

Notes on the Genus *Royena* in South Africa.

By

B. de Winter.

During a study of the accumulated material of this genus in the National Herbarium, Pretoria and in the Kew Herbarium, London, it became evident that the treatment and delimitation of the species in the *Flora Capensis* 4 (1906) was no longer satisfactory. The following notes are the result of a study of plants in the field and also of the ample herbarium material available for study.

The most important characters in distinguishing species are in the fruits and mature leaves, and fruiting specimens are therefore best suited for identification. In contrast to those of many other groups, the floral parts of *Royena* are variable within the species especially in size, and show hardly any characters of diagnostic value on the specific level. The distribution of the species was found to be a very useful aid in confirming the identification of incomplete or very young specimens.

A wider concept of species has simplified identification and what is more important, has, in my opinion, presented a truer picture of the relationship of the various taxa to each other.

The discussion of the sex of the flowers of *R. glabra* in *Journ. S. Afr. Bot.*, April, 1953 by Salter has been corroborated by the study of other species in the field as well as in the herbarium. All the species have proved to be dioecious, with functionally male flowers, and female flowers with staminodes borne on different plants. The female plants, which are in the minority in all the populations studied in the field, and also in material in herbaria, never have pollen and are therefore truly female. The functionally male plants are apparently hermaphrodite since they very often have fairly well developed ovaries which, however, normally do not ripen into fruits and soon abort. Fruits have been noticed occasionally on male plants and have proved to have some apparently fertile seeds. It seems best therefore to refer to the species as subdioecious as has been done by other authors.

The treatment of the genus in the *Flora Capensis* lists 17 species. This number has now been reduced to 13.

A full account with keys and descriptions will be published in the forthcoming *Flora of Southern Africa*.

NEW COMBINATIONS AND VARIETIES.

***Royena cordata* E. Mey. ex DC. var. *scabrida* (Harv. ex Hiern) de Winter comb. nov.**
Basionym. *R. scabrida* Harv. ex Hiern in *Trans. Cambr. Phil. Soc.* 12, 82 (1872).

***Royena lycioides* (Desf.) A. DC.**

(a) subsp. ***sericea* (Bernh. ex Krauss) de Winter comb. nov.**

Basionym. *R. sericea* Bernh. ex Krauss in *Flora* 27, 824 (1844).

(b) subsp. ***guerkei* (O. Ktze.) de Winter comb. nov.**

Basionym. *R. guerkei* O. Ktze. *Rev. Gen. Pl.* 3, 2, 196 (1898).

(c) subsp. **nitens** (Harv. ex Hiern) de Winter comb. nov.

Basionym. *R. nitens* Harv. ex Hiern in Trans. Cambr. Phil. Soc. 12, 87 (1873).

Royena hirsuta L.

(a) var. **microphylla** (Burch.) de Winter comb. nov.

Basionym. *R. microphylla* Burch. Trav. 1, 348 (1822).

(b) var. **rubriflora** de Winter var. nova var. *microphyllae* et var. *hirsutae* affinis, a var. *microphylla* foliis maioribus differens, ab ambabus floribus coccineis, nec roseis modo var. *microphyllae* nec cremeis modo var. *hirsutae*.

Type: Natal. Mont aux Sources, lower slopes of Drakensberg, flowers port-wine red. Aug., 1930, Hutchinson, Forbes and Verdoorn No. 4 (PRE, holo) = Hutchinson 4483 in K.

Royena villosa L.

var. **parvifolia** de Winter var. nov., var. *villosae* affinis foliis minoribus minus 3–5 cm longis, fructibus minoribus differt.

Type: Transvaal, Soutpansberg: Elim, plants supported by other trees, Obermeyer 713. (Tvl. Mus. No. 28377 in PRE, holo).

The distribution of this variety is limited to the Northern and North-eastern Transvaal.

A NEW SPECIES OF ROYENA.

Royena acocksii, species nova affinis *R. ramulosae* sed ita differt: folia multo maiora subtus sparsissime strigosa ramuli subglabri rubri-brunnei, flores semper tetrameri corolla calyci subaequali vel quam calycem paululum maiore.

