

## ALIENS NATURALISED IN THE FLORA OF BILASPUR, M.P.

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## A B S T R A C T

The present paper deals with 68 exotic species of flowering plants which are naturalised in the Flora of Bilaspur, Madhya Pradesh. These species were collected during three seasonal field-collection tours undertaken from 1970 to 1973 and have been deposited in the herbarium of Central Circle, Botanical Survey of India, Allahabad (BSA). Short notes on habitat, nativity etc. are appended with most of the species. The 68 species have been put into 5 major groups according to their nativity viz., 1. Neo-tropical, 2. North temperate, 3. North-African, Afro-Asian and Arabian, 4. Tropical and South-African and 5. Austro-Asian.

## INTRODUCTION

According to Hooker (1904) and Champion and Trevor (1938) the flora of India is merely a mixture of floras of the surrounding countries like Malaya, Africa, Tibet, China and Japan. Good (1947) has considered India as a region of the Indo-Malayan sub-kingdom under the Paleotropical Kingdom. Chatterjee (1940, 1962), however maintains that more than 60% of our Dicotyledonous species are endemic and there is a distinct Indian flora.

Nevertheless, there are many foreign elements in our flora, brought mainly by Portuguese, Spaniards, Dutch, the French and the English people either knowingly or unknowingly. The surrounding countries contributing to the Indian-Flora are Ceylon, Burma, Malaya, Japan, South-West China, Tibet, West Asia and Africa. Maheshwari (1962) has recognised four distinct categories amongst the naturalised elements viz., (1) Pluri-regional species or 'Wides', (2) Weeds of cultivation and other introduced weeds, (3) Exotics and escape from cultivation and (4) Species of limited distribution in India and adjoining regions. He considers various factors responsible for the spread and increase of alien plants in our

country. Mention may be made of deforestation, faulty pasturage methods, shifting cultivation, faulty method of harvesting and sale and introduction of impure seeds.

In most cases the time of actual introduction of any species is fixed only with a rough degree of approximation. *Lantana camara* L. var. *aculeata* (L.) Mold. is not mentioned in Roxburgh's *Flora Indica* which was published in 1824 but by 1921-25, when Haines Botany was published, it was known from many parts of India and thus it is mentioned in this work. *Acanthospermum hispidum* DC. and *Gomphrena celosioides* Mart. were introduced into Madras Presidency by 1915-39, so they are mentioned in Gamble's *Flora* but are not mentioned in Hook. f. *Flora British India* (1872-97).

The author's studies under the project of 'Flora of Bilaspur, Madhya Pradesh' have yielded 68 introduced and naturalised elements from outside India. It would not be out of place to mention that there are also such alien species which are commonly cultivated in the field or planted in the gardens and elsewhere. These have also been collected along roadsides, at the edge of forests and various other places as an escape

from cultivation. The total number of such species is 37. They may be grouped as follows:

1. Neo-tropical: *Agave americana* L., *Anacardium occidentale* L., *Annona squamosa* L., *Capsicum annum* L. *C. frutescens* L., *Carica papaya* L., *Carthamus oxyacantha* Bieb., *Datura metel* L., *Hibiscus subdariffa* L., *Lycopersicon esculentum* Mill., *Mirabilis jalapa* L., *Thevetia peruviana* Sch., *Turnera ulmifolia* L. and *Zea mays* L.
2. North-temperate: *Brassica campestris* L., *Coriandrum sativum* L., *Cuminum cyminum* L., *Foeniculum vulgare* Gaertn., *Lathyrus sativus* L., *Punica granatum* L. and *Vicia sativa* L.
3. North-African, Afro-Asian and Arabian: *Lawsonia inermis* L., *Phaseolus trilobus* Ait. and *Portulaca oleracea* L.
4. Tropical and South African: *Citrullus lanatus* (Thunb.) Mansf., *Hibiscus cannabinus* L., *Kalanchoe pinnata* (Lamk.) Pers., *Plumbago zeylanica* L., *Ricinus communis* L., *Sesuviera thyrsoiflora* Thunb. and *Sesbania sesban* (L.) Merr.
5. Aus ro-Asian: *Acacia auriculiformis* A. Cumm., *Dodonaea viscosa* (L.) Jacq. and *Eucalyptus tereticornis* Sm.
6. Madagascar: *Delonix regia* Raf.
7. East Indies: *Cajanus cajan* (L.) Millsp. and *Sesamum indicum* Linn.

