

## INVASIVE ALIEN WEEDS AND THEIR ETHNO-BOTANICAL IMPORTANCE OF VIJAYAMANGALAM VILLAGE, ERODE DISTRICT

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### ABSTRACT

The present study deals with comprehensive list of Invasive alien plants of Vijayamangalam village, Perundurai taluk, Erode district with background information on family, habit and nativity. A total of 50 invasive alien species under 40 genera, belonging to 18 families have been recorded. While in life form analysis, the herbs (40 species) are dominant, followed by shrubs (6 species), Climber (2 species), Trees (2 species).

**Key words:** Invasive alien species, Vijayamangalam, family, nativity.

### 1. INTRODUCTION

Alien species are non-native or exotic organisms that occur outside their natural adapted ranges and dispersal potential. Many alien species support our farming and forestry systems in a big way. However, some of the alien species become invasive when they are introduced deliberately or unintentionally outside their natural habitats into new areas where they express the capability to establish, invade and out compete native species. International Union for Conservation of Nature and Natural Resources (IUCN) defines Alien Invasive Species as an alien species which becomes established in natural or seminatural ecosystems or habitat, an agent of change, and threatens native biological diversity. These invasive are widely distributed in all kinds of ecosystems throughout the world, and include all categories of living organisms. Nevertheless, plants, mammals and insects comprise the most common types of invasive alien species in terrestrial environments (Raghubanshi *et al.*, 2005). Exotic weeds cause loss of biodiversity including species extinctions and changes in hydrology and ecosystem function. Some alien or exotic weeds could affect ecosystem properties by bringing nutrient to the surface from deep in the soil, thus serving as "pumps" which keep high levels of essential nutrients in circulation.

Many agriculturists have recognized that weeds despite their nuisance value do at times serve some useful purpose. Weeds often provide a protective cover against surface washing and run off. Moreover weeds are frequently used in the form of mulch around cultivated plants. Some antibiotics, as well as bio pesticides have been extracted from weeds. Apart from this many weeds are used as

high poison, green manures and pollution indicators.

Weeds are comprised of the more aggressive, troublesome and undesirable elements of the World's vegetation. More than 80% of the developing world continues to rely on traditional medicines predominantly plants, for primary healthcare. The global demand for herbal medicine is not only large, but also growing. The market for *Ayurvedic* medicine is estimated to be expanding at 20% annually in India (Jeeva *et al.*, 2006).

### 2. METHODOLOGY

#### 2.1. Study area

The study area Vijayamangalam village located in Perundurai taluk under Erode district. The major occupation of the peoples is agriculture and Hand loom weaving. Erode experiences hot and dry weather throughout the year. The temperature ranges from a maximum of 96°F (36°C) to a minimum of 80°F (27°C)

Field trips were made during the study period 2012- 2013. The entire area was covered at different seasons. Specimens collected from the study area were identified carefully using the Flora of the Presidency of Madras by **J.S. Gamble & C.E.C. Fischer** (1915- 1935), Flora of TamilNadu Carnatic by K.M.Mathew, (1983). Identity of the plants was confirmed after critical studies with reference to authentic materials available in the Herbarium of The Botanical Survey of India, Southern circle, Coimbatore (MH) and Herbarium of Kongunadu Arts and Science College, (KASCH).

### 3. RESULTS

The weeds, which are best known and most highly regarded in traditional medicine, are enumerated with botanical name, local name (in Tamil), family, medicinal uses and nativity. 50 medicinal weed species belonging to 18 families and 40 genera have been recorded (Table-1). Amaranthaceae was the dominant family with 12 species, followed by Asteraceae (7 species), Malvaceae, Caesalpinaceae, Asclepiadaceae, Convolvulaceae and Nyctanginaceae (3 species each). 5 families were represented by 2 species and 6 families represented by single species. Most of the medicinal plants are common and are growing in wild condition as weeds.

### 4. DISCUSSION

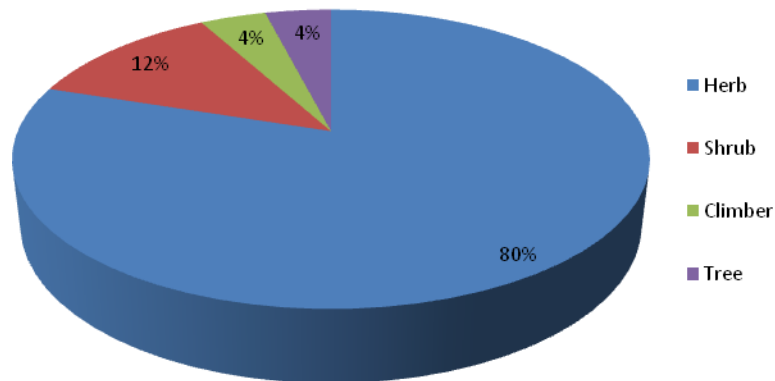
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**Invasive Alien plants in Vijayamangalam, Erode District**



