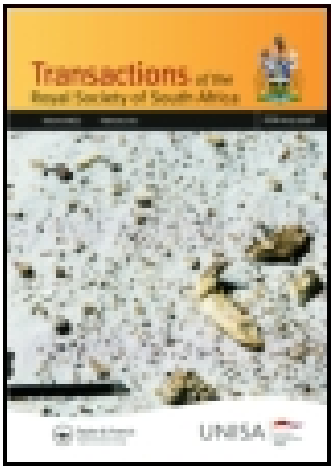
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SOME NEW OR LITTLE KNOWN SOUTH AFRICAN SUCCULENTS. PART V.

By R. MARLOTH, PH.D., M.A., F.R.S.S.Af.

(Read August 21, 1912.)

(Plate VIII.)

Among the plants dealt with in the present paper are a few of special interest.

Crassula teres belongs to the small subgenus *Pyramidella*, of which *C. pyramidalis* is known to most visitors of the karoo. Like this and the allied *C. columnaris*, it possesses a fringe of hairs on its leaves which are capable of absorbing dew or rain-water.

Of the new species of Euphorbia one deserves special mention, viz., *E. ferox*. This forms rounded lumps about a foot in diameter, coloured brown like the soil of the karoo and provided with a formidable armament of stout spines. The colonial name "voetangel" is very appropriate, for if a barefooted person should happen to step on such a plant he would certainly not run any further.

Another interesting plant mentioned is *Aloe purpurascens*. This species, so far known only from cultivated plants, is considered by several authors to be merely a variety of *Aloe succotrina*, an error which is due to the want of information we possess about these plants. Up to a few years ago the habitat of neither species was known, and it was even thought that *A. succotrina* came from the island of Socotra and supplied the drug of that island. In fact, in one of the most modern handbooks, viz., Strasburger's, the species is still figured as the source of the drug. When a few years ago *A. succotrina* was found by us on a field of boulders at the foot of the eastern cliffs of Table Mountain, about 1,000 feet above Newlands, the locality of *A. purpurascens* remained still unknown. However, plants gathered near the mouth of the Klein River have now flowered in my garden and show very distinct differences in flowers and leaves from *A. succotrina*; hence the uncertainty about the origin and specific difference of these two species is now removed.

CRASSULACEÆ.

Crassula teres, spec. nov. (Sect. *Pyramidella.*)

(Plate VIII., fig. 4.)

Caules e radice perenne plures, ascendentes vel suberecti, foliis dense obtecti. Folia carnosa, quadrifariam imbricata, transverse elliptica, superne concava, ciliata, margine hyalino amplo. Flores terminales, capitati, numerosi, albi, petalis linearibus recurvatis.

The plant is somewhat similar in shape to *C. pyramidalis*, but with leaves more like those of *C. columnaris*.

The adult stems are 5–8 cm. long and 15–20 mm. in diam., almost cylindrical, the four sides slightly flatter. Leaves basin-shaped, transversely elliptic, fleshy, with a broad hyaline margin and finely ciliate all round. Capitulum 25–30 flowered; flowers nearly white, sweet scented; sepals linear, with a broad hyaline margin, 3 mm. long. Corolla tubular and slightly inflated below, the inflated portion 3 mm. long, the free part of the petals linear, channelled for its entire length, not mucronate, much recurved, 10 mm. long; squamæ cuneate, 1 mm. long, deep yellow.

Collected in a sterile state on the Sand River Mountains near Prince Albert (quartzite) in 1907; flowering in my garden at Capetown in May, 1912. Marloth 4446.

EUPHORBIACEÆ.

Euphorbia ferox, spec. nov. (Sect. *Anthacantha.*)

(Plate VIII., fig. 1.)

Planta humilis e basi ramosa, ramulis pulvino hemisphærico aggregatis; caules ramique cylindrici; rami juniores 9–10-costati, adulti 10–12-costati, obtuse sulcati; costæ spinis acutis rigidis numerosis uniseriatim munitæ. Dioica. Cyathia feminea in apice ramorum sessilia vel brevissime pedunculata, longe campanulata, basi foliolis ovatis 5–8 suffulta; involucri segmenta parva, anguste cuneata, truncata, apice lacerata; glandulæ transverse ovales, suberectæ, virides. Styli haud connati, divergentes, stigmatibus bilobis.

