

**IX. OVERLOOKED GENERA AND SPECIES IN THE MALESIAN FLORA:  
THE CASE OF CROCOSMIA (IRIDACEAE) AND SOME OTHERS**

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Much has been said and written about the global loss of biodiversity, and that of the Malesian area in particular. Very little notice has been taken of additions, of which there are probably many more than realized. This is due to the fact that these species are considered to be weeds or ornamentals, and therefore hardly worthy of any consideration. Especially the latter are usually not mentioned in our floras and checklists. It must be remembered that the large collections of such weeds date from the colonial times, when the Europeans with their late-Victorian upbringing were avid plant collectors, also in their close vicinity. The Flora of Java, for instance, is based on Backer's manuscript that was finished before the Second World War, so most of the specimens on which it is based were collected at least 60 or more years ago. Things surely have changed since then! Being an European and a grass man, I am particularly interested in 'nasty weeds', and I have noticed during my visits to the Malesian area that some that are represented by single or few collections in the herbaria are actually quite common outside. A few examples may serve and perhaps this note may induce you to take a better look at the 'weeds' in your own street or garden! Unless otherwise indicated the collections mentioned are deposited in L.

Lawn grasses are of great economic importance, but are hardly ever collected. *Axonopus compressus* (Sw.) Beauv. is probably the most common species, but the latest collection from Java in the herbaria is from 1972, so judging from our holdings it seems to have become extinct there. It is a pity that it has not been more often collected, for there is another species, closely resembling it, *A. affinis* Chase [now to be called *A. fissifolius* (Raddi) Kuhlman.], that seems to be more successful under shade at higher altitudes, but lack of collections do not confirm this. The latter can best be distinguished by the absence of any hairs on the nodes (handlens, or hold against the light!).

Another shade tolerant species used in Africa for lawns is *Lepturus radicans* (Steud.) Camus. It may be widely present in the Malay Peninsula but I have seen only a single record of this: *Ryves s.n.* (K) from a roadside in a park opposite the Concorde Hotel, collected in November 1992.

During a course in Bogor the grasses *Setaria palmifolia* (Koenig) Stapf and *S. barbata* (Lam.) Kunth were compared (Saw, Uji & Veldkamp, 1988). It turned out that the first could not be found, although records show it used to be quite common in the Garden, and that it was replaced by the latter, which is a common weed in town. In Backer and Bakhuizen f. (1968) it was confused with *S. plicata* (Lam.) T. Cooke, which is a variety of *S. palmifolia*. In 1991 it has also been found in Celebes (Ms. Dr. D. Wheeler *s.n.*), who observed that it was a troublesome weed in a clove plantation near Tulap on the East coast of the Minahasa. I suppose it can be found in suitable places everywhere when one looks for it.

*Sporobolus indicus* (L.) R.Br. var. *capensis* Engl. (*S. africanus* Robyns) was known to me from a few collections from the New Guinea highlands, but when there in 1989 it

turned out to be one of the most common grasses along roads and streets in e.g. Goroka (*Veldkamp & Obedi 8568, 8569*).

*Sporobolus tenuissimus* (Schränk) O. Ktze (*Gramineae*) was first collected by Dr. A.P. Everaarts (215) in a greenhouse for ornamentals near Malang in June 1976 and by Ms. Afriastini (*s.n.*) near Solo in May 1981. After the Flora Malesiana Symposium in 1992 Dr. M.C. Roos and I visited the Purwodadi Botanical Garden, where we found the species in a tea estate (*Veldkamp & Roos 8728*), and knowing what to look for we found it to be quite common in that area. Back in Bogor afterwards it turned out to be growing virtually against the walls of the herbarium (*Veldkamp 8733*). It is usually associated with *Eragrostis amabilis* (L.) W. & A. ex Nees, which it resembles somewhat in habit and open, finely branched panicle. Later that year a mixed collection of the two was shown collected in Medan (Mr. J. Ginting, Leiderdorp, private coll.), while one of our staff members, Ms. G.E. Brinkman-Dijkhuis, found it in May 1994 to be quite common around Manado (*s.n., 11, 13*). Apparently it is now quite widely distributed in at least Indonesia without any published record showing so [these collections were seen after the generic revision by Baaijens & Veldkamp (1991)]. It has been reported for West and South India, and S. Andaman (very rapidly spreading) by Sreekumar (1994).

