed to the South and East. I dedicated this species to a friend, a botanist amateur, who often accompanies me during my expeditions in Madagascar.

This species grows in the most wet and shaded parts of these cliffs, in the moss, where the water oozes out for most of the year. Near Halalava, *Aloe estevei* grows together with *Kalanchoe rebmannii*, described in 2006 by Bernard Descoings, *Kalanchoe miniata* and many orchids of the genus *Angraecum*. Near Isorana and in the South of Halalava, on northern exposure *Kalanchoe pubescens*, *Kalanchoe hildebrandtii*, *Aloe acutissima*, *Aloe capitata* var. *quartziticola* and *Pachypodium densiflorum* grow together.

East of Ambilobe, in the North of the island, on the road to Vohemar, in a region little investigated until now, on hills near Maromokotra, a secondary forest grows in which, I was able to find: *Adansonia madagascariensis*, *Pachypodium rutenbergianum*, *Uncarina* sp. aff. *grandidieri*, with yellow flowers and three new species: *Kalanchoe maromokotrensis* Descoings & Rebmann (recently described), *Euphorbia maromokotrensis* (which will be described soon) and *Aloe richaudii* sp. nov. *Kalanchoe maromokotrensis* grows in limestone river sand, *Euphorbia maromokotrensis* in some disintegrated limestone and *Aloe richaudii* on granitic domes. All these three species grow in shaded places. I dedicated this new *Aloe* species to my friend Philippe Richaud, nursery gardener and great connoisseur of succulents, who possesses greenhouses at Le Cannet (near Cannes, France).

Aloe richaudii N.Rebmann sp. nov. is a rupicolous species which grows on granitic domes north of Maromokotra, in black humus pockets.

• *Aloe edouardii* N. Rebmann sp. nov.

Type: Norbert Rebmann n°15; August 23rd, 2003; (Holotype BR).

Type Locality: granitic domes, 10 km the West of Fianarantsoa, 1100m in altitude, Madagascar.

Diagnosis: *Aloe edouardii* N. Rebmann sp. nov. - Affinis *A. andrigitrensis*, rupicola, rosula solitaria cum foliis erectis vel recurvatis, crassiviridibus ad caeruleantibus, and pruinosis subruber in inferiore latere. Spica floralis 1 metre alta, fissa in 5 ad 6 leave, bostryx inflorescentia, 10 ad 16 cm longa, composita ex multi aurantiaci florum, vetustate flavescentes, brevis pedicellus, parvissimae papyraceae bractea.

Description: stemless to slightly caulescent plant, stem 15cm to 20cm long, rupicolous, growing on granitic domes in black humus. Solitary rosette 60cm to



Aloe edouardii, habitat, rosettes with flowering floral stalks (photo : N. Rebmann).



Aloe edouardii, habitat, rosettes with inflorescences, flowering and capsules. (photo : N. Rebmann).

80cm in diameter, consists 30 to 35 erect and curved, leaves 60cm to 65 cm long and 7 to 8cm wide at the base, upper face flat to slightly convex, lower face convex. Leaves are dark green to bluish, covered with a pruinose coat, reddish on the upper face. Edge of leaves reddish, with regular, deltoid, red teeth.

The floral stalk of 100cm high is divided into 5 in 6 branches. Every plant gives one-two floral stalks. The inflorescence forms a dense cluster of 10cm to 15cm long, made of many orange flowers, becoming yellow in time, 18mm to 20mm long. The reddish pedicel is short, less than 10mm long, also very small bracts are papyraceous.

The fruit is a dehiscent capsule.

Taxonomical position: I had already met this species repeatedly, but I had confused it with *Aloe capitata* var. *quartziticola*. Its flowering allowed me to identify the taxon as a new species. The appearance of this species puts it close to *Aloe capitata*, but the plant may be slightly caulescent and the leaves are longer and sometimes bent back.

The inflorescence has affinities with those of *Aloe andringitrensis* and *Aloe decorsei*.



Aloe estevei, Halalava, habitat (photo : N. Rebmann).



Aloe estevei with floral stalk, near Isorana (photo : N. Rebmann).

• *Aloe estevei* N. Rebmann sp. nov.

Type: Norbert Rebmann, n°14, 23rd of August, 2003, (Holotype BR), (Isotype, in cultivation in my greenhouse).

Type Locality: granitic domes, 20km the northwest of Fianarantsoa, near Isorana, 1200m altitude, Madagascar.

Diagnosis: *Aloe estevei* N. Rebmann sp. nov. affinis *A. fievettii*, rupicola, caulescentia alta plantata, erecta, deinde dejecta, caulis ex 0,30 ad 0,50 m usque ad 1,50 m, surculans solum ex basis, laxa rosula, 15 ad 30 folia virides. Spica floralis fissa necne, 35 ad 40 cms alta, inflorescentia 25 ad 30 flava flores rubri adjuncta, pedicellus 15 ad 20 mm longus, scariosa bractea 3 ad longa 5 mm.

Description: plant caulescent 0.3m to 0.5m high, sometimes more, then the stem bent on the ground and achieving 1.2m to 1.5m long, suckering only from the base. Stem 1.2cm to 2cm in diameter. The stem is terminated in a lax rosette of 15 to 30 leaves, of intense green, internodes 2cm to 2.5cm, dry leaves, 10 - 12, persisting for a while, but the stem is bare at the base.



Aloe estevei with floral stalk and capsules, Halalava (photo : N. Rebmann).