**Table 1. Ethnomedicinal uses of Invasive Alien plants in Vijayamangalam, Erode District.**

S.No	Botanical name	Family	Habit	Medicinal uses	Native
1.	<i>Argemone Mexicana</i>	Papaveraceae	Herb	Latex of the plant is applied topically on the site of boils	Trop. Central & South America
2.	<i>Cleome viscosa</i>	Capparidaceae	Herb	Plant is used in various disorders such as diarrhoea, fever, inflammation, liver diseases, bronchitis, skin diseases, and malarial fever.	Trop.America
3.	<i>Gynandropsis pentaphylla</i>	Capparidaceae	Herb	The decoction of leaves is used in chronic fever. Leaves are applied to prevent the pus formation of boils. The juice of the leaves is poured into ears for earache and otalgia. The seeds paste is applied externally to expel the vermin from the hairs.	Trop.America
4.	<i>Abutilon indicum</i>	Malvaceae	Shrub	Demulcent, aphrodisiac, laxative, diuretic, sedative, astringent, expectorant, tonic, anti-inflammatory, anthelmintic, and analgesic.	Trop.America
5.	<i>Sida acuta</i>	Malvaceae	Herb	Flowers paste is given in boils and burns. Root paste is applied in snake bite. Leaf is given in gastric disorder and stomach pain	Central America
6.	<i>Malvastrum coromandelianum</i>	Malvaceae	Herb	Leaves used to clean wounds; also used for dysentery.	America
7.	<i>Tribulus terrestris</i>	Zygophyllaceae	Herb	Root is used as Urinary stones, infections.	Trop.America
8.	<i>Abrus precatories</i>	Fabaceae	climber	Skin related problems, Scratches from pet animals, Abdominal Pain To treat urinary problems. A poultice made from the roots is applied to painful swelling of joints, and an extract of the leaves is taken as a vermifuge.	Indonesia
9.	<i>Crotalaria pallida</i>	Fabaceae	Shrub	Leaf is useful in night blindness and leaf paste is used in cuts, boils, burns and as antiseptic treatment. Seed is given in stomach pain. Root is given in fever and abnormal child growth.	Africa
10.	<i>Cassia tora</i>	Caesalpinaceae	Herb	Leaves used to cure Skin diseases, Antiperiodic.	Trop. South America
11.	<i>Cassia occidentalis</i>	Caesalpinaceae	Herb		Trop. South America
12.	<i>Cassia hirsuta</i>	Caesalpinaceae	Herb	The root is pasted with cumin and taken internally to treat stomach burning after a meal.	Trop. America
13.	<i>Acacia nilotica</i>	Mimosaceae	Tree	Gargle for toothache, gum disorders, toothbrush.	Trop. America
14.	<i>Prosopis juliflora</i>	Mimosaceae	Tree	To treat eye conditions, open wounds and dermatological ailments.	Trop. America
15.	<i>Opuntia dillenii</i>	Cactaceae	Herb	Anti-diabetic, anti-inflammatory, analgesic, galactogogue, hypoglycemic, antiviral and anti-oxidant.	Trop.America
16.	<i>Passiflora foetida</i>	Passifloraceae	Herb	Decoction of fruit used for asthma and biliousness. Leaves applied to the head for headaches and giddiness.	Trop. South America
17.	<i>Acanthospermum hispidum</i>	Asteraceae	Herb	The crushed herb is used in the form of a paste to treat skin ailments and the leaf juice is reportedly used to relieve fevers.	Brazil

