

The Disc in the Southern African Species of *Maerua*

by

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ABSTRACT

The six types of disc present in the Southern African species of *Maerua* (Capparaceae) are described and illustrated. A key to the species, based largely on the disc character, is presented.

While working on the genus *Maerua* for the Flora of Southern Africa, the author was struck by the variety of disc forms present in the Southern African species of the genus. Discs of various kinds are present in many genera of the Capparaceae. They are well reviewed by Pax in Engler and Prantl's *Natürlichen Pflanzenfamilien*, Teil 3, Abt. 2:215-217 (1891) and Pax and Hoffmann, *op.cit.*, Band 17b:156-157 (1936). In *Maerua* the inner margin of the receptacle is produced into a disc, which in many species projects beyond the receptacle as a corona, annulus, lobes or teeth. In this paper the author has followed Wild in *Flora Zambesiaca* 1, 1:216 (1960) and Elffers *et al.* in *Flora of Tropical East Africa* (1964) in treating the projecting part of the receptacle as the disc. Strictly speaking, the inner margin or lining of the receptacle should also be regarded as part of the disc.

In the 11 species of *Maerua* in Southern Africa there are six types of disc. These will be discussed in turn and are illustrated in Fig. 1.

1. *Fimbrillate disc*

This type of disc consist of a row of regular fimbriellae not more than 1 mm long. The disc is somewhat fleshy and the fimbriellae are mostly erect, but some are incurved. Actually the disc is very shortly coronate or annular. This disc is present only in *M. brevipetiolata* Killick, a new species from Swaziland described on page 65 of this number of *Bothalia*.

2. *Four-lobed laciniate disc*

This type consists of dorso-ventrally compressed, unequally laciniate lobes situated opposite the four sepals. The lobes are connected basally. This type of disc is represented in *M. rosmarioides* (Sond.) Gilg & Ben., *M. juncea* Pax (both subsp. *juncea* and subsp. *crustata* (Wild) Wild and *M. nervosa* (Hochst.) Oliv.

