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A NOTE ON *EMILIA JAVANICA* (COMPOSITAE) AND *MURDANNIA NUDIFLORA* (COMMELINACEAE) IN SURINAME

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A NOTE ON *EMILIA JAVANICA* (COMPOSITAE) AND *MURDANNIA NUDIFLORA* (COMMELINACEAE) IN SURINAME

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Abstract. Information is presented on the occurrence of *Emilia javanica* (Compositae) and *Murdannia nudiflora* (Commelinaceae) in Suriname.

1. GENERAL INTRODUCTION

In 1981, during an inventory of the weed and wasteland flora of the two experimental farms Coebiti and Kabo in the district of Saramacca (Everaarts, in MS), a species of *Emilia* (Compositae) was collected which seemed to differ from *Emilia sonchifolia*, the sole species of *Emilia* hitherto mentioned in literature about Suriname (for a description of *E. sonchifolia* see Koster, 1938). Upon identification this obviously deviating species proved to be *Emilia javanica*. In the same year a species of the Commelinaceae family was collected, and was identified as *Murdannia nudiflora*. In the literature about Suriname no clear record of this species existed as yet.

The purpose of this note is to report on the occurrence of *Emilia javanica* and *Murdannia nudiflora* in Suriname, to provide information to identify these species and to present additional available data.

2. *EMILIA JAVANICA*

2.1. History

From material present in the National Herbarium of Suriname (BBS), Paramaribo and the Herbarium of the Institute of Systematic Botany (U), Utrecht, The Netherlands, the two herbaria which together contain most of the collections from Suriname, it appeared that *Emilia javanica* had already been collected in Suriname before 1981. In the Utrecht Herbarium a specimen of *Emilia javanica* is present, 'Heyde & Lindeman 274, 3 XII 1976, secondary growth on ridges just south of road Meerzorg-Albina, km 67, opposite LBB Post Perica', which, however, was wrongly identified as *Emilia sonchifolia*.

As no earlier record of *Emilia javanica*, neither in the literature nor as herbarium material in BBS or U could be found, this collection of Heyde and Lindeman from 1976 may be the first record of *Emilia javanica* in Suriname.

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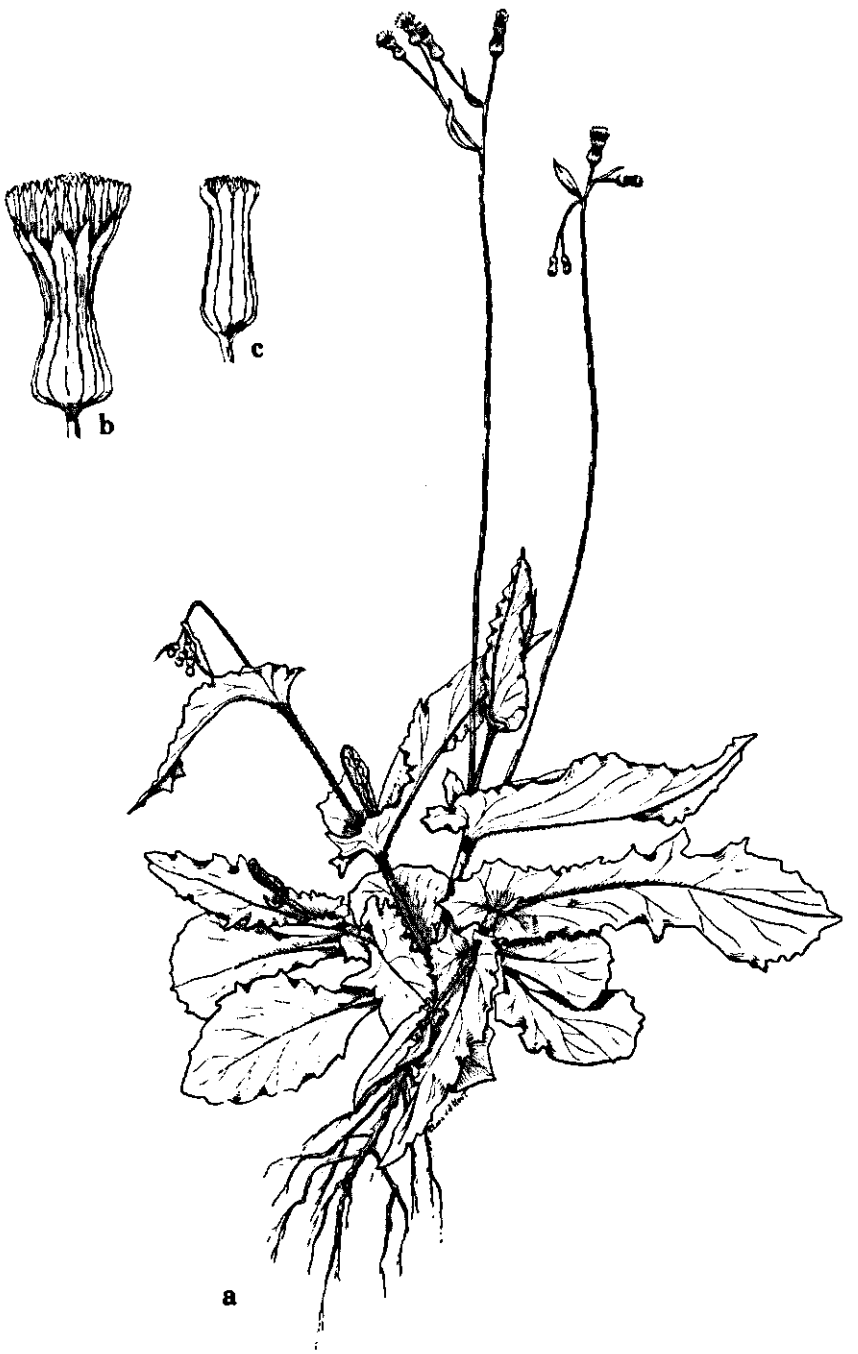

