

Notes on *Aloe spicata* Linn. fil.

By R. Marloth.

The identification of our older species of *Aloe* from descriptions and illustrations has offered many difficulties, for nearly all these diagnoses were based upon plants cultivated in European conservatories, that means, they had grown up in an environment with a considerably moister atmosphere and a far less sunny climate. Under such conditions these highly succulent plants generally assume quite a different habit, not only in stem and foliage, but also in the nature of their inflorescence. Consequently when Volume VI of the *Flora Capensis* appeared in 1897 comparatively few of our wild species of *Aloe* were known correctly by name, although some of them had been in cultivation in Europe for two centuries. They differed to such an extent from the available descriptions that recognition became possible only through a study of plants from various localities and of their behaviour under cultivation in our gardens. A few of the species of which the natural home was not known 25 years ago are the following:—*Aloe succotrina*, *A. purpurascens*, *A. microstigma*, *A. obscura*, *A. glauca*, *A. falcata*, *A. grandidentata*, *A. pluridens*, *A. Salm-dyckiana* and the subject of this article, viz. *A. spicata*. For all these, with the exception of the last named, the difficulties and doubts have been gradually overcome, and we are now fairly certain of their identity and localities of occurrence in the country.

With regard to the last one in the list, viz., *A. spicata*, the writer considers that he has at last solved this puzzle, for Linnaeus' *Aloe spicata* is the plant now usually called *A. spiciosa*.

Before discussing the reasons for this conclusion it appears advisable to quote the descriptions of *Aloe spicata*, as given in the three principal publications dealing with the plant, viz.:

LINNAEUS fil. Supplementum, 205 (1781).

THUNBERG, *Flora Capensis*, Edit. Schultes, page 309 (1823).

J. G. BAKER, *Flora Capensis*, Vol. VI, page 316 (1896).

LINNAEUS fil. Supplementum, 205 (1781).

“*Aloe spicata*. Caulescens, foliis planis, ensiformibus, dentatis, floribus spicatis, campanulatis, horizontalibus.”

THUNBERG in *Flora Capensis*, Edition Schultes, page 309 (1823).

“Crescit in Promontorii Bonae Spei interioribus regionibus. Floret Augusto.”

“Caulis teres apice foliosus, 3-4 pedalis, crassitie brachii. Folia subverticillata, carnosa, basi lata sensim attenuata, canaliculata, dentibus remotis, patentia bipedalia. Flores densissime approximati horizontaliter patentes; spica pedalis sensim florens. Bractea sub singulo flore solitaria ovata acuta lata membranacea alba, striis 3 viridibus, corolla paulo brevior. Corolla subhexapetala; lacinae 3 interiores invicem non connatae, latiores, ovatae, obtusae, albae, carina linea triplici viridi, unguiculares; tres exteriores basi cum interioribus connatae, angustiores, ceterum similes, minus concavae. Filamenta linearia sensim parum attenuata, basi alba, superne flavescencia, inaequalia, erecta, corolla sesquialongiora. Antherae ovatae, incumbentes, fulvae. Stylus flexuosus erectus, longitudine fere staminum. Stigma simplex obtusiusculum. Capsula ovata, obtusa, subtrigona, inflexa, hinc carinata, lateribus planis quadristriata, inde convexa sulco medio glabra. Dissepimentum duplicatum. Corollae repletae succo melleo purpurascente.”

BAKER in *Flora Capensis*, Vol. VI, page 316 (1896).

A. spicata Linn. fil.

"Stem elongated below the leaves, simple; leaves 12-20, laxly disposed, patent or the lower recurved, ensiform, 18 inches long, $1\frac{1}{2}$ to 2 inches broad low down, 6 lines thick in the centre, tapering gradually from the middle to a long point, green with a slight glaucous tinge, obscurely lineate towards the base, mottled with copious irregular whitish oblong spots; margin with spreading, horny, deltoid-cuspidate prickles $1\frac{1}{2}$ to 2 lines long; peduncle slender, simple or forked, above a foot long; raceme oblong, 6 inches long; pedicels ascending, 6-9 lines long; bracts small, lanceolate; perianth bright yellow, tinted with red when young, 15 lines long, tube short; stamens slightly exerted."

A comparison of these accounts shows that they cannot refer to the same species, and as Mr. Baker states that his description of the flower was taken from a plant cultivated by Mr. Peacock (1879), it is obvious that that plant had been wrongly named, and that Haworth, whom Baker followed otherwise, had also erred in applying Linnaeus' name to a plant with speckled leaves, for neither Linnaeus nor Thunberg mention the spots on the leaves, which they could not have overlooked, nor does the latter call the inflorescence forked and the flowers yellow. The erroneous views of these authors are probably the principal cause which has prevented the recognizing of the true *A. spicata* up to the present.

