

On Some Alien Plant Species: Gleanings from Garuda Purana

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Abstract: While exhuming origin of exotic plants of a nation, one can find the socio-economic and sociocultural roots of the human society of the respective nation. This is particularly so in a country like India. India is highly known for cultural diversity, culinary diversity, curative diversity and ecosystem diversity. Indian epics and ancient scriptures like Puranas contain fascinating accounts of flora. The Garuda Purana, one of the 18 Puranas in India, is presently studied for its alien floral elements. As many as 24 exotic species are revealed belonging 24 genera and 17 families of angiosperms embedded in its Sanskrit verses. These are native to various parts of the Old and New Worlds. They appear introduced intentionally for various purposes or unintentionally during human trade even during pre-Columbian period. Some of these are venerated by the Indians and appropriated for socio-religious purposes. The Garuda Purana is thus a fairly rich source of socio-cultural *vis-à-vis* botanical information.

Keywords: Garuda Purana, Exotic Plants, Botany.

INTRODUCTION

Garuda Purana is primarily centered on Hindu god Vishnu. It is one of total eighteen Mahapurana genres of texts in Hinduism. It is written in Sanskrit and refers to mythology, cosmology, ethics and various aspects of nature. It is supposed to be composed sometimes in the 1st millennium of the Common Era. The first version of the text appeared only between the 4th CE and 11th Century [21]. However, it was thought likely from about 900 CE [22], and also considered likely from 800 to 1000 CE. Although so, it is certain that it is an ancient historic Puranic genre of Indian literature. The word 'Purana' itself means 'of ancient times'.

The age and origin of Puranas vary greatly and they have been added in the course of time as well. Garuda Purana especially was subjected to revisions and reductions. It is difficult to fix exactly the date as a whole of Garuda Purana [1-8]. It is called Garuda Purana because it is in the form of a dialogue between Garuda (Divine King of Birds) and Lord Vishnu. Traditionally, it is recited after a death in Hindu family till the completion of 13th day ceremony. It contains 19000 verses. It cautions the readers that they should not accrue bad 'karmas'. Present author noted some exotic plant species in the various verses, apart from indigenous ones. The exotic species known in this

ancient period form the subject matter of the present paper.

METHODOLOGY

The Sanskrit plant names included in Garuda Purana are equated with scientific plant names and their family. Their exotic nature is highlighted through relevant literary sources as cited in the Table-1. These are discussed pertinently in this communication. The literary sources such have proved helpful to have botanical equivalents of Sanskrit plant names in the Garuda Purana [9-15].

Table-1: Exotic Plants in Garuda Purana

Sl.No.	Plant Name & Family	Sanskrit Name	Nativity
1.	<i>Allium sativum</i> L. (Liliaceae)	Mahausadha, Visva	Europe, Gaikwad & Garad, 2015 Yadav & Sardesai, 2002; Patil, 2003
2.	<i>Amaranthus spinosus</i> L. (Amaranthaceae)	Tanduliya, Bela, Mahakala	America Patil, 1995
3.	<i>Borassus flabellifer</i> L. (Arecaceae)	Haritala	Tropical Africa Reddy, 2008
4.	<i>Carthamus tinctorius</i> L. (Asteraceae)	Asrk	South-West Asia Singh <i>et al.</i> , 2001 Patil, 2003, Gaikwad & Garad, 2015
5.	<i>Carum carvi</i> L. (Apiaceae)	Karavi, Ajaji, Upakuncika, Jiraka	Western Asia, Europe and North Africa Wikipedia
6.	<i>Cassia tora</i> L. (Caesalpiniaceae)	Cakramardaka, Edagaja	Tropical South America Reddy, 2008
7.	<i>Celosia cristata</i> L. (Amaranthaceae)	Madhuvasa, Murva, Tikhtavalli, Tejani	Tropical Africa Reddy, 2008
8.	<i>Cleome gynandra</i> L. (Capparidaceae)	Ghanastana, Ksudvidha, Voyasya, Kakoli, Kavari, Vira	Tropical America Reddy, 2008
9.	<i>Clitoria ternatea</i> L. (Fabaceae)	Girikarni, Amrta, Gavadani, Gavaski	Tropical America Purseglove, 1968
10.	<i>Euphorbia antiquorum</i> L. (Euphorbiaceae)	Snuhi, Guda, Vajravriksha, Mahavrksa	America Yadav & Sardesai, 2002
11.	<i>Foeniculum vulgare</i> Gaertn. (Apiaceae)	Madhurika, Misi	South Europe Gaikwad & Garad, 2015 Coats, 1956
12.	<i>Glycyrrhiza glabra</i> L. (Fabaceae)	Madhuka, Yasti	Mediterranean Region & Europe Katya <i>et al.</i> , 2014
13.	<i>Lens culinaris</i> Medic. (Fabaceae)	Kalindia, Vidali, Masuri	Western Temperate Asia DeCandolle, 1959
14.	<i>Martynia diandra</i> Coix (Martyniaceae)	Vyaghranakha	Tropical America Reddy, 2008
15.	<i>Nerium indicum</i> Mill. (Apocynaceae)	Asvamaraka, Asvari	Tropical Asia Yadav & Sardesai 2002
16.	<i>Plumbago zeylanica</i> L. (Plumbaginaceae)	Sikhi, Agni, Vahnini, Citraka	South Asia Singh <i>et al.</i> , 2017
17.	<i>Punica granatum</i> L. (Punicaceae)	Dadima, Mahapatra	South Asia, Gaikwad & Garad, 2015; Afghanistan & Persia, Patil, 2003
18.	<i>Ricinus communis</i> L. (Euphorbiaceae)	Langaka, Triputa, Amanda, Uruvika, Kalapa, Sringi	Tropical Africa Yadav & Sardesai, 2002
19.	<i>Scindapsus officinalis</i> Schott. (Araceae)	Kampilla, Trayanti, Sreyasi, Utsaya, Suvaha, Vasira	South-East Asia, New Guinea & Queensland Govaertz & Frodin, 2002
20.	<i>Sida acuta</i> Burm. (Malvaceae)	Hrivera, Udicya, Valaka	Tropical Asia Singh <i>et al.</i> , 2017
21.	<i>Tabernaemontana divaricata</i> (L.) R.Br.; <i>T. coronaria</i> (Jacq.) Willd. (Apocynaceae)	Kalanasa, Nata Snayu	South Asia Singh <i>et al.</i> , 2017
22.	<i>Tribulus lanuginosus</i> L. (Zygophyllaceae)	Goksura, Svadamistra	Tropical America Reddy, 2008
23.	<i>Vitis vinifera</i> L. (Vitaceae)	Draksa, Gostanika	South-East Europe to West Indies Singh & Karthikeyan, 2000; West Asia ; Gaikwad & Garad, 2015
24.	<i>Xanthium indicum</i> (Asteraceae)	Sukumari, Aksipiluka, Samkhini	Tropical America Reddy, 2008