The leaves, 22cm to 28cm long are narrow, approximately 1.2cm wide in the middle, raised and sometimes bent back. The lower face is slightly convex and the upper face is a little guttered. Leaf margins are yellowish to slightly pink, toothed, teeth yellowish deltoid, spaced out 6mm to 10 mm, diminishing and sometimes disappearing towards the leaf tip.

Floral stalk 35cm to 45cm long, flattened section, 9mm to 15mm thick at the base, branched out, 2 to 4 branches from the centre, or not. Inflorescence consisted in 25 to 30 flowers, grouped together at the top of the stalk, upright to bent. Flowers with 6 yellow tepals pale orange, sepals slightly shorter than petals. Tepals bent back at the apex. Perianth 30mm long \times 5mm in diameter. Style longer than the perianth. Pedicel 15mm to 20mm long. Bract scarious, 3 to 5 mm long.

The fruit is a dehiscent capsule.

Taxonomical position: the appearance of the plant is comparable to that of *Aloe alfredii* but the flowering is close to *Aloe fievetii* which grows nearby.

• *Aloe richaudii* N. Rebmann sp.nov.

Type: Norbert Rebmann; n°13; August 29th, 2001; (Holotype BR), (Isotype, in cultivation at Philippe Richaud's greenhouse).

Type Locality: granitic domes northwest of Maromokotra, alt. 320m, Madagascar.

Diagnosis: *Aloe richaudii* N. Rebmann sp. nov. affinis *A. mitsioana*, *A. rodolpheique*, *A. ericetorumque*, rupicola, rosula caespitosa, productans multi surculi, folia succulentissima, diffusa vel erecta, pruina caerulea in parte distale. Spica floralis erecta 30 cm, fissa in 2 ad 3 partes, corymbosa inflorescentia, capitatissima, composita ex citriflava florum, pedicellus 16 ad 18 mm longus, scariosa bractea, 8 ad longa 9 mm.

Description: stemless, rupicolous, caespitose plant comprising 5 to 6 rosettes, rosettes each of approximately 18 leaves. Green leaves with presence of a blue pruinose coat on the distal part, spread or erect during the dry season, very succulent, 30cm long, 8cm wide at the base, margins yellow with many yellow, deltoid teeth, lower face convex, upper face flat to slightly canaliculate. Floral stalk upright, 32 cm high, branched out in 2 or 3 parts, at the median part, in oval section at the base, 12 mm to 15mm thick, rounded towards the tip, 5mm in diameter at the base of the inflorescence. Inflorescence densely capitate in a corymb, 45mm to 50mm long and 65mm to 70mm in diameter, the lower flowers



Aloe richaudii, habitat, Maromokotra (photo : N. Rebmann).



Aloe richaudii rosettes in flowers, in cultivation (photo : Philippe Richaud).

are parallel to the peduncle of the inflorescence (thus pointing downward), the flowers of the summit are slightly reflexed. All the flowers are narrowly grouped around the axis.

The inflorescence is ended by a clump of bracts. The flowers open at the tip first. Bracts oval, pointed, 8mm to 9mm long, 3mm to 5mm wide, white, thin, scarious with 3 to 5 lines, of lessening size towards the tip of the inflorescence.

Pedicels green, washed with red, the lowers pointed downward, 16mm to 18mm long, the uppers 16mm long.

Perianth lemon yellow, tinged of green at the base, narrowly campanulate 30mm long, 10mm wide at the tip and 7mm at the level of the ovary, outer tepals free almost down to the base, inner slightly wider; the median part more intense lemon yellow.

Stamens introrse, style 25mm, light yellow, flattened. Anthers 3 mm long, dark yellow, slightly longer than tepals. Style of inner stamens slightly longer. Pistil 32mm long, slightly longer than the tepals, ovary 10mm long and 3mm in diameter, obtusely narrowed at the base of the style, 22mm long and slightly bent back towards the tip.

The fruit is a dehiscent capsule.

Taxonomical position: this plant, for the shape of its inflorescence, belongs to the series of *Aloe capitata*, close to *Aloe mitsioana* and *Aloe rodolphei* described by J.B Castillon and to *Aloe ericetorum* described by J.Bosser.

Important remark: only the Protologue in French refers to the botanical description of the species.

Text: Norbert Rebmann

Photos: N. Rebmann and Philippe Richaud

THANKS: to Laurent for the Latin diagnosis.

BIBLIOGRAPHICAL REFERENCES:

- BOSSER J., 1968- Espèces et hybrides nouveaux d'Aloe de Madagascar. *Adansonia*, ser.2,8(4), p 506 à 512.
- CASTILLON J.B., 2006- Two new species of Aloe from Madagascar, *Bradleya* 2006 (24), p.67 à 72.
- CASTILLON J.B., 2008- Un nouvel Aloe du nord de Madagascar, *Cactus Aventures international* 2008, n°77, janvier 2008, p. 2 à 5.
- DESCOINGS & REBMANN, 2006- Une très belle espèce de *Kalanchoe* : *K. maromokotrensis*, *Succulentes* 2006 (3), p. 10 à 17.
- RAUH W., 1995-1998- Succulent and xerophytic plants of Madagascar. I(1995), 345 p., 1011 fig. II(1998), 385 p., 1266 fig. Strawberry Press, Mill Valley, California(USA).
- REYNOLDS G., 1966- The Aloes of tropical Africa and Madagascar, 537 p. Part 2, The Aloes of Madagascar p.389-530. The Trustees, The Aloes book fund, PO. Box.234, Mbabane, Swaziland.



Aloe richaudii with floral stalk, in cultivation (Le Edouard Andriamboavonjy with rosette of *Aloe edouardii*) (photo : Philippe Richaud).

(Le Edouard Andriamboavonjy with rosette of *Aloe edouardii*)



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