There are two important observations made during this study. *Adenostemma lavenia* (L.) Kuntze, collected from Bilaspur, M.P., has been considered as the native of South America by Srivastava (1964). The type locality of *A. lavenia* is Sri Lanka (Ceylon) and that of its synonym *A. viscosum* J. R. & G. Forst. is Tahitee [see Panigrahi, *Kew Bull.* 30 (4): 647, 1975]. Secondly, *Cissampelos pareira* L., also collected from Bilaspur, M.P., an American taxon, does not occur in India; the Indian taxon generally identified as above, represents *C. pareira* L. var. *hirsuta* (Buch.-Ham. ex DC.) Forman (see Forman, *Kew Bull.* 22: 356, 1968).

The following account of 68 species with notes on the habitat, source of their introduction and other important informations, as available, is given below. Most of the species enumerated in the present paper are represented by more than one collections but for convenience only one representative field-number has been mentioned in each case. The specimens are deposited in the Herbarium of the Botanical Survey of India, Central Circle, Allahabad (BSA). The species are grouped into following groups:

Neo-tropical, 2. North-temperate, 3. North-African, Afro-Asian & Arabian, 4. Tropical & South-African, 5. Austro-Asian.

#### 1. Neo-tropical:

##### **Acanthospermum hispidum** DC.

Growing on the bund of rice field in alluvial soil, the plant is hairy with yellow flowers.

Srivastava (1964) thinks it to be a native of Brazil. It was first noticed in the year 1917 round about Tirupattur railway station in the Salem district and at Nileshtar in South Canara (Maheshwari 1962). On the other hand Ridley (1930) thinks it to be a native of Tropical Africa. It appears that from Brazil this species came to South Africa and from here it came to South India.

*Specimen examined*: Katghora, Arora 6069.

##### **Ageratum conyzoides** Linn.

In shady moist situations, as a common weed in gardens and near water channels of fields.

A native of South America, probably introduced to India in the 16th Century. It travels by adhesion to clothes or to hairs of animals and is a weed of cultivation (Ridley 1930).

*Specimen examined*: Parasi, Murti 19047.

##### **Argemone mexicana** Linn.

In waste places, dry open grounds, on river banks and as a winter weed in fields and gardens.

A native of Central America and West Indies (Ridley, 1930; Baker & Brink 1963), probably introduced during the 17th Century. Its earliest record in the east, according to Ridley (*l.c.*) is from Cochin-Chin in 1790.

*Specimen examined*: Bilaspur city, Murti 19530.

##### **A. ochroleuca** Sweet.

Growing alongwith *A. mexicana* L. on the waste ground.

A native of Mexico, most probably introduced at the time when Duthie was writing his Flora, because under *A. mexicana* L. he describes the "flowers rarely white". The white-flowered biotypes seen by Duthie could be those of *A. ochroleuca* Sw.

*Specimen examined*: Aurapani, *Panigrahi* 15481.

***Alternanthera pungens* H. B. K.**

Growing in dry situations, waste places and along road sides.

A native of tropical America (Baker and Brink 1963; Raizada 1950) introduced into India early in the 20th Century. Its first record in India is in 1908 by Woodhouse from Colgong and Bhagalpur in Bihar in 1914 (Srivastava 1954). Its rapid spread can be attributed to the stiff perianth enclosing the utricle, which readily attaches itself to clothes, to passing animals and to the tyres of the vehicles.

*Specimen examined*: Anup Pur, *Panigrahi* 16855.

***Blainvillea acmella* (L.) Phil.**

In shady situations and moist places.

A native of S. America (Ridley 1930) and was probably introduced during the 18th Century.

*Specimen examined*: Bilaspur city, *Panigrahi* 12989.

***Cardiospermum halicacabum* Linn.**

Climbing over bushes.

Ridley (1930) states that this genus has its headquarter in S. America and this species, also a native of the same country, has spread all over the tropics. It seems to have been partly sea-dispersed, also spread by rivers and to a considerable extent accidentally and intentionally by man.

*Specimen examined*: Karidongari, *Murti* 19331.

***Cassia alata* Linn.**

Shrub in sandy alluvium, sometimes also planted.

It is a native of America (Baker and

Brink 1963). Time of introduction is not known. Panigrahi and Singh (1967) state that this was introduced from West Indies.

*Specimen examined*: Kota, *Panigrahi* 13064.