18.	<i>Ageratum conyzoides</i>	Asteraceae	Herb	The leaves are used in leprosy and uterine disorder, also used in killing the hairs lice. Leaf paste is applied on cuts, wounds, and burns. Leaf juice is useful skin disease and scabies disease.	Trop. America
19.	<i>Ageratum houstonianum</i>	Asteraceae	Herb	Plant juice is used externally to treat cuts and wounds.	Trop. America
20.	<i>Xanthium strumarium</i>	Asteraceae	Herb	Laxative, fattening, anthelmintic, alexiteric, tonic, digestive, antipyretic, and improves appetite, voice, complexion, and memory.	Trop. America
21.	<i>Parthenium hysterophorus</i>	Asteraceae	Herb	Flowers are useful in nasal block in cold. Leaves mixed with two or three pieces of garlicks and made into fine paste, the paste is squeezed juice put in ear to stop pus flow.	Trop. North America
22.	<i>Tridax procumbens</i>	Asteraceae	Herb	Paste of leaf is given in boils, cuts & wounds. Leaf is also useful in diarrhea, dysentery and leprosy	Trop. Central America
23.	<i>Lagascea mollis</i>	Asteraceae	Herb	Leaf paste is given in cuts and wounds. Flowers are given for ear complaints.	Trop. Central America
24.	<i>Catharanthus pusillus</i>	Apocynaceae	Herb	The whole plant is used to cure cancer and diabetic	Trop. America
25.	<i>Daemeia extensa</i>	Asclepiadaceae	Climber	Leaves can be treat diarrhea among children, intestinal worms.	Trop. America
26.	<i>Calotropis procera</i>	Asclepiadaceae	Shrub	Root is used Eczema, leprosy, elephantiasis, asthma, cough and rheumatism, To treat common diseases such as fever, rheumatism, indigestion, cold, eczema and diarrhea.	Trop. Africa
27.	<i>Calotropis gigantean</i>	Asclepiadaceae	Shrub	Latex - Arthritis. Roots - Uterine disorders.	Trop. Africa
28.	<i>Ipomea obscura</i>	Convolvulaceae	Herb	The fresh plant extract is mixed with gingely oil and is used to cure cold, asthma and dry cough.	Trop. Africa
29.	<i>Merremia aegyptia</i>	Convolvulaceae	Herb	Leaves are ground and 30 ml of the extracted juice is taken once a day till cure jaundice.	Trop. America
30.	<i>Cuscuta chinensis</i>	Convolvulaceae	Herb	The paste of plant is applied on chronic ulcer, wounds. Poultice is applied on painful inflammations.	Mediterranean
31.	<i>Datura metal</i>	Solanaceae	Shrub	The fresh leaves are boiled with gingelly oil and applied topically on joints to cure swellings	T. America
32.	<i>Martynia annua</i>	Pedaliaceae	Herb	Leaves used antiepileptic and antiseptic, itching and skin affections	T. America
33.	<i>Pedaliium murex</i>	Pedaliaceae	Herb	puerperal diseases, digestive tonics, ulcers, fevers, wounds, other ailments and general debility	Trop. America

34.	<i>Lantana camera</i>	Verbenaceae	Shrub	Leaves are used to treat cuts, rheumatism, ulcers, catarrhal infection, tetanus, rheumatism, malaria, cancer, chicken pox.	Trop. America
35.	<i>Lippia nodiflora</i>	Verbenaceae	Herb	Whole plant is used for hepatitis and against abscess. Leaves are used against anti dote for snake sting .	
36.	<i>Boerhaavia diffusa</i>	Nyctaginaceae	Herb	Whole plant is used Jaundice, eye complaint, child birth and liver complaint	Trop. America
37.	<i>Boerhaavia verticillata</i>	Nyctaginaceae	Herb	Root pieces are kept in the mouse to cure mouth ulcers.	Trop. America
38.	<i>Mirabilis jalapa</i>	Nyctaginaceae	Herb	The leaves are used to reduce inflammation. A decoction of them (mashing and boiling) is used to treat abscesses. Leaf juice may be used to treat wounds.	Peru
39.	<i>Aerva lanata</i>	Amaranthaceae	Herb	treatment of diabetes mellitus, urinary calculi, hematesis, bronchitis, nasal bleeding, cough, scorpion stings, fractures, spermatorrhea, to clear uterus after delivery and also to prevent lactation	Trop. America
40.	<i>Aerva tomentosa</i>	Amaranthaceae	Herb	The herb is used for diuretic and demulcent. Its decoction is used remove swellings.	Trop. America
41.	<i>Alternanthera paronychioides</i>	Amaranthaceae	Herb	Leaves and stem used for Urine complaints.	Trop. America
42.	<i>Alternanthera pungens</i>	Amaranthaceae	Herb	Leaf decoction used for Diuretic, decoction in gonorrhoea.	Trop. America
43.	<i>Alternanthera philoxeroides</i>	Amaranthaceae	Herb	Whole plant used for Allelopathic.	Trop. America
44.	<i>Amaranthus viridis</i>	Amaranthaceae	Herb	The paste of the root is applied on scorpion sting. It is used as a potherb for the alleviation of heat from the body. It is also supposed to be effective in kidney and gall bladder stones when used as potherb.	Trop. America
45.	<i>Digera muricata</i>	Amaranthaceae	Herb	Plant is used as potherb and reported as a laxative agent.	SW Asia
46.	<i>Alternanthera tenella</i>	Amaranthaceae	Herb	Ear problems	Trop. America
47.	<i>Celosia argentea</i>	Amaranthaceae	Herb	Seeds traditionally used for treatment of jaundice, gonorrhoea, wounds and fever.	Trop. Africa
48.	<i>Amaranthus spinosus</i>	Amaranthaceae	Herb	Leaves are also used for gastroenteritis, gall bladder inflammation, abscesses, arthritis and for the treatment of snakebites.	Trop. America
49.	<i>Achyranthes aspera</i>	Amaranthaceae	Herb	asthma, bleeding, in facilitating delivery, boils, bronchitis, cold, cough, colic, debility, dropsy, dog bite, dysentery, ear complications, headache, leucoderma, pneumonia, renal complications, scorpion bite, snake bite and skin diseases	Trop. America
50.	<i>Achyranthes bidentata</i>	Amaranthaceae	Herb	Stimulate menstruation, ease menstrual pain, relieve lower back pain, canker sores, toothache, bleeding gums, nosebleeds.	Trop. America