

## ARACEAE

A NEW RECORD OF *ACORUS CALAMUS* IN SOUTH AFRICA

In a vegetation survey, recently undertaken in the Mooi River basin in the western Transvaal, *Acorus calamus* L. was discovered growing in several colonies within a 700 m-long stretch just above the Boskop Dam area. This is a new record for South Africa and the first for the Transvaal. Prior to this collection (Ubbink 1188), apparently only one record existed in South Africa and that was from Stellenbosch in the south-western Cape (Marloth 8262), where it has subsequently not been relocated.

The total area covered by the Mooi River colonies is approximately 500 m<sup>2</sup>. The habitats in which *A. calamus* thrives are perennial, shallow, slow-flowing or stagnant water adjoining streambank edges and a wet swamp area, where it occurs together with more widespread riverine and swamp species. It grows extremely well on disturbed streambank edges and could be regarded as a pioneer plant. This corresponds with findings in Europe (Westhoff *et al.*, 1970).

In the Mooi River, the plant has invaded two distinct areas: (a) the area between and bounded by *Phragmites australis* and *Schoenoplectus corymbosus*, a niche usually occupied by *Typha latifolia* and (b) the area at the edge of the lee side streambank, extending into shallow water and adjoining marsh — this, in the absence of the *Phragmites*, *Typha* and *Schoenoplectus* complex.

How *A. calamus* came to be present in the Mooi River is not known, but it is postulated that the plant was brought in and planted for its presumed medicinal properties by some farmer living near the river. During the colonization of the Cape of Good Hope the plant, known as Makkalmoes in South Africa (Smith, 1964), was introduced for its medicinal uses and was also sometimes planted in ponds because of its aromatic properties (Marloth, 1917). It is clear that *A. calamus* was overlooked for a considerable time in the Mooi River area. At a distance there is a striking similarity in appearance between *A. calamus* and the sedge *Carex cernua*. This, together with the often inaccessible terrain, may be the reason why the plant was overlooked in the past.

*Acorus calamus* is easily recognized by the strongly pungent aromatic oils present in all parts of the plant. The leaves are sword-shaped and 0.8–2 m long; the spadix appears lateral and the spathe is leaf-shaped and green like the spadix. No fruits have been observed.

If it is accepted that the Mooi River plants originated directly or indirectly from Europe, we may be dealing with a triploid strain (Wulff, 1954). This strain does not produce fruits and multiplies by divi-

sion of the rootstock (Westhoff *et al.*, 1970). The question arises as to whether *A. calamus* should be regarded as a potential weed or as a possibly important and welcome pioneer which would serve to vegetate and safeguard disturbed streambank edges in our perennial river systems.

The origin of *A. calamus*, its spread over much of the world and its economic uses as described by Grieve (1967), make interesting reading. *A. calamus* is commonly known as Sweet Flag (because of its resemblance to Yellow Flag, *Iris pseudacorus* L.), Sweet Sedge, Calamus, Kalmoes or Kalmus and there are other names as well. The names Kalmoes or Kalmus are applied in South Africa to several species belonging to the Apiaceae (Wicht, 1918). According to Grieve (*l.c.*), *A. calamus* has become naturalized in the northern hemisphere, but originates from eastern countries, being indigenous to the marshes of the mountains of India. She also states that it appears to be indigenous to the northern parts of the USA.

*A. calamus* is well known for its medicinal and other properties. All parts of the plant, but particularly the rootstocks, contain a volatile, aromatic oil, which gives off a pleasant fragrance. Medicinally the plant is used for flatulence (as a carminative), dyspepsia, typhoid, dysentery, fever, catarrh, bronchitis and many other ills. It is also used as a vermifuge and insecticide in Sri Lanka and India. The volatile oil, known as Calamus oil, is largely used in perfumery. It is sometimes used as an additive to gin, beer and wine. According to Grieve, the fragrance that makes the leaves attractive to humans, renders them distasteful to cattle, which avoid the plant.

## REFERENCES

- GRIEVE, M., 1967. *A modern herbal*. New York, London: Hafner.
- MARLOTH, R., 1917. *The flora of South Africa*. London: William Wesley.
- SMITH, C.A., 1966. Common names of South African plants. *Mem. bot. Surv. S. Afr.* 35, pp. 642.
- WESTHOFF, V., BAKKER, P. A., VAN LEEUWEN, C. G. & VAN DER VOO, E. E., 1970. *Wilde Planten, flora en vegetatie in onze natuurgebieden*. 1 & 2. Nederland: Vereniging tot behoud van Natuurmonumenten in Nederland.
- WICHT, W. F., 1918. South African huismiddels. *S. Afr. med. Rec.* 16: 306–310.
- WULFF, H. D., 1954. Zur Zytologie, geographischer Verbreitung und Morphologie des Kalmus. *Arch. Pharm., Berl.* 287: 529–541.

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