RESULTS AND DISCUSSION

Science of plants has been studied from the viewpoints viz., first, philosophical and secondly utilitarian. The former emphasizes identification of plant species, while the latter is concerned with man-plant relationships, both concrete and abstract relationships. Plant science is studied by both, the botanists and anthropologists. The latter, however, focused more on cultural aspects of plants and give cursory treatment to the scientific aspects of plants. It appears that the science of ethnobotany necessarily and obviously included all aspects of plants and human life. Ancient literature was not the priority of many investigators in last few decades. However, of late, it is being studied rigorously. The present author is concentrating upon how plants fit into the lives of indigenous people. The present communication is line with the same. Ancient scriptures are rich sources of information about nature. The Garuda Purana, an ancient Sanskrit religious script, is prevalent in Hinduism. It mentions many plant species in its verses. The plant names are sanskritised. Plants are both, indigenous as well as exotic. The latter are being highlighted and discussed pertinently in this paper.

This inventory for exotic plant species as gleaned from various verses of Garuda Purana recorded total 24 taxa. They belong to 24 species, 24 genera and 17 families of angiosperms. Habitual categorization of these is as such: herbs (14), shrubs (04), climbers and lianas (03), trees (02) and geophytes (01). The figures in parenthesis stand for number of species. Herbaceous floral elements constitute a major segment of the exotics. Out of total 24 species, exclusively cultivated ones are 14 species. They must have been introduced in the then Indian subcontinent for their edible, medicinal and miscellaneous utilities. Being cultivars, they are obviously under human control. There are eight species found exclusively in wild. At the same, two taxa viz., *Clitoria ternatea* and *Borassus flabellifer* and found under cultivation and also run wild in the present time. The ancient Indians have had fair contacts with other parts of the world as indicated by their nativity recorded in the Table-I. Various parts of the Old and New Worlds are represented by these exotic species even in modern period. Exotic floral elements came from various parts of American continent are maximum (09 species). The Garuda Purana antedates 10th Century AD and hence it can be easily concluded that these plant species were brought intentionally for cultivation or negligently by the ancient Indians. The period of their introduction in India is obviously pre-Columbian. India is a part of Asian continent, and hence fair number of exotic species (07) is hailed from other adjacent part of Asia. In descending order, various parts of Europe and Africa contributed to exotic elements in Indian Territory by 05 and 04 species respectively. Other parts of the world such as West Indies, Queensland, New Guinea and Mediterranean Region provided a single exotic species each.

It appears relevant to recall the 'Vedic Doctrine' which states that 'good practices, products and resources, should be welcomed and absorbed from all sides without discrimination. Introduction and utilization of several exotic plant species by the Indians clearly indicate the follow-up of the same doctrine. They are not accepted only for material culture. They are venerated by the Indian communities e.g. (i) flowers of *Nerium indicum* are sacred to Kanbai, a local deity in Khandesh (Maharashtra), (ii) stem axes of *Ricinus communis* are used at the time of Holi festival, (iii) fruits of *Punica granatum* and *Vitis vinifera* used in worships and ceremonies, etc. Numerous examples of this kind have been recorded by the Indian ethnobotanists. Exotic species of *Datura*, *Zea*, *Annona*, *Ananas*, *Anacardium*, *Capsicum*, *Helianthus* etc. have been appropriated for religious and socio-economic purposes, besides their depiction on temples and caves [16-20]. In recent times, some of the exotic plant species have been found troublesome e.g. *Xanthium indicum*, *Amaranthus spinosus*, *Cassia tora*, etc. which dominated in Indian continents and aid in depleting native species, reducing useful bio resources and fertile crop lands. Thus the exotic plant species which reached Indian Territory are both, boon and bane.

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