

ALTERNANTHERA PARONYCHIOIDES ST HIL. (AMARANTHACEAE)
IN INDO-MALESIA

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During a study of species of *Alternanthera* Forsk. introduced in the Netherlands it was necessary to compare the Malesian representatives of *A. ficoidea* (L.) R. Br. ex Griseb. ssp. *bettzickiana* (Regel) Backer (Fl. Mal. I, 4, 1949, 91). The material under this name present in the Rijksherbarium, Leiden, proved to be heterogeneous, part of it belonging to another species.

Dr. Van Steenis pointed out to me an article by Pedersen (Kurtziana 14, 1967, 437), where *A. paronychioides* St. Hil. was mentioned for Malesia, and showed me his correspondence with the author, where further details concerning this species were given. A closer study showed the unidentified specimens to belong to that species.

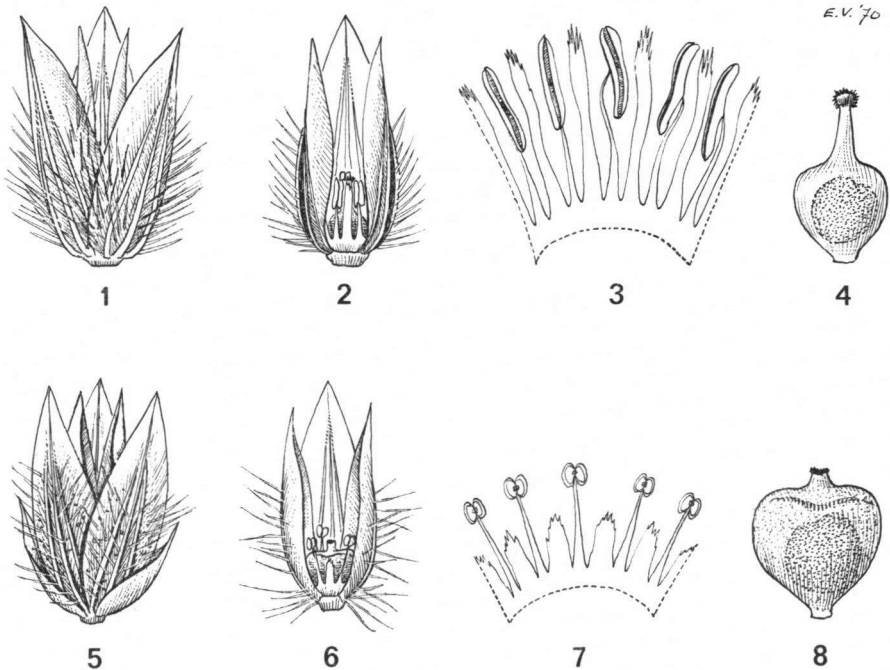
At first sight the two species are difficult to distinguish in their habits, but the structure of the filaments, pseudo-staminodes, and anthers show that they are not much related. The following emendation becomes necessary for the key to the Malesian representatives given by Backer (l.c., 91):

3. Three outer tepals in their lower $\frac{1}{3}$ — $\frac{1}{2}$ distinctly 3-nerved, their bases at last indurate. Anthers 5. Pseudo-staminodes well-developed, wider than long to ligular, lobed or fimbriate. *Hairs dentate.*
- 3a. Leaves mucronate, often coloured. Anthers linear, $\frac{1}{4}$ —1 mm long; pseudo-staminodes ligular, apex fimbriate, as long as to longer than the stamens. Pistil bottleshaped, apex not emarginate. Apparently never setting seed in Malesia 3. *A. ficoidea*
- 3a. Leaves acute, not mucronate (in Malesia). Anthers reniform to ellipsoid, $\frac{1}{3}$ — $\frac{2}{5}$ mm long; pseudo-staminodes wider than long, with 3—4 \pm triangular lobes, reaching the base of the anthers or shorter. Pistil broadly obcordate. Seeds usually developed, (broadly) obcordate, narrowly winged
A. paronychioides

Alternanthera paronychioides St. Hil., Voy. Brés. 2, 2 (1833) 43; Sundararaj, J. Bomb. Nat. Hist. Soc. 53 (1956) 525, pl. 1; Dutta & Mitra, Ind. Forester 87 (1961) 304, fig. 2; Pedersen, Darwiniana 14 (1967) 437. — *A. ficoidea* (L.) R. Br. ex Griseb. ssp. *bettzickiana* (Regel) Backer, Fl. Mal. I, 4 (1949) 594, pp.; Backer & Bakh. f., Fl. Java 1 (1963) 238, p.p.

var. *paronychioides* (Pedersen, l.c., 439).

