

SOME PLANT RECORDS FOR THE PUNJAB PLAIN

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ABSTRACT

Aerva pseudotomentosa Blatt. et Hallb., *Alternanthera paronychioides* St. Hil., *Alternanthera pungens* H. B. K., *Anogeissus sericea* Brand., *Argemone ochroleuca* Sweet subsp. *ochroleuca*, *Chenopodium ambrosioides* Linn., *Euphorbia prostrata* Ait., *Gomphrena celosioides* Mart., *Phyllanthus maderaspatensis* Linn., *Polygala irregularis* Boiss., *Ruellia tuberosa* Linn., *Trianthema decandra* Linn. var. *flava* (Blatt. et Hallb.) Sant., and *Trianthema decandra* Linn. var. *rubra* (Blatt. et Hallb.) Sant. are recorded here for the first time from the plains of the Punjab.

In the course of recent plant collection tours in the plains of the Punjab, the authors have come across the following species which have not been previously recorded in any of the published floras or floristic accounts of the Punjab Plain. The specimens mentioned in this paper are all preserved in the Herbarium of the Northern Circle, Botanical Survey of India, Dehra Dun.

Aerva pseudotomentosa Blatt. et Hallb. in J. Bomb. Nat. Hist. Soc. 26:817, 1919.

This taxon is often confused with *Aerva javanica* Wight but can be easily distinguished from the latter by the following characters:—panicles not naked, leafy; spikes very short, rarely reach 25 mm., stout and often compound; flowers red. It has been previously reported only from Rajasthan. In Punjab it is frequent in sandy localities.

Specimens examined: Hissar, M. A. Rao 3491 (Dec. 1957); N. C. Nair 18805, 18808 (Nov. 1961); Taoru, T. A. Rao 11088 (Dec. 1959); Fatehbad, N. C. Nair 18871 (Dec. 1961).

Alternanthera pungens H. B. K. Nov. Gen. et. Sp. 2: 206, 1818; Melville in Kew Bull. 13: 174, 1958. *A. repens* (Linn.) Link, Enum. Pl. Hort. Berol. 1: 54, 1821; *Achyranthes repens* Linn. Sp. Pl. 205, 1753; *Illecebrum pungens* (H. B. K.) Spr. Syst. Veg. 1: 820, 1825.

This is a tropical American species introduced into this country towards the beginning of the century and has spread all over peninsular India. Recently it has also been reported from the Upper Gangetic Plain.

Specimens examined: Gurgaon, T. A. Rao 11015 (Dec. 1959); N. C. Nair 20817 (Feb. 1962); Hissar, N. C. Nair 17191 (Dec. 1961).

A. paronychioides St. Hil. Voy. Brés 11:2: 439, 1833; Santapau in J. Bomb. Nat. Hist. Soc. 54: 476-477, 1956.

This is a tropical American weed first recorded from India by Raizada (Ind. For. Rec. 1939) as occurring on the banks of the Ganges in Cawnpore and Banaras. Subsequently it was recorded from south India by Daniel Sunderraj (J. Bombay Nat.

Hist. Soc. 53:525, 1956). Regarding nomenclature of the plant see Santapau *loc. cit.*

This taxon can be easily distinguished from the common *A. sessilis* (Linn.) DC. by the following characters:—herbs rooting at nodes; spatulate leaves with distinct petioles; young parts densely white villous; flowers in dense glomerate white heads.

Specimens examined: Hissar, V. J. Nair 19904.

Anogeissus sericea Brand. in Ind. For. 25:287, 1900. *A. acuminata* Wall. ex Hook. f. Fl. Brit. Ind. 2: 450, 1878 p.

This moderate sized tree can be easily distinguished from allied species by the following characters—branches not pendulous; peduncles usually bracteate, solitary, usually unbranched; calyx tube longer than fruit; beak of fruit usually longer than its nucleus, fruit including wing broader than long, wings of fruit with jagged margins.