Fig. 1. *Emilia javanica* a. habit, x 1/3; b. flowerhead, x 2; *E. sonchifolia* c. flowerhead, x 2.

2.2. Description of the species

Emilia javanica (Burm.) Rob., Philipp. J. Sc. 3 Bot. (1908) 217.
(E. coccinea (Sims) Sweet - E. sagittata (Vahl) DC.)
Fig. 1.

An erect herb, up to 60 cm high, often branched at the base, usually with a bluish tinge. Stem solid, glabrous or with long white hairs, rather weak. Leaves alternate, sessile, the lower ones with a winged stalk-like basal part passing into a more or less circular upper part, the upper leaves arrow-shaped, 4-13 by 1.5-5 cm, all with basal ears clasping the stem, finely to coarsely toothed, glabrous or with long white hairs. Flowerheads more or less cylindrical, long-stalked in loose, mostly terminal inflorescences, 10-17 mm long, many-flowered; involucral bracts united, glabrous or nearly so, split and reflexed after flowering; receptacle flat, without scales; all flowers the same, far protruding the involucre. Corolla tubular with a 5-lobed limb, purplish-red, sometimes tinged with orange. Seed (fruit) about 5 mm long, narrow, with 5 prominent ribs and a pappus of numerous thin white hairs.

Emilia javanica is easily distinguished from *E. sonchifolia* by its larger flowerheads and its purplish-red flowers (those of *E. sonchifolia* are pinkish-violet or sometimes white), which are far more protruding the involucre than those of *E. sonchifolia* (see Fig. 1).
Emilia javanica usually has a more robust habit than *E. sonchifolia*.

2.3. Distribution

Emilia javanica is now known to occur locally more or less common in the northern part of Paramaribo, in the surroundings of the Centre for Agricultural Research (CELOS) at the south-western edge of the capital, at the already mentioned experimental farms Coebiti and Kabo and the species has been observed to be rather common along the road from Meerzorg to Albina. However, most likely it is more widely distributed.

It is not surprising that this weedy species now is found in Suriname, as it also occurs in French Guiana (personal observation) and in Brazil (Lorenzi, 1982; cited as *Emilia sonchifolia*). It is not known to me whether the species is also present in Guyana.

2.4. Ecology

Emilia javanica is found on sunny to lightly shaded, dry to moist but not too wet places, arable fields, waste places, roadsides; locally often common. *Emilia javanica* propagates by seeds of which considerable quantities can be produced, and which may be spread by wind.

2.5. Importance as a weed

The species occurs as a weed in several countries (Holm et al., 1979; Lorenzi, 1982). It was reported as a competitive weed of vegetables in Hawaii (Floresca and Nishimoto, 1975).

Observations, especially at Kabo, have shown, however, that the species has the potential to behave as a common weed in annual crops. However, to be able to decide on its significance as a weed in Suriname, more data are needed

on its ecology, distribution, competitiveness and susceptibility to control measures.

3. *MURDANNIA NUDIFLORA*

3.1. History

Also *Murdannia nudiflora* appeared to have been collected in Suriname before 1981. In BBS, under *Tripogandra serrulata*, a specimen of *Murdannia nudiflora* was found, collected in 1968 and then identified as *'Murdannia'*: 'Groenendijk 108, 7 II 1968, Cultuurtuin, Paramaribo, along a path'. In 1977 the species was collected again near Lelydorp: 'Lindeman, Mennega et studentes 210, 5 III 1977, along forest road, SW of Lelydorp', and filed in BBS and U under *Tripogandra serrulata*. The species has been collected since (material in BBS) but not identified as *Murdannia nudiflora*.