***C. obtusifolia* Linn.**

Shrub in waste places.

It is a native of America (Baker and Brink 1963). Time of introduction is not known.

*Specimen examined*: Ratanpur, *Murti* 19524.

***C. occidentalis* Linn.**

Common in waste places, along road sides and as a weed in cultivated land.

It is a native of S. America (Duthie 1903; Baker and Brink 1963); probably introduced long back before Roxburgh's Flora Indica was written.

*Specimen examined*: Achanakmar, *Murti* 19294.

***C. tora* Linn.**

An undershrub on sandy gravelly soil, in waste places.

Its native country is not known with certainty but the way this species follows new roads and railways; its gregariousness and its habit of flowering during rainy season, show that it is an alien, probably south American (Srivastava 1964).

*Specimen examined*: Pasan, *Panigrahi* 13275 A.

***Chloris virgata* Sw.**

Very common in waste places, at the edge of the forests and forest clearings.

It is a tropical American Plant (Maheshwari 1962). Its time of introduction is not known.

*Specimen examined*: On way to Bilaspur from Kota, *Panigrahi* 13048.

***Coldenia procumbens* Linn.**

Prostrate herb in moist places and river banks.

*Coldenia* is exclusively a new world genus (Good 1947). This is the only species of

the genus in India and was probably introduced before Roxburgh's *Flora Indica* was written.

*Specimen examined*: Parasi, Murti 19038.

**Cosmos sulphureus** Cav.

Herb near nalas and moist places on sandy alluvium.

It is a native of Central America and the northern part of S. America (Baker and Brink 1963).

*Specimen examined*: Kabirchabutra, Panigrahi 13396.

**Croton bonplandianum** Baill.

Woody herb in waste places and along roadsides.

It is a native of tropical America and was first introduced into Chittagong (now in Bangla Desh) with ballast of mud from S. America. To get rid of the mud, it was supplied to a local gardener for soil. In it were seeds of *Croton* which germinated and grew. Thence it moved to Calcutta (Prain 1903) and further west, having been collected from Sabour in 1911 by Woodhouse (Srivastava 1954), Cuttack and Balasore (Haines 1921-25).

*Specimen examined*: Champa, Murti 19360.

**Digitaria adscendens** (H.B.K.) Henr.

Semi erect grass forming mat near wet places.

It is a tropical American plant (Maheshwari 1962).

*Specimen examined*: Lamni, Murti 19216.

**Eclipta prostrata** Linn.

In moist places near ponds and drainage, as a weed in lawns. This species shows great plasticity in its growth habit, from prostrate herb to erect plant with succulent stems.

Ridley (1930), who considers it a native of S. America, suspects that it spreads by attaching to plumage of birds and also by human agency since the achenes are viscid.

*Specimen examined*: Parasi, Murti 19057.

**Euphorbia heterophylla** Linn.

Erect herb in waste places, fallow lands and as a weed in gardens.

A native of tropical America, introduced in gardens before Hooker wrote the *Flora of British India* (Rajagopal 1965).

*Specimen examined*: Pasarkhet, Murti 19438.

**E. hirta** Linn.

Herb in fallow lands, in lawns, waste places and along roadsides.

Baker and Brink (1963) consider it as a native of tropical America, probably introduced before Roxburgh wrote his *Flora Indica*.

*Specimen examined*: Marwahi, Murti 19037.

**E. thymifolia** Linn.

Abundant in the forest clearings, in lawns, waste places and along roadsides.

Probably tropical American in origin (Baker and Brink 1963) and might have been introduced at a very early time.

*Specimen examined*: Marwahi, Murti 19033.

**Evolvulus nummularius** (Linn.) Linn.

Abundant in waste places, fallow lands, along roadsides, river banks and on bunds of cultivated fields.

A native of tropical America (Roberty 1952) probably West Indies and probably introduced to India during last part of the 18th century, since it is recorded in *Flora of British India* 4: 734 under additions and corrections. It was probably introduced first around Howrah and Calcutta. This species was reported from Arrah, Champaran and Darbhanga by Burkil (Bruhl 1908) and from Bhagalpur in 1910 by Woodhouse, though both records were missed by Haines.

*Specimen examined*: Marwahi, Murti 19017.

**Gomphrena celosioides** Mart.

In waste places, on river and canal banks, bunds of fields and along roadsides.