According to Duthie [Fl. Upp. Gang. Pl. (Rep. ed.) 1:313, 1960] the species is distributed in Ough, Bundelkhand, Saugor, Merwara, Pachmari hills and Gujarat. In Punjab the tree is fairly common in the arid regions.

Specimens examined: Loharu, N. C. Nair 20093 (March, 1962); Dadri, N. C. Nair 20509 (March 1962); Rewari, N. C. Nair 20774 (March 1962).

Argemone ochroleuca Sweet subsp. *ochroleuca* Brit. Fl. Gard. 3:t. 242, 1825-1827; Ownb. in Mem. Torr. Bot. Cl 21, 1958; Venkat. in Proc. Indian Sci. Cong. 47: 401, 1960; Venkat. in Curr. Sci. 31:250, 1962.

This is a Mexican species reported for the first time from India by Venkatesh (*loc. cit.*). The taxon is often confused with *A. mexicana* along with which it often grows. The former can be readily distinguished from the other by its vegetative and floral characters important among which are—leaves ash coloured, not stem clasping, segments narrower; oblong flower buds; light yellow corolla; narrow spreading stigmas.

Specimens examined: Bhiwani, N. C. Nair 20047 (March 1962).

Chenopodium ambrosioides Linn. Sp. Pl. 219, 1753 ;
Hook. f. Fl. Brit. Ind. 5: 4, 1886.

According to Hooker f. (*loc. cit.*) this taxon is widely distributed in eastern and southern India. It has also been recorded from Dehra Dun (Raizada, Ind. For. Rec. 1939). Now the species has a wide distribution all over north India and west Punjab and is commonly found along canal banks and moist places.

Specimens examined: Karnal, J. N. Vohra 9924 (Aug. 1959); Kurukshetra, J. N. Vohra 9884 (Aug. 1959); Nilokheri, N. C. Nair 15855 (July 1961); Hansi, N. C. Nair 16160 (July 1961); Rohtak, N. C. Nair 16367 (Aug. 1961); Jind, N. C. Nair 18696 (Nov. 1961).

Euphorbia prostrata Ait. Hort. Kew 2: 139, 1879 ;
Hook. f. Fl. Brit. Ind. 5: 266, 1887; Gamb. Fl. Pres. Madr. 1272 & 1276, 1935; Pax et Hoffm. in Pfl. Fam. (ed. 2) 19 C: 210, 1931; Raiz. in Ind. For. Rec. 1936; Sherff in Ann. Miss. Bot. Gard. 26: 68, 1938; Santapau in J. Bomb. Nat. Hist. Soc. 46: 380, 1946, et Bull. Bot. Soc. Beng. 8: 15, 1954.

Hook. f. (*loc. cit.*) remarks "Englemann (in Torrey, Bot. Mex. Bound Exped.) says of this American species, that it is found in India; but I have seen no specimen, nor does Boissier, who figures it well (Euphorb. Ic. t. 17), mention it as Indian. It is a native of W. Africa and the Mauritius. It closely resembles *E. microphylla*, differing in the ciliate keel of the cocci". The first authentic report of the species from India appears to be that of Gamble (*loc. cit.*) who, regarding the distribution of the species, remarks "Deccan and Carnatic, occasionally usually probably as a weed in gardens." Subsequently Raizada (*loc. cit.*) reported it from Dehra Dun, Gonda and Bahraich, and Santapau (*loc. cit.*) from various parts of Bombay State. In the Punjab, the species has established in several places.