The plants are much branched from a central subterranean stem, forming a compact cushion, 9–20 inches in diam.; bristling with long and stout, nearly straight spines. Stems 30 mm. in diam., 10–12 ribbed, the younger branches 9–10 ribbed; ribs 6–8 mm. broad and 4–5 mm. high, the crest smooth near the apex, but lower down raised into blunt teeth between the spines. Spines uniseriate, stout, sharp-pointed, on older shoots 20–30 mm. long, those near the apex straight, the others curving slightly upwards, close together, often only 3–4 mm. distant from

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each other. Plants dioecious. The female cyathia on short pedicels, 1 mm. long, bracts 6–8, the lowest very small, the three upper broadly oval, blunt and lacerated at the apex, ciliate. Involucre tubular campanulate, 3 mm. long, at the mouth 2 mm. in diam.; segments not touching each other, ovate-cuneate, truncate, finely lacerate at the apex; glands suberect, transversely oblong, green, rugose, the margin wavy, but entire. Ovary ovate, acute, the styles joined for 1 mm., the branches 2 mm., spreading, the stigmas red, bilobed.

In its general habit this plant somewhat resembles *E. pulvinata*, Marl. (Trans. Roy. Soc. S.A., vol. i., 315), but the branches are longer, the spines more numerous and much stouter, and the flowers quite different.

Gathered at Klipplaat (Eastern Karoo), and cultivated in my garden at Capetown for many years, flowering the first time August, 1912. Marloth, No. 5147. Colonial name, "voetangel."

EUPHORBIA FILIFLORA, spec. nov. (Sect. *Medusea.*)

(Plate VIII., fig. 3.)

Planta humilis, caule clavato, apicem versus ramis nonnullis erectis, crassis, brevibus, foliis linearibus; pedunculis elongatis filiformibus. Cyathia cylindracea, segmentis obovato-obtusis, ciliatis; glandulæ horizontales, oblongæ, centro depressæ, virides, dentibus 4–5 linearibus, albis, apice recurvatis; ovarium triangulare, stylo longo, stigmatibus brevibus, simplicibus.

The plant resembles in its general habit *E. multiceps* from the karoo and *E. namibensis* from Great Namaqualand, but differs conspicuously by its long filiform pedicels. Stem 20–30 cm. high, 8–10 cm. in diam., the branches 5–8 cm. long and 8–10 mm. in diam., the podaria conically elongate, their apex curving slightly downwards; leaves linear deciduous, 20–30 mm. long. Peduncles 6–9 cm. long, filiform, bearing 2 or 3 distant bracts; cyathium 12–14 mm. long and half as wide; glands 1½ mm. long and 2 mm. broad, the teeth 2 mm. long. Ovary shortly stipitate, styles 5 mm. long, for ⅔ of their length connate.

The latex of this species is employed by the colonists for removing warts from man or beast. Marloth, No. 5119, sterile, at Chamis in Great Namaqualand, October, 1910. Also sent from Concordia in Little Namaqualand by Mr. J. C. H. Krapohl, March, 1912. Flowering in my garden at Capetown in November.

EUPHORBIA TUBERCULATA, Jacq.

(Plate VIII., fig. 2.)

There are no specimens of this plant in European herbaria, the species being known only from Jacquin's figure and description (Hort. Schoenbr.

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ii., 43, T. 208). The plant is, however, fairly frequent in the sandy tracts of the coast districts from Darling to Clanwilliam.

Young plants, when not in flower, somewhat resemble *E. caput medusæ*, the central stem generally remaining buried in the ground. While, however, in *E. caput medusæ* the broad apex of the stem continues to produce short branches on its sides, thus gradually forming a cushion-shaped body, the stem of *E. tuberculata* ceases to grow, the branches on the other hand becoming thicker and considerably elongated, thus forming a group of cylindrical stout stems 1–2 feet high.

When flowering these groups are very ornamental, for each shoot carries a dense head of 30–50 large flowers, which are borne on long stalks, the glands being green and their teeth white.

In cultivated plants, as that from which Jacquin's figure was drawn, these erect branches may occasionally branch again.

Euphorbia Dregeana, E. Mey.

The description of this species in DC.'s prodromus (vol. xv., sect. 1, p. 95) was made from incomplete specimens only. As I have cultivated the plant for some years in my garden I am enabled to add the characters of the leaves.

Leaves on young shoots only, alternate, sessile, triangularly cordate, acuminate, concave and channelled above and much recurved; length 6–8 mm., width 3–4 mm. at base, deciduous.

This plant is probably the same as *E. elastica*, Marl., No. 4684 (Trans. Roy. Soc. S.A., vol. ii., p. 37), hence we prefer to cancel the latter name and refer it to the synonyms.