Native of tropical America (South Brazil, Paraguay, Uruguay and Argentina), introduced into South Africa, India, Australia and Malaysia (Baker, 1954). First reported in India from Madras, Coimbatore by Gamble (1915) and then from Ranikhet and Dehradun in 1939, Allahabad, Delhi and Meerut (Raizada 1950) and Bastar (Mooney 1950).

*Specimen examined*: On way to Kapildhara from Kabirchabutra, *Murti* 19179.

***Heliotropium indicum* Linn.**

On moist grounds, along river banks and roadsides.

South American in origin, introduced at about 1500 A.D. in India.

*Specimen examined*: Khuria, *Murti* 19306.

***Hyptis suaveolens* Poit**

An aromatic undershrub in moist waste places.

It is a native of South America (Epling 1936). In India, reported from Deccan peninsula, Cachar, Bengal and Bihar. In Haine's time found only in Chota Nagpur (Srivastava 1964).

*Specimen examined*: Khuria, *Panigrahi* 15484.

***Ipomoea fistulosa* Mart.**

Very troublesome stragling bushy shrub in waste places, also growing as hedge plant.

It is from tropical America and is of recent introduction (Baker and Brink 1963).

*Specimen examined*: Khootaghat, *Murti* 19525.

***Iseilema laxum* Hack.**

Diffused grass in waste grounds on sandy alluvium.

It is a tropical American plant. Time of its introduction not known (Maheshwari 1962).

*Specimen examined*: Champa, *Murti* 19381.

***Jatropha curcas* Linn.**

Large shrub in waste and abandoned places, also planted as a hedge.

A native of tropical America (Duthie 1903; Baker and Brink 1963), probably introduced at an early time.

*Specimen examined*: Marwahi, *Murti* 19022.

***J. gossypifolia* Linn.**

Shrub in waste places, also planted as hedge.

A native of tropical America (Brazil), introduced into India probably after 1850 as it was not collected by Hooker in 1848 (Srivastava 1964).

*Specimen examined*: Narainpur, *Murti* 19111.

***Lagascea mollis* Cav.**

Herb at the edge of the forest and on the bund of cultivated fields.

A native of Mexico, got introduced into various warm countries including India quite early. In Bengal introduced between 1824 and 1845. It is not mentioned in Haines Botany.

*Specimen examined*: Kabirchabutra, *Panigrahi* 13371.

***Lantana camara* Linn. var. *aculeata* (Linn.) Mold.**

In waste places, as an escape in gardens and generally grown as hedge also.

A native of Central America, introduced, according to Ridley (1930) as an ornamental plant to Ceylon in 1824. In Haines time the plant was just beginning to run wild in Ranchi.

*Specimen examined*: Champa, *Murti* 19369.

***Malvastrum coromandelianum* Garcke**

Herb or undershrub along forest roads.

A native of South America (Baker and Brink 1963), introduced into India during 1900. It was collected from Sabour in Bihar by Woodhouse in 1911 though Haines did not know about it.

*Specimen examined*: Khondra, *Panigrahi* 12712.

**Martynia annua** Linn.

Large herb in waste places and along roadsides.

A native of Mexico and Brazil and introduced into India before 1843. It spreads by attachment of its hooked fruits to beasts, goats and sheep (Ridley 1930).

*Specimen examined*: Achanakmar, Murti 12995.

**Mecardonia dianthera** (Sw.) Penn.

Herb in moist sandy alluvium near canals and in cultivated fields.

A native of tropical America, it is of recent introduction in this country. The first record of this species is from Bengal (Prain 1903). It is not mentioned by Voigt (1845) who completed his account of the Calcutta plants in 1843 or Hooker in his Flora of British India, the last volume of which, was published in 1897. There is also no record of this species by Haines in his Botany of Bihar and Orissa. However, Mooney has collected it from Sarguja state.

*Specimen examined*: On way to Korbi from Pasan, Murti 19080.

**Nicandra physaloides** Gaertn.

Herb in forest clearings and in waste grounds.

This plant belongs to Peru (Baker and Brink 1953).

*Specimen examined*: Lamni, Panigrahi 13237.

**Opuntia elatior** Mill.

Growing in waste places and on the bundh of cultivated fields.

It is a south American plant (Maheshwari 1962).

*Specimen examined*: On way to Ratanpur from Pondu, Panigrahi 13355.

**Paviflora foetida** Linn.

Climbing on hedges, bushes and forest undergrowths.