In literature Holm et al. (1977) mentioned *Murdannia nudiflora* as a weed of rice in Suriname and later reported *M. nudiflora* as a weed in Suriname (1979). No literature is referred to by them, but it is assumed that this information was taken from the articles by Dirven and Smit (1953), Dirven et al. (1960), or Dirven (1970) dealing with weeds or fallow vegetations of rice fields. In these publications, in which *Murdannia nudiflora* is not mentioned, Commelina nudiflora is named as a weed. Holm et al. (1977, 1979) treated C. nudiflora as a synonym of *Murdannia nudiflora* and consequently presented *M. nudiflora* as a weed in Suriname. There is, however, no doubt that in the articles by Dirven and Smit (1953), Dirven et al. (1960), and Dirven (1970) a true *Commelina* sp. is meant and not *Murdannia nudiflora*, as also the well known vernacular name of this Commelina nudiflora in Suriname, i.e., 'gado-dede', is given. The species concerned is most probably *Commelina diffusa*, of which C. nudiflora also is a synonym. The record of Holm et al. (1977, 1979) of *Murdannia nudiflora* in Suriname, as based on Commelina nudiflora, must therefore be regarded an erroneous one. However, *Murdannia nudiflora* does occur in Suriname.

Dumas and Ausan (1978a,b,c) mentioned an *Aneilema* species, occurring commonly at the experimental farm Tijgerkreek West in the district of Saramacca and at other places in the districts of Saramacca, Commewijne, and Suriname. During a visit in 1983 to Tijgerkreek West together with Mr. Ausan specimens of this *Aneilema* species (Everaarts 811, 812, to be distributed to BBS and U) were collected. Upon identification this *Aneilema* species proved to be *Murdannia nudiflora*.

Sparnaay (1981) mentioned *Tripogandra serrulata* in her report on the role of the weed vegetation of coconut-palm plantations in relation to the occurrence of hartrot disease. Her herbarium material (kept at the Agricultural Experiment Station, Paramaribo) with this name, however, is not *Tripogandra serrulata*, but *Murdannia nudiflora*.

From the above data it is evident that *Murdannia nudiflora* has been present in Suriname for some time, and the collection made by Groenendijk is perhaps the first record of *M. nudiflora* in Suriname.

3.2. Description of the species

Murdannia nudiflora (L.) Brenan, Kew Bulletin 1952: 189.
(Aneilema nudiflorum (L.) Wall. - Commelina nudiflora L.)
Fig. 2.

An up to 30 cm high herb with one or more creeping or ascending stems, rooting at the nodes; young plants with a rosette. Leaves alternate, sessile with a stem-embracing hairy sheath, oblong-lanceolate, 3-7 by 0.5-2 cm, glabrous or nearly so or with long hairs. Flowers stalked, short-lived, in terminal or axillary long-stalked inflorescences. Sepals 3. Petals 3, free, pink-purplish. Fertile stamens 2, sterile stamens 4 (sometimes 3) of which three (or two) with a thickened, lobed top, the other one inconspicuous with a smaller top, all filaments conspicuously bearded. Fruit a 3-6 seeded capsule; fruits often crowded together, more or less turned to one side. Seeds angular with a rounded back; surface coarsely pitted and finely net-like ribbed.

Murdannia nudiflora may be recognized by its regular flowers and its two fertile stamens (see Fig. 2).

3.3. Distribution

Murdannia nudiflora is now known to occur locally more or less commonly in Paramaribo and its broad environs, near Lelydorp, at the experimental farms Tijgerkreek West, Coebiti and Kabo and other places in the districts of Saramacca, Para and Commewijne. I also noticed the species in Albina. It may, however, well be more widely distributed.

The species is not reported by Holm et al. (1979) for the neighbouring countries of Suriname. It is also not mentioned by Lorenzi (1982) in his more recent book on weeds of Brazil. I did, however, observe the species in French Guiana, in St. Laurent du Maroni.

3.4. Ecology

Murdannia nudiflora is found on usually moist to rather wet places, gardens, grassfields (sometimes becoming dominant), arable land, roadsides, waste places. It propagates by seeds and by its creeping stems, fragments of which may easily (re-)establish themselves.

3.5. Importance as a weed

Murdannia nudiflora has been reported as a common or principal weed in many countries (Holm et al., 1977; 1979).

In Suriname, Dumas and Ausan (1978b) pointed to the capacity of this weed to propagate both vegetatively and by seed and mentioned *Murdannia nudiflora* (cited as *Aneilema* sp.) as having badly infested the Tijgerkreek West experimental farm within three years. These authors (1978a) also reported to have found the species (cited as *Aneilema* sp.) in groundnut plantings at several farms in the Saramacca, Commewijne, and Suriname districts, but *Murdannia nudiflora* did not belong to the most commonly found weeds at the farms visited. On only a few places it attained dominance.

Fig. 2. *Murdannia nudiflora* a. habit, x ½; b. flower, x 5.

Presently at the Kabo experimental farm the species is of only local occurrence and does not behave as a vigorous weed. At the Coebiti farm the species probably was only recently introduced and it is only found on a few places.

Dumas and Ausan (1978a,b) reported alachlor to be an effective herbicide for the control of *Murdannia nudiflora* (cited as *Aneilema* sp.) and discussed effects of other herbicides.

More recent information is not available. In conclusion, *Murdannia nudiflora* may be of local importance, especially on places where conditions for its growth are favourable. However, more data would be welcome to understand its present importance.

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