ASCLEPIADACEÆ.

Stapelia albo-castanea, spec. nov.

(Platè, VIII., fig. 5.)

Planta humilis, ramosa; inflorescentia ramificata, 3–6-flora, floribus longe pedicellatis. Corolla radiata, tubo brevissimo, paullo concavo; segmenta elongato-triangularia, albida vel flavescentia, transverse brunneo-maculata, pilis clavatis ciliata. Coronæ exterioris segmenta linearia, apice bipartita, castanea; coronæ interioris segmenta subulato-filiformia, erecto-conniventia apice recurvata, dorso longe cornuta.

Stems 6–8 cm. long, curving upwards, glabrous, nearly quadratic, the sides, without the teeth, 12–14 mm. broad, the teeth 3–5 mm. long, the surface glabrous, dull green, mottled with dull red spots. Flowers several, 3–6, from the middle portion of a stem, opening in succession, the

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peduncles joined at base and forming a common stalk, 4–6 cm. long, curving upwards. Inner surface of corolla coarsely rugose, nearly white, spotted all over with purple brown, the spots around the corona smaller than the rest.

Sepals ovate and acuminate; the corolla 25 mm. in diam., with a very shallow cup, which slightly exceeds the sepals, the tubular portion 8 mm. in diam., the segments 10–11 mm. long and 5 mm. wide at their base, subacute, finally recurved.

Outer corona lobes linear, 2 mm. long and 1½ mm. broad, recurved spreading, appressed to the corolla, not tapering, convexly curved on the upper side, the apex deeply notched, entirely dark brown; inner corona lobes 4–5 mm. high, about 4 times as long as the anthers, subulate filiform, acute, connivent erect and more or less spreading at the tips, with a long dorsal acute horn from its base, entirely brown, or whitish at the tips.

The plant would come near *St. jucunda*, N. E. Br. (Flor. Cap., vol. v., 1, p. 975), but in that species the petals are shorter in proportion and the inner corona lobes are merely gibbous at base, not horned.

Gathered near Maltahoehe in Great Namaqualand; flowering in my garden at Capetown in February, 1912. Marloth, No. 5110.

On one of my plants, among a collection of eight, the ground colour of the corolla was not pure white, but creamy.

STAPELIA CINCTA, spec. nov.

Planta humilior, e radice ramosa. Caules brevissimi, ovato-acuminati, 4-angulares, angulis obtusis, denticulatis. Flores basales, solitarii, pedunculati, radiati. Corollæ tubus hemisphæricus; segmenta ovato-acuminata, tubo paullo longiora, non ciliata, ochracea, rugosa, dense brunneo-maculata, margine brunneo cincta. Coronæ exterioris segmenta lanceolato-acuminata, brunnea; coronæ interioris segmenta linearia, erecta, apice obtuso paullo recurvata.

A small plant, of the size of *Duvalia reclinata*. The stems nearly quadratic, 30–40 mm. high and 16–20 mm. in diam.; the sides almost flat, the teeth of the margin ½ mm. long. Calyx glabrous, the segments broadly ovate, suddenly contracted into a point, their length about ⅓ of that of the corolla tube. Diam. of flower 24–26 mm., the segments 10 mm. long and 5–6 mm. broad at their base, mottled, margined with a dark maroon band, 1·5–2 mm. broad. Outer corona lobes 2 mm., narrow lanceolate, the inner lobes very narrow below, filiform above, slightly longer than the outer lobes, slightly recurved, knobbed; both coronas dark maroon.

In the key of the Flora Capensis this species would have to be grouped with *St. stricta*, Sims (No. 25, p. 927), differing from it by its smaller

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size, the spotted corolla, the brown margin, the acuminate lobes of the outer corona and the longer inner corona lobes.

Plants brought from the Nieuwveld Mountains near Beaufort West; flowering in my garden at Capetown, March, 1912. Marloth, 5116.

LILIACEÆ.

Aloe purpurascens, Haw.

This species is somewhat allied to *A. succotrina*, Lam., the habitat of both species being unknown until quite recently. In fact some authors state that the home of *A. succotrina* was the island of Socotra and that the drug aloes was manufactured from it. Both statements are wrong, for Cape aloes is prepared from *A. ferox*, and the home of *A. succotrina* is the Cape peninsula, where it occurs on a field of boulders about 1,000 feet above Newlands, on the rocks of the Little Lion's Head, near Hout Bay and in the scrub of the hills above Fishhoek Bay. (See Marloth, in Trans. S.A. Phil. Soc., vol. xvi., p. 213.)