Rigidly branched shrubs up to 15 ft. high. *Branches* straight, spreading at nearly right angles, bark smooth to finely rugose, ashgrey with blackish markings to grey with a reddish brown tinge; young branches smooth, deep mahogany red, glabrous or with a few scattered adpressed hairs. *Leaves* alternate, very shortly but distinctly petiolate, 1.0 cm to 2.0 cm long and 0.5 cm to 1.0 cm broad, elliptic to obovate-elliptic, glossy, coriaceous, finely rugose and glabrous above, more or less smooth and sparsely strigose below (young leaves densely strigose); margins usually slightly undulate, entire, often involute; nerves inconspicuous except for the midrib and sometimes faintly marked secondary nerves. *Flowers* tetramerous, solitary in the axils of the leaves, functionally male (apparently hermaphrodite) or female with the stamens reduced to staminodes, pendulous, up to 1 cm long but mostly shorter, peduncles 0.5 cm to 0.7 cm long, sparsely strigose; bracts 2, more or less approximate, up to 0.5 cm long, oblanceolate. *Calyx* deeply divided, lobes 4, triangular, 0.4–0.5 cm long and 2.5 mm wide at the base, sparsely strigose outside, glabrous inside, rather thick in texture. *Corolla* creamy white, urceolate, four-angled, slightly hairy on the angles, otherwise glabrous; tube short ($\frac{1}{4}$ length of flower); lobes very broadly ovate with an acute apex, distinctly imbricate. *Stamens* 8, 3.0 mm long, filaments very short and broad, glabrous; anthers lanceolate, 2.5 mm long, hairy on the back, less so on the inside face, dehiscing by longitudinal slits. *Ovary* borne on a distinct disc, four-angled, pyramidal, when more mature very broadly oblong, glabrous, or sparsely hairy on the angles; style as long as the four branches or slightly shorter. *Fruits* 1.0–1.3 cm long, glabrous, broadly oblong to semi-globose, slightly 4-angled, occasionally dehiscing along the four sutures which are visible as four fine but distinct lines. *Calyx* accrescent, $\frac{1}{3}$ the length of the fruits, lobes ovate, apices acute, more or less reflexed. *Seeds* strongly laterally compressed, 8 (or fewer), glabrous blackish, shiny.

CAPE PROVINCE.—Little Bushmanland; (Pella) near dry stream bed, bush 12–15 ft. high, *Pearson* 3546 (K). Kenhardt: Five miles north of Pofadder in the “Orange River Broken Veldt” of rocky hills, shrub up to 10 ft. high alt. 3,300 ft., *Acocks* 14395 (PRE holo; Isotype in K.); 126 miles from Kenhardt, *Pole Evans* 2259 (PRE).

SOUTH WEST AFRICA.—Warmbad district: beside streamlet (dry watercourse!) on farm Witzand, *Galpin* 14149 (K, PRE); 20 miles from Warmbad on Goodhouse road, shrub, 6 ft. high *Galpin* s.n. (K, PRE).

R. acocksii is a very distinct species with tetramerous flowers and relatively small, leathery, inconspicuously nerved leaves with undulate margins. It can be distinguished easily from the tropical spp. of *Royena* with tetramerous flowers by the much smaller subglabrous leaves. Two of the South African species can have tetramerous flowers, one of which, *R. glandulosa*, shows very little resemblance to *R. acocksii*. In *R. glandulosa* the calyx lobes are much accrescent and exceed the fruits in length, and the young parts are covered with glands. The second species, *R. ramulosa*, only occasionally has tetramerous flowers but there is a certain similarity in the leaves and fruits which suggests an affinity with *R. acocksii*. Their climatic requirements are also similar, but *R. acocksii*, is confined to the arid areas near the Orange River in the northern Cape Province and north of the river in South West Africa, while *R. ramulosa* has a wider distribution.

THE LECTOTYPE OF *R. PALLENS* THUNBERG.

R. pallens Thunberg Prodr. 80 (1794).

Syn. *R. brachiata* E. Mey. ex DC. Prodr. 8, 213 (1844).

In the Flora Capensis Hiern took a very broad view of this species, including as synonyms, amongst others, *R. pubescens*, *R. lycioides* and *R. sericea*. Of these I regard the first two as distinct and the latter as a subspecies of *R. lycioides*. The other synonyms given by Hiern are referable to one or other of the three species. There are fruit and leaf characters distinguishing these two species and their distributions are also fairly well defined. At least part of the confusion which existed in *R. pallens* can be attributed to the fact that four different plants are present on the three sheets in Thunberg's herbarium. Sheet 1 consists of two twigs of the species referred to by E. Meyer and published by DC. as *R. brachiata*. Sheet 2 consists of three twigs of *R. pubescens* Willd. and a loose fruit of *R. lucida*. The short description “*R. foliis oblongis obtusis glabris margine revolutis*” could equally well be applied to sheet 1 and to the specimens of *R. pubescens* on sheet 2. Sheet 3 consists of a rather atypical twig of *R. pubescens* and a twig of *Rhoicissus cirrhiflorus* (L.f.) Gilg. & Ben. and is therefore excluded as a possible lectotype. Since sheet 1 and 2 are equally eligible for selection as the lectotype on other grounds, the lectotype should be selected “so as to preserve current usage” App. Id. of the ‘Rules’ (1952).

By choosing sheet 1 as the lectotype of *R. pallens* it is possible to retain the name *R. pubescens* Willd. in its currently accepted sense. If on the other hand sheet 2 is chosen, *R. pubescens* becomes a synonym of *R. pallens* and the species on sheet 1 will have to be referred to as *R. brachiata*—a name which has not been in current use since its inception.

Sheet 1 is therefore chosen as lectotype and the name *R. pallens* becomes restricted to a rather localised species so far recorded only from the Knysna, Port Elizabeth, Uitenhage and Bathurst districts.