Prostrate, branched annual. *Branches* up to 70 cm long, rooting at the nodes, angular and villose at the apex, becoming terete and glabrous at base, indument only persistent at the nodes. *Hairs* dentate. *Leaves* spatulate-oblong to lanceolate, up to 7 by 2 cm, acute, never mucronate, base cuneate, narrowed into the petiole, moderately appressed-pubescent to glabrous, usually tufted under the inflorescences. *Spikes* sessile, apical on short axillary branches, subglobose to shortly cylindrical, up to 2 by 1 cm. Bracts and bracteoles scarious, white. *Bracts* ovate-oblong, 2 $\frac{1}{4}$ —3 by 1 $\frac{1}{4}$ —1 $\frac{1}{2}$ mm, acuminate, glabrous, \pm convex, $\frac{3}{2}$ — $\frac{3}{4}$ times as long as tepals, longer than bracteoles. *Bracteoles* ovate-oblong, 1 $\frac{1}{2}$ —2 $\frac{1}{2}$ by $\frac{1}{2}$ mm, acute to acuminate, glabrous, \pm falcately folded along midrib. *Tepals* oblong to lanceolate, acute to mucronulate, in lower half 3-nerved and sparsely strigose, upper half stiff but not coriaceous. Adaxial tepal 3—4 by $\frac{2}{5}$ —1 $\frac{1}{4}$ mm, flat; abaxials 3 $\frac{1}{4}$ —4 by 1—1 $\frac{1}{4}$ mm, flat; laterals 2 $\frac{1}{4}$ —3 $\frac{1}{4}$ by 1—1 $\frac{1}{4}$ mm, folded along midrib. *Stamens* 5,



Alternanthera ficoidea Griseb. ssp. *betzickiana* (Regel) Back. 1. Flower, abaxial, without bract and bracteoles, $\times 12$; 2. same, without abaxial tepals, $\times 12$; 3. staminal tube, $\times 24$; 4. young fruit, $\times 24$. (*Cayosa* 75). — *A. paronychioides* St Hil. 5. Flower, abaxial, without bract, $\times 12$; 6. same, without bracteoles and abaxial tepals, $\times 12$; 7. staminal tube, $\times 24$; 8. young fruit $\times 24$ (*Cayosa* 104).

all fertile (in the material seen); filaments at base united into a *c.* $\frac{1}{2}$ mm high cup, free parts *c.* $\frac{1}{2}$ mm long, filiform; anthers reniform to ellipsoid, $\frac{1}{3}$ — $\frac{1}{4}$ mm long, yellow; pseudo-staminodes wider than long, with 3—4 \pm triangular lobes, reaching the base of the anther or shorter. *Pistil* broadly obovate with a short, stout style in the notch; stigma capitate, papillose. *Utricle* broadly obovate to obovate, up to $1\frac{1}{4}$ by $1\frac{1}{2}$ mm, narrowly winged, brown; the plants seem to fructify during drying, so young fruits are usually present, contrary to the situation in *A. ficoidea* ssp. *betzickiana*, where they have never been observed in Malesia.

The species is native in the tropics and subtropics of the Americas, but it has been introduced as an alien, for example in Europe and in Indo-Malesia.

The records and specimens known to me from Indo-Malesia can be arranged as follows:

WESTERN INDIA. 24-Parganas, common along railway tracts of Ultadanga and Dum Dum (Dutta & Mitra, l.c.). — Coimbatore Dist. (Sundararaj, l.c.).

THAILAND, NW. of Kanburi, Rintin to Kin Sayok, *Khwai Noi River Basin Exp. 1229 Kostermans* (L). — S. of Bangkok, Bang Pu, *Sørensen et al. 7871* (C; Pedersen, l.c.).

JAVA. West Java: Bogor, *Schiffner 1923* (L); Djakarta, *van der Meer & den Hoed 2008* (L).

PHILIPPINES. Luzon: Manila, *Frank s.n.* (Pedersen, l.c.; C); Quezon City, *Herb. U.P. 104 Cayasa?* (L). — Guimaras I.: *PNH 11830 Sulit* (L). — Mindanao: *PNH 42142 Mendoza* (L).

It is of course found as a weed in disturbed places, along railway tracks, but also in damp places on banks of rivers and lakes, hitherto up to *c.* 250 m. One local name is

recorded, viz. from the Philippines: *simsim* (Bis.), and Mendoza noted on his label that it is in Mindanao used for feeding hogs.

REMARKS ON *A. FICOIDEA* SSP. *BETTZICKIANA*

1. The author of the basionym is Regel (Index Sem. Hort. Petrop., 1862, 28, *n.v.*; Gartenflora 10, 1862, 178). who published the taxon as *Telanthera bettzickiana*. Nicholson (Dict. Gard. 1, 1884, 59) transferred it to *Alternanthera* ('bettzichiana'), giving a very indirect reference ('Brasilia, 1862'). Whether the taxon is a subspecies or a distinct species falls outside the scope of this note; Backer's opinion is followed for convenience.

2. Backer (l.c.) reduced *A. versicolor* (Regel) Nicholson, l.c. to a variety of ssp. *bettzickiana*, basing this on a specimen from Banka. This specimen no doubt is Bünnemeijer 2437 (L) as is shown by Backer's annotations on the label. It differs, according to Backer, by having 'entire, subulate pseudo-staminodes and shorter petioles'. Examination of the specimen showed the pseudo-staminodes to be ligular and fimbriate, as in the typical ssp. *bettzickiana*, from which it does not differ in any other respect, the length of the petiole being variable due to ecological factors. Therefore, var. *versicolor* (Regel) Backer, *pro specim.* must be placed in the synonymy of ssp. *bettzickiana*. *A. versicolor* is usually regarded as a distinct species.