The taxon is similar to that of *E. microphylla* and *E. thymifolia*. The three species can be easily identified by the character of the capsule as given below:

Capsule glabrous	...	...	...	<i>E. microphylla</i>
Capsule pubescent all over	...	...	...	<i>E. thymifolia</i>
Capsule pubescent at the angles, glabrous elsewhere	...	...	...	<i>E. prostrata</i>

Prostrate annual herbs with several slender branches up to 18 cm. long mostly alternate, mostly red, rarely green or greyish, puberulous with minute curved silvery white hairs on the dorsal surface, glabrous beneath; nodes swollen. Leaves opposite, petiole 1 mm. long, glabrous or nearly so; blade oblong to elliptic up to 6 mm. long 3.5 mm. broad, apex rounded or obtuse, base oblique, margin denticulate and often ciliate, upper surface glabrous, lower surface often sparsely puberulous especially near the apex, midrib raised on the lower surface,

lateral veins one pair, convergent, veins red in red plants, green or greyish in green plants; stipules on the dorsal side of stem linear, pilose, on lower side united into one deltoid body apically lacinate and toothed. Capitula in short axillary racemose clusters each capitulum being subtended by a reduced leaf or sometimes 1 to 4 capitula on a short peduncle and with 1 to 4 pairs of minute spatulate leaves, secondary peduncle glabrous, equal to or longer than petiole, very rarely upto 2.5 mm.; involucre campanulate red, green or whitish, glabrous or lightly puberulous, 0.5 to 0.7 mm. long; glands 4, minute, suborbiculate, appendage narrow or scarcely apparent; lobes 5 rarely 4, ovate, white ciliate; stamens 4, two of them smaller, filaments semi-transparent, glabrous; ovary subovate to orbiculate; styles distinct but short, 0.16 mm. long, bifid with thickened apex. Capsule glabrous except the whitish hispidly ciliate keel, 1 to 1.2 mm. long. Seeds ovoid, truncate at base, apex obtuse, tetragonal, reddish but finally becoming greyish 0.7 to 0.8 mm. long, faces transversely 5 to 7 ribbed.

Specimens examined: Jind, N. C. Nair 16115 (July 1961); Kanana, Dadri, N. C. Nair 20521 (March 1962); Rewari, N. C. Nair 20792, 20793 (March 1962).

Gomphrena celosioides Mart. in Nov. Act. Nat. Cur. 13: 301, 1826; Raiz. in J. Bomb. Nat. Hist. Soc. 48: 675, 1949.