Native of Brazil (Duthie 1903), West Indies (Srivastava 1964) and America (Ridley 1930), introduced into India before

1845 but not quite well spread even in 1872-97.

*Specimen examined*: Karidongari, Murti 19330.

**Physalis minima** Linn.

Herb in moist places under shade.

A native of South America probably introduced during the 17th Century to India from Malay peninsula (Ridley 1930).

*Specimen examined*: Lamni, Murti 19211.

**Ruellia tuberosa** Linn.

In shady situations, growing as forest undergrowth and in gardens.

A native of tropical America that had become naturalised in Central Bengal by 1903 (Prain 1903).

*Specimen examined*: Ratanpur, Murti 19531.

**Scoparia dulcis** Linn.

Woody herb on river and canal banks and as a weed in gardens.

A south American weed, introduced into India somewhere before 1845. Linnaeus described it from Jamaica in 1753 (Ridley 1930). It had become common in Bengal by 1872-97 and in Bihar on waste lands nearer towns by 1921-25.

*Specimen examined*: Kabirchabutra, Murti 19196.

**Sida cordata** (Burm. f.) Borss.

Trailing herb among bushes, forest undergrowths and waste lands.

It is a tropical American plant (Maheshwari 1962). Time of introduction not known.

*Specimen examined*: Khootaghat, Murti 19514.

**Siegesbeckia orientalis** Linn.

Herb on sandy alluvium near streams.

It is probably indigenous to South America, but now largely a weed of cultivation, widely distributed over the warm and dry parts of both hemisphere (Ridley 1930).

*Specimen examined*: On way to Kapildhara from Kabirchabutra, Murti 19181.

**Tridax procumbens** Linn.

In waste places, fallow lands, along roadsides, on old walls and on sandy river banks.

Introduced to India as an ornamental plant before 1830 from South America. By 1845 it had become a pest in Bengal.

*Specimen examined*: On way to Korbi from Pasan, Murti 19082.

**Xanthium strumarium** Linn.

Weed in waste places, in drying ponds, forest clearings, on bundhs of fields and in gardens.

Ridley (1930) considers it as a native of Europe on the authority of Dioscorides who figures this plant from Europe in the 1st Century. But Srivastava (1964) attributes it to south America. It spreads by its spiny adhering fruits.

*Specimen examined*: Khondra, Panigrahi 16738.

2. *North-temperate*:**Anagallis arvensis** Linn.

Common winter weed along forest roads, amidst forest undergrowths, on slopes and in moist situations.

Taylor (1955) while revising the genus *Anagallis* for tropical and south Africa, considers *A. arvensis* indigenous to Europe and Mediterranean regions and 'as an introduced weed' in Africa; probably introduced to India at an early time.

*Specimen examined*: Khondra, Panigrahi 16742.

**Oxalis corniculata** Linn.

Common in moist places, field-bunds, canal banks and near drainage channel.

Ridley (1930) states "this creeping plant is very widely spread all over the world mainly by human agency. It is certainly a native of south Europe and was described by Cluspius as coming from the region in 1549. It is also probably native in the north temperate zone of the old world, being specially common in India, where there is

a hairy form and which also occurs in other warm parts of the old world."

*Specimen examined*: Keonchi, Murti 19154.

**Polygonum hydropiper** Linn.

Decumbent herb in marshy situations along rivers and canals.

According to Maheshwari (1962) it is native of temperate region.

*Specimen examined*: Khuria, Panigrahi 15488.

**Potamogeton crispus** Linn.

Floating herb in canals, rooting in mud.

According to Maheshwari (1962) it is a native of temperate region.

*Specimen examined*: Khuria, Panigrahi 15486.

**Setaria glauca** Beauv.

In waste places and at the edge of the forests.

It is an Eurasian plant (Maheshwari 1962). Bor (1960) treats it as a native of the warm temperate zone of the old world.

*Specimen examined*: Karidongari, Murti 19319.

**Sonchus oleraceus** Linn.

A common weed near river and canal banks, in shady situations.

Probably indigenous to Europe and Eurasian region (Duthie 1903) and it is now more or less cosmopolitan in its range.

*Specimen examined*: Achanakmar, Murti 19275.

**Veronica anagalis** Linn.

In marshy places on the banks of ponds and rivers.

A native of temperate region (Maheshwari 1962), time of introduction uncertain.

*Specimen examined*: Pongu, Panigrahi 16781.

3. *North-African, Afro-Asian and Arabian*:**Aristida adscensionis** Linn.