The basal internodes of *Zizania latifolia* (Griseb.) Turcz. may be infected by *Ustilago esculenta* Hennings. They become swollen and after being sliced are fried and said to be a delicacy. There are only a very few collections of this, though. One of these, *Sinclair 8412* (US), is noted as 'commonly planted' in Singapore. As it grows well in polluted water, it may be a profitable cash crop, but its distribution in Malesia is virtually unknown. In the early '40s Dr. R.C. Bakhuizen van den Brink Sr. collected a few stems on spirit (BO) near Bogor where it was called 'rebung china', so I wondered whether it might still be around in Java. Dr. A.J.G.H. Kostermans went on a hunt and in 1990 found a farm in Selabintaba near Sukabumi where it was grown for the market. In Sarawak they call it 'buah padi' (*Christensen & Apu 727*) and propagate it by sticking culms in the borders of rice fields; in Japan it is known as 'makomo', while the Chinese have long grown it as 'gau-sun', 'jiau-bai', 'jiau-shyun', or 'kah peh sung'. Infected specimens are said not to flower.

So much for the grasses, many other examples exist.

In the lawns of the Botanical Garden of Purwodadi *Elephantopus spicatus* Juss. (*Compositae*) is quite conspicuous, as its tough stems make it difficult to mow. Its white flowers are open around noon. Backer and Bakhuizen f. (1965) have recorded this (sub *Pseudelephantopus*) from Bidara Cina, Bogor, and Pasuruan (*Veldkamp & Roos 8723*).

In a pine forest near Wonosari *Apium leptophyllum* (Pers.) F. Muell. ex Benth. (*Umbelliferae*) was collected (*Veldkamp & Roos 8714*), which the Flora of Java (1965) only mentions from nearby Tretes. Obviously it is much wider spread than this, at least in East Java.

The actual cause of this note was the collection of *Crocoshmia × crocosmiiflora* (Lemoine ex E. Morren) N.E. Br. (*Iridaceae*) on Mt. Otto in 1989 (*Veldkamp & Kuduk 8636*), where it was quite plentiful on one side of the radio station at 3500 m altitude, while I recollect having seen it at lower altitudes along paths, in grass fields, on humid

moist slopes, etc., just as it grows in e.g. Wales. Back home identifying the collections I was surprised to discover that the genus and species were not even mentioned up by Geerinck (1977) under this or any other name: *Montbretia* × *crocosmiiflora* Lemoine ex E. Morren, or *Tritonia* × *crocosmiiflora* (Lemoine ex E. Morren) G. Nicholson. A revision of the genus was made by De Vos (1984). The species is a hybrid between *C. pott-sii* (M'Nab ex Baker) N.E. Br. and *C. aurea* (Pappe ex Hook.) Planch., both native to South Africa, first created by Lemoine at Nancy, France, where it flowered in August 1880. It rarely sets seed and spreads mainly by its stolons and corms, and quite effectively so. It was noted by Bowers (871) that it may become a pest.

In the FM treatment it can be inserted in the key next to *Gladiolus natalensis* (Ecklon) Reinw. ex Hook. (as *G.* × *gandavensis* v. Houtte in the Flora of Java), from which it differs by the shortly branched inflorescence with much smaller bracts and orange to red flowers.

The first and perhaps the only pre-World War II mention for Malesia of the species (sub *Tritonia*) is by Bruggeman (1939). After the war it was noted by Backer & Bakhuizen f. (1968; but note the remarks on their data above) as an ornamental of the Java mountain districts. And so, presumably because of this status, it was omitted by Geerinck. It is not mentioned in general works as Burkill (1935) or Henderson (1954) for the Malay Peninsula, Heyne for Indonesia (1950 and earlier editions), Masamune (1942) for Borneo, Merrill (1925) for the Philippines, Van Royen (1979) for the New Guinea mountain flora, and Johns & Stevens (1971) for Mt. Wilhelm, to name a few.

At present it is probably widely distributed in suitable places, but as everybody knows it as an escaped garden plant, it is hardly ever collected. In the Rijksherbarium we have single collections from the Malay Peninsula, Sumatra, Flores, and a few from Papua New Guinea, but none from Java.