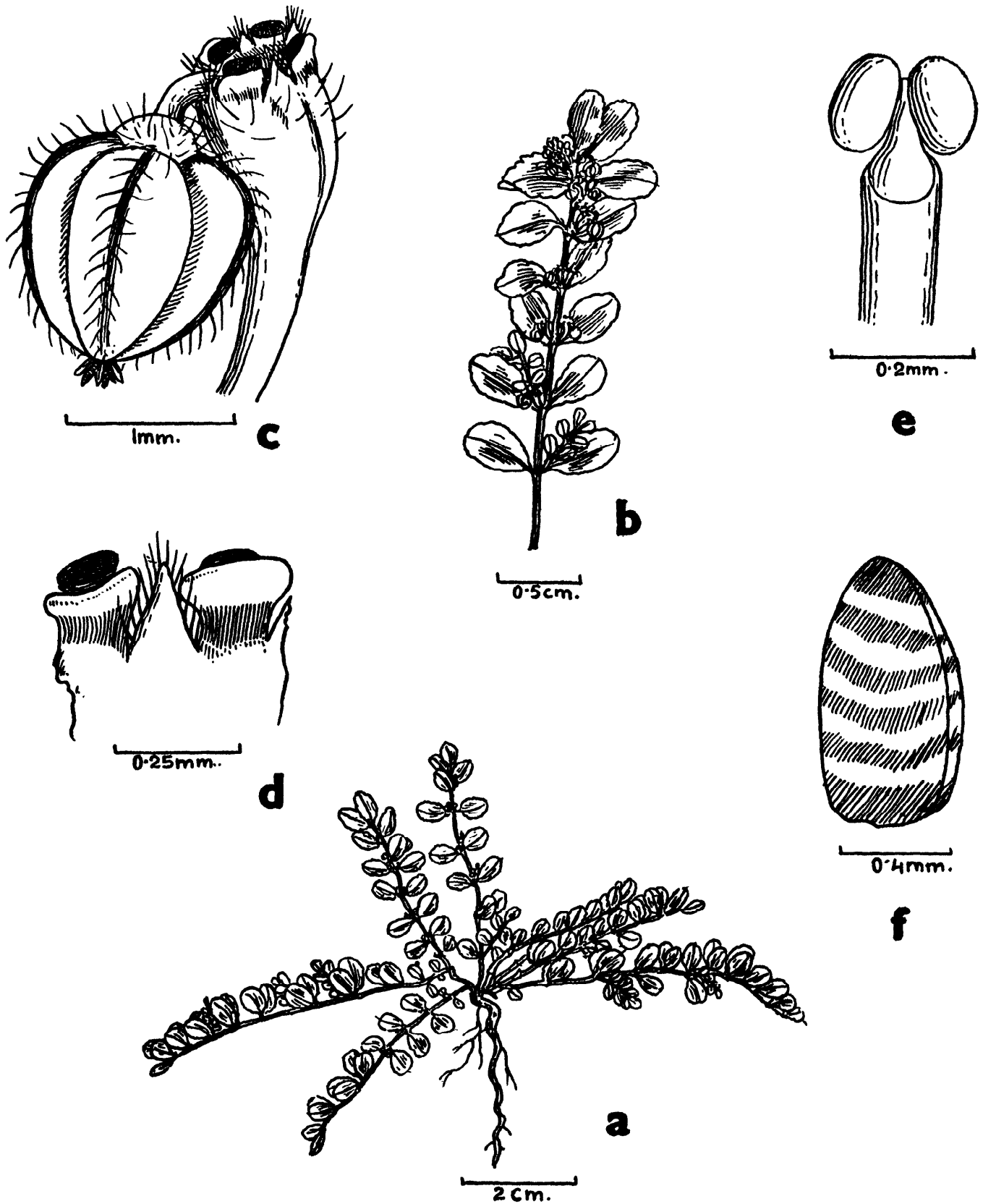
This is an introduced weed native to S. Brazil, Paraguay, Uruguay and Argentine. Now it is spreading rapidly in India and is becoming a troublesome weed in several places. So far this species has not been reported from the Punjab.

Specimens examined: Gurgaon, T. A. Rao 11014 (Dec. 1959); Karnal, J. N. Vohra 8889, 8897 (Aug. 1959); Badopal, N. C. Nair 16230 (July 1961); Nilokheri, N. C. Nair 15838 (July 1961); Sirsa, N. C. Nair 18931 (Dec. 1961).

Phyllanthus maderaspatensis Linn. Sp. Pl. 982, 1753; Hook. f. Fl. Brit. Ind. 5: 292, 1887; Duthie, Fl. Upp. Gang. Pl. (Rep. ed.) 2: 200, 1960.

This taxon has a wide distribution in the drier parts of India. However, it has not been reported from the Punjab. It can be easily identified by the following characters:—erect herbs with scattered cuneate-obovate leaves; peltate stipules; monoecious flowers; disc present in both male as well as female flowers; stamens 3, almost united into a column; style free once two fid; fruit a capsule of 3 crustaceous 2-valved cocci.

Specimens examined: Bhiwani, N. C. Nair 16341 (Aug. 1961); Talwandi, Hissar Dist., N. C. Nair 16207 (July 1961); Dadri N. C. Nair 16266 (Aug. 1961).

Figs. a—f. *Euphorbia prostrata* Ait.

a. entire plant. b. branch. c. cyathium. d. glands. e. stamen. f. seed.

Polygala irregularis Boiss. Diagn. Ser. 1, fasc. 1, 8, 1842; Fl. Orient. 1:469, 1867; Oliv. Fl. Trop. Afr. 1:131, 1868; Cooke Fl. Bomb. Pres. 1:61, 1901; Blatt. et. Hallb. J. Bomb. Nat. Hist. Soc. 26:223, 1918; Muker. in Bull. Bot. Soc. Beng. 12:42, 1958; Raiz. et Sharma in Ind. For 88:356, 1962.