A further proof that Haworth and Baker were mistaken in their identification is afforded by Mr. N. E. Brown's study of Thunberg's type specimen collected by him about the year 1776 and preserved in his herbarium at Upsala. Mr. Brown's account is published in *Bothalia*, Vol. I, page 142 (1922), and runs as follows (omitting his comments):—

A. spicata Linn. fil., ex Suppl. p. 205 (1781), and Thunb. *Flora Capens.*, page 309.

"Thunberg's specimen is the type of this species and consists of portions of two leaves and six detached flowers. The leaves are resp. $10\frac{3}{4}$ and $13\frac{3}{4}$ inches long and 14 and 16 lines wide at their basal ends, gradually tapering thence into a long and slender subulate point which at 3 inches below the acute or bluntish tip is only 2 lines broad. . . . The teeth on the margins are 6-8 lines apart and very small, being not more than half a line long; the apical spine is also small. The margin between the spines is straight or very faintly concave. The flower stem and pedicels are absent, but the flowers may have been sessile. One flower has what appears to be a bract attached to it, which is 6 lines long and 5 lines broad, and is broadly elliptic, obtuse, 3-nerved. The perianth is campanulate in shape, 7 lines long and 5 lines in diameter as pressed, but is probably of nearly the same dimensions when alive. The segments are nearly 3 lines broad, ovate-oblong, obtuse, 3-nerved; they all appear to be free to the base and are not recurved at the apex. According to Thunberg they are white, with three green veins. The stamens are exerted 3-4 lines beyond the tips of the perianth segments with stout purple filaments half a line broad."

It will be seen that—

1. The leaves of the type are not mottled.
2. The marginal prickles are "very small, being not more than half a line long," while Mr. Baker's plant had "spreading, horny, deltoid-cuspidate prickles $1\frac{1}{2}$ to 2 lines long."

It is obvious that Mr Baker's statements cannot be reconciled with Thunberg's and Brown's descriptions.

Having recently had occasion to study a population of hybrids* between *A. ferox* var. *supralaevis* and *A. speciosa* Baker, and comparing them with living material of both parents from various sources, the writer noticed that Baker's description of his *A. speciosa* agreed remarkably well with Mr. Brown's description of Thunberg's type specimen of *A. spicata*, and combining this account with Thunberg's own diagnosis it became obvious that Baker's *A. speciosa* was *A. spicata* Linn. fil.

* The hybrid has been named *A. Tomlinsonii* and is figured and described in *South African Gardening*, October, 1929.



Aloe spicata L. fil. and *A. ferox*. Hillside at Alicedale. August. The plant in the foreground and the others with deflexed leaves and simple spike or spikes are *A. spicata*; those with stiffly erect leaves and branched inflorescence are *A. ferox*. [Photo by R. Marloth.]



Aloe spicata L. fil. Hillside near the Breede River. 15 miles south of Swellendam. Nearly all the older plants here are branched at the top and bear several spikes. August. [Photo by L. L. Tomlinson.]

Baker's description of *A. speciosa* (Flora Cap., Vol. VI, 323), taken over from the *Journ. Linn. Soc.* XVIII, 178), is as follows:—

“Habit of *A. africana*, reaching a height of 20–25 feet; leaves in a dense rosette, 15–18 inches long, 2 inches broad low down, ensiform, glaucous, with smaller and weaker prickles than *A. africana*; peduncle short, stout, simple; raceme very dense, simple, a foot long, 4 inches in diameter when expanded, all except the upper flowers deflexed, pedicels 2–3 lines long; bracts sub-orbicular, obtuse, 6 lines long and broad; perianth cylindrical, 15 lines long, rose-tinted in an early stage only, greyish white when mature; tube scarcely any; stamens and style bright red, conspicuously exerted.” Somerset East, MacOwan No. 1922.

Note by the Writer.—*A. speciosa* is quite different in habit from *A. africana*, and never reaches a height of 20 feet. The only similarity would be that both are arborescent, with a trunk 6 to 10 feet high, but so are quite a number of others. The perianth, when fresh, is always more or less clavate and constricted at the mouth, as shown very well in Berger, *Aloineae Das Pflauzenreich*, page 300.

If one remembers that Baker's description was drawn up from a dried specimen, and if one corrects the statements about similarity to *A. africana* and the height of the plant, which are erroneous as every one who knows the fairly widely distributed *A. speciosa* Baker will confirm, this description of *A. speciosa* agrees very well with Thunberg's type of *A. spicata*, as redescribed by Mr. Brown.

There are, however, a few minor points in Thunberg's description of the flower which call for special consideration.

1. The bracts are described as “little shorter than the flowers,” while in *A. speciosa* they are about one-third the length of the fully developed flowers.