As it is not in the FM a brief description is offered here:

### CROCOSMIA

*Crocoshmia* Planchon in Van Houtte, Fl. Serres 7 (1852) 161, t. 702. — *Tritonia* Ker-Gawl. sect. *Crocoshmia* Baker, J. Linn. Soc. 16 (1877) 163 ('*Crocoshma*'). — Type: *Crocoshmia aurea* (Pappe ex Hook.) Planchon.

*Tritonia auct.* non Ker-Gawl.

Perennials. Corms persistent, of numerous internodes covered by layers of reticulate fibres, axillary buds numerous, in 2 rows. Leaves distichous, radical and cauline, midrib composed of several pairs of large veins. Panicle simple or with short branches. Bracts 2, shorter than the perianth tube. Anthers bifid in the lower third, on the same level in the flower. Ovary 3-locular, ovules 8–14 per locule. Stigmas 3, small, simple, recurved. Capsules depressed globose, 3-lobed, rather woody. Seeds 1–3(–4) per locule, small, globose. Testa thick, shiny, outer layers becoming loose.  $2n = 22$ .

*Crocoshmia* × *crocoshmiiflora* (Lemoine ex E. Morren) N.E. Br.

*Crocoshmia* × *crocoshmiiflora* (Lemoine ex E. Morren) N.E. Br., Trans. Roy. Soc. S. Afr. 20 (1932) 264 ('*crocoshmiaeflora*'). — *Montbretia* × *crocoshmiiflora* Lemoine ex E. Morren, Belg. Hort. 31 (1881) 299, t. 14 ('*crocoshmiaeflora*'). — *Tritonia* × *crocoshmiiflora* G. Nicholson, Dict. Gard. 4 (1888) 98 ('*crocoshmiiflora*'). — Lectotype: Belg. Hort. 31 (1881) t. 14.

Corms often several in a row, 1–3 cm diam., with long underground stolons from the axillary buds. Stems 30–150 cm tall, usually branched, usually longer than the leaves. Leaves ensiform, not plicate, 4–12. Blades 10–80 by 0.5–2 cm, glabrous, with numerous, prominent, spaced veins and a distinct midrib. Peduncle 2- or 3-ribbed. Panicle secund, axis flexuose, many-flowered, 20–45 cm long. Bracts oblong, 5–10 mm long, reddish, membranous, the outer acute, the inner emarginate to bifid, 2-nerved. Flowers distichous, slightly zygomorphic, 2.5–5 cm diam., reddish to deep orange, tube curved, more or less obconical, 12–18 mm long, slightly shorter than the 18–20 mm long, spreading lobes. Filaments 15–22 mm long, anthers somewhat exserted, yellow. Stigmas 3, somewhat exserted. Capsule, when formed, small, globose, with 1–3 seeds.

Distribution — Globally cultivated and escaping in temperate to subtropical areas or altitudes.

Habitat — Moist grasslands, roadsides, hedge banks, montane ericaceous forest, borders of waters, etc., locally abundant, 250–3500 m altitude

Uses — Garden ornamental.

Vernacular names — (Garden) Montbretia, Autumn gold (E.).

Malesian specimens seen — Malay Peninsula, Pahang, Cameron Highlands, 2030 m [KEP-FRI 15973 (Ng), 3 Mar 1968]; Sumatra, W. Coast, G. Marapi, 1500 m (Van Borssum Waalkes 2115, 21 June 1953); Flores, Ruteng, 1600 m (Schmutz 5523, 10 Apr 1983); Papua New Guinea: Chimbu, Gembogl [ANU 13008 (Wace), 11 Sep 1971], Mt. Wilhelm, Pindaunde Station, 3480 m [ANU 15302 (J.M.B. Smith), 15 Apr 1972]; W. Highlands, Nona-Minj Divide, 1970 m (Vink 16377, 24 Aug 1963), Upper Kaugel Valley (Bowers 871, 26 Jan 1973); E. Highlands, Mt. Otto, 3500 m (Veldkamp & Kuduk 8636, 27 Oct 1989); Morobe, Mt. Kaindi (Brass 29515, 12 May 1959), 2300 m (summit), [LAE 56612 (Kerenga & Dao), 8 Nov 1983], 2075 m [NGF 12151 (Millar), 13 Aug 1968], Edie Creek, 1825 m (Hartley 11660, 23 Apr 1964).

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