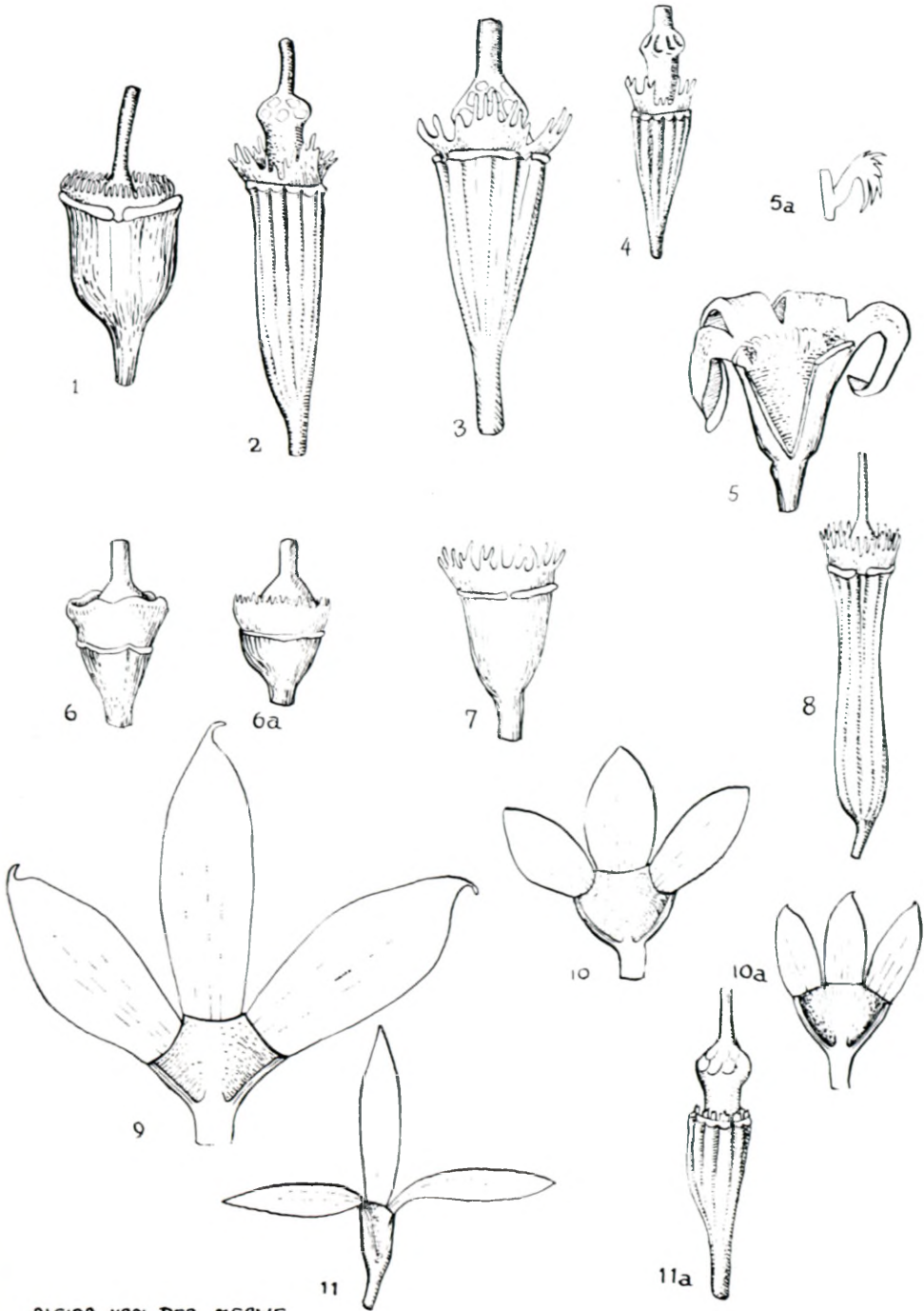
3. *Many-lobed laciniate disc*

The individual lobes of this type are laterally compressed, incurved and laciniate. In side view the lobes resemble cockcombs. Only *M. gilgii* Schinz possesses this type of disc.

4. *Prominently coronate disc*

In this type the disc consists of a prominent corona usually exceeding 2 mm in length with several types of margin. In *M. edulis* (Gilg & Ben.) De Wolf [= *Courbonia glauca* (Klotzsch) Gilg & Ben.] the margin is undulate or denticulate, while in *M. schinzii* Pax and *M. angolensis* DC., it is unequally laciniate.

FIG. 1.—Disc structure in the Southern African species of *Maerua*. 1, *Maerua brevipetiolata*, (Compton 30088). 2, *M. rosmarinoides*, (Tinley 587). 3, *M. juncea* subsp. *crustata*, (Theron 2073). 4, *M. nervosa*, (Forbes & Obermeyer 33624). 5, *M. gilgii*, (Hardy 596); 5a, single lobe of disc, $\times 10$. 6, *M. edulis*, (Obermeyer, Schweickerdt & Verdoorn 328); 6a, (Vahrmeijer 1525). 7, *M. schinzii*, (Keet 1534). 8, *M. angolensis*, (Van der Schijff 5799). 9, *M. cafra*, (Louw 1022). 10, *M. racemulosa*, (Killick 118); 10a, (Borquin s.n.). 11, *M. parvifolia*, (Lang in TRV 31580); 11a, (Van der Schijff 87). All $\times 4$, except 5a.



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FIG. 1

The main difference between this type of disc and that of (2) above is that the latter is 4-lobed. It is interesting to note that the species with a 4-lobed disc are petaloid, whereas those with a coronate disc are apetalous.

5. Entire or scalloped disc

Here the disc is not or scarcely produced beyond the receptacle and the margin is entire or scalloped with the concavities opposite the petal bases. *M. cafra* (DC.) Pax possesses a scalloped disc, *M. racemulosa* (A.DC.) Gilg & Ben. an entire or scalloped disc and *M. parvifolia* Pax an entire or very rarely a minutely denticulate disc.

6. Denticulate disc

As mentioned under (5), this disc is sometimes possessed by *M. parvifolia*.

The disc has been used as a character for distinguishing genera, e.g. Pax, and Pax and Hoffmann (*l.c.*), but apparently rarely for distinguishing species. It was found possible, as an academic exercise rather than for practical purposes, to construct a key to the species of *Maerua* using the disc character. However, since some species have the same type of disc, additional floral characters had to be used.

Disc not produced: entire or scalloped:

- Sepals less than 6 mm long..... *M. racemulosa*
- Sepals more than 6 mm long:
 - Sepals 6-11 mm long..... *M. parvifolia*
 - Sepals 12-17 mm long..... *M. cafra*

Disc produced into corona (or annulus), lobes or minute teeth:

- Disc coronate (or annular):
 - Disc 0.6-1 mm long..... *M. brevipetiolata*
 - Disc exceeding 1 mm long:
 - Margin of disc undulate or denticulate..... *M. edulis*
 - Margin of disc laciniate:
 - Receptacle infundibular or cylindric, 0.5-1.2 cm long, usually puberulous.... *M. schinzii*
 - Receptacle cylindric, 1.0-1.6 cm long, usually glabrous..... *M. angolensis*

Disc lobed or denticulate:

- Disc lobed:
 - Lobes many, laterally compressed..... *M. gilgii*
 - Lobes 4, dorso-ventrally compressed:
 - Disc less than 1 mm long..... *M. nervosa*
 - Disc 1 mm or more long:
 - Receptacle cylindric..... *M. rosmarinoides*
 - Receptacle infundibular..... *M. juncea*
 - Disc denticulate..... *M. parvifolia*