2. The filaments are described by Thunberg as “white at base and yellowish higher up,” while in *A. speciosa* they are yellowish at the included part and dark brown or purplish brown in the projecting part.

3. The nectar in the flowers is said to be purple, while it is colourless or yellowish in fresh flowers of *A. speciosa*.

The discrepancy concerning the bracts has been disposed of by Mr. Brown's account of Thunberg's type specimen.

With regard to the colour of the filaments Mr. Brown finds that in the type they are purple . . . whatever their original colour may have been.

On the third point I have made an observation which disposes of that as well, viz.: if older fresh flowers are placed between paper, the nectar, if there is any, although originally colourless, soon dissolves the pigment of the filaments and stains the paper purple while the filaments themselves become paler.

Taking all these observations together and considering the unusual colour of the perianth, viz.: white with green lines, there is no point left that would be inconsistent with the view that *Aloe speciosa* Baker is *Aloe spicata* Linn. fil.

It is noteworthy that Berger's studies of these plants had led him to the conclusion that “Haworth's identification was probably wrong and that *A. spicata* has its nearest ally in *A. speciosa* Baker.” (*Aloineae*, page 301). The foregoing discussion will show that we have to go a step further and consider them to be synonymous.

After the foregoing note on *Aloe spicata* had been written Dr. Pole Evans drew my attention to an article in the *Gardener's Chronicle* of June, 1921, page 6, by Mr. N. E. Brown of Kew, on *Aloe spicata*. In this article I find the following passages quoted by the author:

- (a) From Thunberg's dissertationes on Aloe: “the purest and best juice of aloes is obtained from this species.”
- (b) From Linnaeus fil. Supplementum, page 205 (1781): “from the juice of this species the best gum-resin of aloes is prepared, from the rest of the species the cheaper kinds.”

Obviously Linnaeus had merely repeated the information received from Thunberg, but it should be noted that Thunberg has omitted this statement from his *Flora Capensis*—perhaps it had been recognized in the meantime as erroneous. Whether the drug or some variety of the drug was ever prepared from this species on a commercial scale or not does not concern us here. The importance of the statement is in the fact that Thunberg's specimen must have come from a district where the drug aloes was being manufactured—and that information settles the point at issue, for when Thunberg stayed at the Cape (1775) such manufacturing was carried out only in the Swellendam district which then embraced also the country now forming the districts of Riversdale and Mossel Bay, and in that area occur only two species of tree aloe, viz., *Aloe ferox* and *A. spicata* (*A. speciosa*). That the other kind “from which the cheaper quality of aloes was obtained” is *A. ferox* is now generally admitted. In fact, at present no other species is used at all for this purpose, and it is remarkable that the farmers in those districts call *A. ferox* simply the “alwij,” while *A. spicata* is one of the “wilde alwij,” because it cannot be used for the manufacturing of the drug. Whether 150 years ago some attempts were made to prepare a different kind of drug from *A. spicata* as well as from *A. ferox*, or whether Thunberg's informant confused the two species could hardly be elucidated at the present time. It should be remembered that Thunberg did not see the plant in its wild state, for he merely states that it grows in the interior, which means anything beyond Stellenbosch. He must have obtained his specimen either from a garden at Capetown or it was sent to him by a correspondent.

Postscript.—When writing the foregoing notes for publication in *Bothalia* I sent an illustration of the hybrid *Aloe Tomlinsonii* to *South African Gardening*, where it appeared in November, 1929, with the following footnote:—

“The plant described by Baker in 1880 under the name *A. speciosa* and now generally known as such has been recognized to be identical with specimens described by Linnaeus the younger and Thunberg as *A. spicata*, hence the former name becomes a synonym for the latter. The reasons for this change of name will be given in the forthcoming number of *Bothalia* (Pretoria, 1929.)”

The view on *Aloe spicata* expressed therein is contradicted by Mr. N. E. Brown, Kew, in a letter to the Editor of *S.A. Gardening*, published in the May number, 1930, of that journal, just at the time when the proof of the foregoing article reached me. I cannot help expressing my regret that Mr. Brown, a highly esteemed friend, should have rushed into print instead of awaiting the appearance of my notes, of which he had notice, for he does not put forward any new observation and merely reiterates what he published 8 to 10 years ago and what is quoted above.

His statement in that letter: “the two species have not the slightest resemblance to one another” is in direct conflict with Berger's view that: “*Aloe spicata* has its nearest ally in *Aloe speciosa* Baker” (*Aloineae*, page 305),* especially if one remembers that this author based his conclusions on plants grown and flowered by him at La Mortola year after year and not only on herbarium specimens, as Mr. Baker and Mr. Brown had to do.—R.M.

* See *Das Pflanzenreich*, IV, 38, III, 2. *Liliaceae-Aloineae* (1908.)