This species is not mentioned in Hook. f. Fl. Brit. Ind. Cooke (*loc. cit.*) included it with the remarks "a rare plant found in Sind and the coast of Kathiawar." Recently it has been reported to be a frequent weed on sand dunes in Ajmer, Merwara, by Raizada and Sharma (*loc. cit.*). In the Punjab also it is commonly found in sandy places or on sand dunes. It is very likely that the taxon is widely spread in the plains. The species can be easily identified from other species of *Polygala* by the following characters:—terminal but often divericate racemes; persistent wing sepals with rounded apex and broader above middle; veins of sepals green; corolla red or pink; capsule winged, glabrous; seed conical with long hairs at the broader end; caruncle replaced by two greyish appendages.

Specimens examined: Loharu, N. C. Nair 20086 (March 1962); Kanana, Dadri, N. C. Nair 20545 (March 1962).

Ruellia tuberosa Linn. Sp. Pl. 635, 1753.

Annual herb 0.5-0.75 m., branching from the base; roots tuberous. Leaves petioled, ovate or lanceolate up to 9 cms. long and up to 3.5 cms. broad, margin slightly wavy, apex often acute, veins 5-9 pairs more prominent on lower surface. Inflorescence axillary, dichasium passing into monochasium. Flower showy; calyx lobes linear setaceous, one-fourth of corolla, pubescent; corolla deep blue or shades of blue or very rarely white, funnel shaped, curved, anterior lobe two ridged. Capsule 16 mm. long, base solid, seed bearing upwards. Seeds discoid, margined, on hooked retinacula.

This taxon is a native of tropical America introduced into this country as a garden plant and has naturalised in several parts of Bengal and south

India. A patch of this plant was observed in Bhiwani by one of us in Aug. 1961, as an undergrowth among bushes. Subsequently it was collected from Sirsa where it was observed to grow luxuriantly in a moist place. While these plants were not cultivated it is likely that they may be escaped.

Specimens examined: Bhiwani, N. C. Nair 16332; Sirsa, N. C. Nair 18987 (Dec. 1961).

Trianthema decandra Linn. var. *flava* (Blatt. et Hallb.) Sant. in J. Bomb. Nat. Hist. Soc. 56:280, 1959. *T. pentandra* Hook. f. (non Linn.) var. *flava* Blatt. et Hallb. in J. Bomb. Nat. Hist. Soc. 26:531, 1919.

Prostrate plants with woody stock and tuberous tap root. Leaves and stem green. Fruit yellowish.

Specimens examined: Badopal, Hissar, N. C. Nair 16245 (Aug. 1961); Fatehabad, N. C. Nair 18854 (Dec. 1961); Ottobridge, Sirsa, N. C. Nair 18939, 18964 (Dec. 1961); Narnaul, N. C. Nair 20662 (March 1962).

Trianthema decandra Linn. var. *rubra* (Blatt. et Hallb.) Sant. J. Bomb. Nat. Hist. Soc. 56:279, 1959. *T. pentandra* Hook. f. (non Linn.) var. *rubra* Blatt. et Hallb. in J. Bomb. Nat. Hist. Soc. 26:530, 1919.

This plant can be easily distinguished from the above variety by the reddish stem, leaves and fruits.

Specimens examined: Kurukshetra, J. N. Vohra 9887 (Aug. 1959); Jhabua, T. A. Rao 11119 (Dec. 1959); Bhundsi, T. A. Rao 11030 (Dec. 1959); Rajpura, T. A. Rao 10930 (Nov. 1959); Nilokheri, N. C. Nair 15853 (July 1961); Mahendragarh, N. C. Nair 16286 (Aug. 1961); Hansi, N. C. Nair 16166 (July 1961); Jind, N. C. Nair 18697 (Nov. 1961); Fatehabad, N. C. Nair 18877 (Dec. 1961); Bahuna, N. C. Nair 18892 (Dec. 1961).

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