When the latter species was rediscovered in 1905, after being lost for nearly two centuries, while the locality of the former remained still unknown, the question of the identity of the two species was raised again, for various authors look upon them merely as varieties or even as quite identical (see Flor. Cap. vi.,322), while others, *e.g.* Berger,* maintain their validity as distinct species.

We are now in a position to settle both questions, for *A. purpurascens* occurs on the coast of Hermanus, on rocks near the Klein River mouth, and it is certainly quite distinct from *A. succotrina*. There is a great similarity in the foliage, although the leaves of *A. purpurascens* are larger and broader at the base than those of *A. succotrina* and more glaucous. The flowers, however, are quite different. While those of *A. succotrina* are cylindrical with a narrow mouth, owing to the connivent points of the perianth segments, those of *A. purpurascens* have a widened mouth, owing to the recurving of the apices of the segments; thus in the latter species the mouth is wider than the tube, while in the former the base is the widest part. It is also interesting to find that there is some chemical difference as well, for while the flowers of *A. purpurascens* stain a solution of formaldehyde in which they are preserved, purplish, those of *A. succotrina* impart only a pink colour to the liquid. The leaves of both species turn dark red on drying.

Unfortunately some of the illustrations and statements published in various works are incorrect or based on hybridised plants. Berger states in a private letter to us that the figures in "Das Pflanzenreich" are only

* Engler, Das Pflanzenreich, iv. 38, iii. 2, p. 284.

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approximate, and his description of the appearance of the leaves is just the reverse of that given in the Flora Capensis, where the leaves of *A. purpurascens* are called glaucous. Our observations on wild and cultivated plants agree with the latter statement, for the leaves of *A. succotrina* are more greenish than those of *A. purpurascens*, although we have both plants growing side by side.

The illustrations which come nearest to the appearance of the wild plants are *A. succotrina*, as represented in DeCandolle, Plantes grasses, tab. 85, and for *A. purpurascens*, as shown in Curtis Bot. Mag., tab. 1474, while both figures of Salm Dyck (vol. iv., sect. xxii., figs. 1 and 2) represent intermediate forms.

The colour in the figures cited has changed, for these books were published about one hundred years ago. The flowers of *A. succotrina* are a deep red, with small green tips, while those of *A. purpurascens* are somewhat paler, and the green part of the inner as well as outer segments is at least three times as large as in the other species.

Collected on rocks near Klein River mouth. Marloth, 5149.

ALOE THRASKII, Baker (Flora Cap., vi., 328).

The original description of this species was made from a plant cultivated in England (introduced by Cooper, 1860). As usual with our succulents, such plants are weaker, more elongated, and their inflorescence poorer than of those growing under natural conditions. *A. Thraskii* occurs on the coast of Natal—*e.g.*, at Umkomas—as a stout tree, 6–10 feet high, with leaves nearly twice as large as stated in the description, viz., 3½–4 feet long—in fact, they are the largest in the genus, even exceeding those of vigorous specimens of *A. Bainesii*. The inflorescence is not simple, as stated in the original description, but much branched, bearing from 5–10 erect stout spikes of reddish-yellow flowers, and there are generally two, or even three, such inflorescences on each plant.

A showy and very ornamental plant, flowering in my garden at Capetown in June.

DIOSCORACEÆ.

TESTUDINARIA MULTIFLORA, spec. nov.

Tuber epigæum, valde depressum, haud areolatum. Caules scandentes, foliis cordatis, basi profunde lobatis, apice obtusis mucronatisque. Racemi feminei multiflori (20–40); capsulæ apice cordatæ, seminibus apice longe alatis.