Growing at the edge of the forests, on field-bunds, near rivers, in open grounds.

According to Ridley (1930) it is a native of N. Africa but is described as a Madras plant by Plunket in 1806, evidently introduced to India prior to this date.

*Specimen examined*: Khootaghat, Murti 19518.

**Cleome monophylla** Linn.

Growing in waste places, at the edge of the forests and near nalas, streams.

It is an Afro-Asian plant (Maheshwari 1962).

*Specimen examined*: On way to Pendra from Pasan, Murti 19135.

**Cymbopogon martinii** (Roxb.) Wats.

Occasionally found at the edge of the forests, in forest clearings, sometimes planted also.

According to Maheshwari (1962) it is an Afro-Asian plant.

*Specimen examined*: Katra, Panigrahi 16733.

**Emilia sonchifolia** (Linn.) DC.

Common in waste places, near river and canal banks, growing on sandy alluvium.

It is an Afro-Asian plant (Maheshwari 1962).

*Specimen examined*: Pasan, Panigrahi 15301.

**Ipomoea cairica** (Linn.) Sweet

Climbing over hedges.

Baker and Brink (1963) think it to be native of Africa and Asia. Time of introduction not certain.

*Specimen examined*: Champa, Murti 19380.

**Ocimum americanum** Linn.

Commonly found in plant-nurseries and near cultivated fields.

According to Maheshwari (1962) it is an Afro-Asian plant.

*Specimen examined*: Karidongri, Murti 19326.

#### 4. Tropical and South-African:

**Corchorus olitorius** Linn.

Commonly found in moist situations, near ponds, in the gardens.

According to Brizicky (1965) it is an African element and cultivated as a pot herb in the eastern Mediterranean, particularly in Egypt from ancient time. Probably introduced at an early time.

*Specimen examined*: Khondra, Panigrahi 12711.

**Guizotia abyssinica** (Linn. f.) Cass.

Growing near cultivated fields.

Baker and Brink (1963) think it to be a native of tropical Africa.

*Specimen examined*: Pasarkhet, Panigrahi 16824.

**Leonotis nepetaefolia** (Linn.) Ait. f.

In waste lands and open ground.

Baker and Brink (1963) think it to be a native of tropical Africa.

*Specimen examined*: Kukdur, Panigrahi 16721.

**Themeda triandra** Forsk.

In waste places, forest clearings and at the edge of the forest.

It is a native of Africa (Ridley 1930).

*Specimen examined*: Katghora, Arora 6029.

**Urena lobata** Linn.

In waste places, on slopes and at the edge of the forests.

Probably an inhabitant of Africa (Ridley 1930), spreads by its spinous adhering fruits. It was introduced into India before Roxburgh wrote his Flora Indica.

*Specimen examined*: Achanakmar, Panigrahi 13201.

#### 5. Austro-Asian:

**Cassytha filiformis** Linn.

Climbing over shrub near streams, rivers and canals.

According to Ridley (1930) it is a native of Australia.

*Specimen examined*: On way to Korbi from Madai, Murti 19481.

**Crotalaria medicagenea** Lam.

Growing in waste places and near cultivated fields



According to Maheshwari (1962) it is an Austro-Asian plant.

*Specimen examined*: On way to Semera from Pasan, *Panigrahi* 15351.

***Dimeria ornithopoda* Trin.**

Growing at the edge of the forests and in the forest clearings.

It is an Austro-Asian element (Maheshwari 1962).

*Specimen examined*: Kota, *Panigrahi* 13072.

***Indigofera linnaei* Ali**

Occasionally found in waste places, on slopes and near cultivated fields.

It is a native of tropical Australia and Asia (Maheshwari 1962).

*Specimen examined*: Achanakmar, Murti 19287.

***Ottelia alimoides* (L.) Pers.**

Commonly found in stagnant water pools.

According to Maheshwari it is an Austro-Asian element.

*Specimen examined*: On way to Pendra from Keonchi, *Panigrahi* 15376.

***Salvia plebia* R. Br.**

Herb in nursery beds and near fields.

It is an Austro-Asian plant (Maheshwari 1962).

*Specimen examined*: Karidongari, Murti 19333.

***Sporobolus diander* Beauv.**

Growing in waste places, forest clearings and in cultivated fields.

According to Maheshwari (1962) it is an Austro-Asian plant.

*Specimen examined*: Achanakmar, Murti 19274.

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