The tuber somewhat resembles that of *T. silvatica*, but the leaves are

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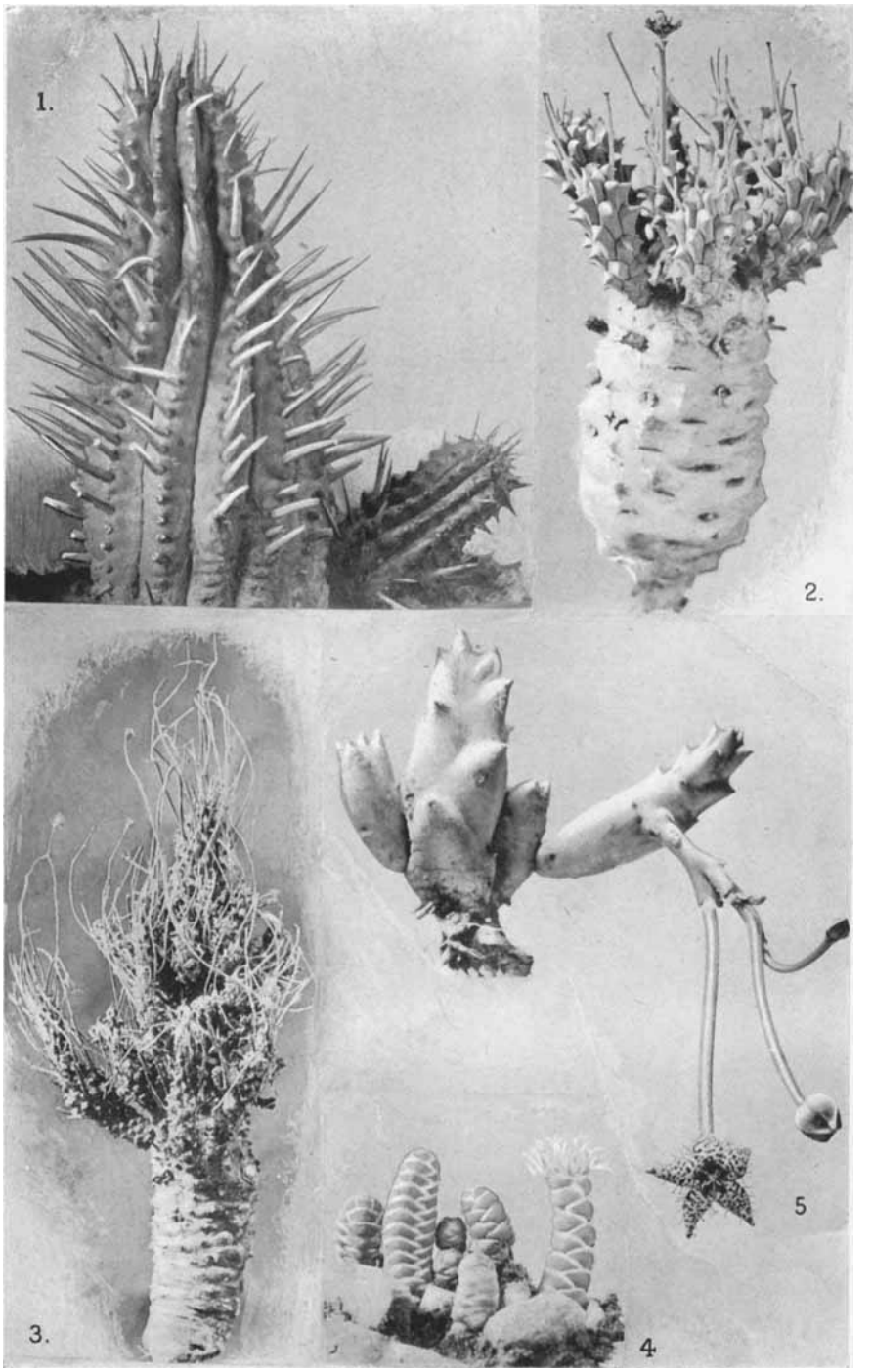
much larger and deeply cordate at base, the two basal lobes occupying a third of the length of the leaf, and their inner edges are more or less closely approaching each other. Five of the nine principal nerves are running up to the apex of the leaf, the others terminate at the margin lower down. The capsules are very numerous, slightly cordate at the apex; the seeds possess a long apical wing, and sometimes a narrow hyaline margin at the base.

The plant differs in the shape of its leaves from the recently described *T. paniculata*, R. Dümmer (see Kew Bull., 1912, 195).

Tuber up to 12 inches in diam. and 3–4 inches thick; leaves 7–8 cm. long and 6–7 cm. wide near their base; raceme up to 5 inches long. The male plant not known.

Gathered in a fruiting condition by Mr. E. Dyke near Santa, in the Zoutpansberg Range (Transvaal), April, 1912. Marloth, 5097.

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Photos by R. Marloth. West. Newman proc,

NEW SOUTH AFRICAN SUCCULENTS.

1. EUPHORBIA FEROX *Marl.* (branch). 2. E. TUBERCULATA *Jacq.* (young plant). 3. E. FILIFLORA *Marl.* 4. CRASSULA TERES *Marl.* 5. STAPELIA ALBO-CASTANEA *Marl.* Nos. 1 and 5 are $\frac{3}{4}$, the others $\frac{1}{2}$ nat. size.

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