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RESEARCH ARTICLE

Plants Seem *Prima Facie* Indian but Alien In Origin : A Nomenclatural Chaos

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ABSTRACT

The alien species, as the native ones, are assigned two names. These are based on choice of nomenclaturist. The nominclaturists are preforce been forced to adapt the scientific names in accordance with the rules and principles of ICN (International Code of Nomenclature) for uniformity and convenience internationally. The present authors could notice some plant taxa which by their names and on etymological analysis, *prima facie*, appear to be Indian species. The fact is, however, contrary. When select 26 such species were studied critically for their nativity consulting relevant literature, they turned out to be aliens. Maximum alien species belong to various parts of American continent, while other regions or countries are represented by a few or a single species each. The taxa which appear to be Indian but basically they are aliens, a new term 'pseudo-native' for them is proposed. The authors also pointed out necessity to have evaluation regarding exotic status of species of flora of a region for better management of plant-wealth in future.

Keywords: Alien Plants, Pseudo-native, India.

INTRODUCTION

Flora of a region consists of native as well as some alien species from other regions introduced deliberately or invaded accidently or even by natural means of plant dispersal forces. Some of these become naturalized and a few may die out quickly due to adverse conditions in the new habitat. The latter are called 'casuals'. The ratio of aliens differ a greatly in different floras depending upon the rate of biotic interference caused by mankind. These aliens are called 'anthropochores'. As far as India is considered, the Indian landmass has been analysed and reported for plant invasion (Maheshwari, 1960, 1979; Nayar, 1977; Reddy, 2008, etc.) Researches on this line are underway and revealing a state of the art regionally. The literature survey indicated that some species names of aliens have been coined based on root-words of Indian origin. Such alien species seem to be indigenous to India, but on closer examination of their status, some of them turned out to be truly non-native. Some such cases are brought under clearer focus in this communication.

METHODOLOGY ADAPTED

Many floristic accounts published by Indian workers and their publications on alien elements have been critically examined. The relevant taxonomic literature pertaining to all aliens is also consulted to decipher their alien status. The literary sources are as those provided for each species under systematic enumeration. The bases or root-words are analysed and such taxa are discussed relevantly.

SYSTEMATIC ENUMERATION

(I) Named After Local Names:

(a) *Arerrhoa bilimbi* L. (Averhoceae):

Bilimbi: A malayan local name (Patil, 2007; Manilal, 1980).

Nativity: Tropical America (Singh *et al*., 2000; Yadav & Sardesai, 2002).

(b) *Averrhoa carambola* L. (Averrhoaceae):

Karmabala: A Marathi native name (Patil, 2007).

Karamaranga: A Sanskrit name (Patil, 2007).

Nativity: Tropical America (Gaikwad & Garad, 2015).

(c) *Euphorbia tirucalli* L. (Euphorbiaceae):

Tiru Kalli: A Malayan name (Manilal, 1980; Patil, 2006).

Nativity: Africa (Bailey, 1928; Benthall, 1946).

(d) *Piper betle* L. (Piperaceae):

Betla codi: A Malayan name (Manilal, 1980; Patil, 2006).

Nativity: Bali & East Indies (Graf, 1980).

(II) Names Based on India:

(a) *Canna indica* L. (Cannaceae):

Nativity: Tropical America (Yadav & Sardesai, 2002; Gaikwad & Garad, 2015).

(b) *Lagerstromia indica* L. (Lythraceae):

Nativity: China (Shetty & Singh, 1987; Singh *et al*., 2001).

(c) *Quisqualis indica* L. (Combretaceae):

Nativity:

(i) Tropical Asia (Yadav & Sardesai, 2002).

(ii) Java & Malay Peninsula (Shetty & Singh, 1987).

(iii) Burma, Malaya, New Guinea & Philippines (Bailey, 1949; Shetty & Singh, 1987; Patil, 1995).

(d) *Lantana indica* Roxb. (Verbenaceae):

Nativity: Tropical America (Bailey, 1949; Naik, 1998).

(e) *Sporobolus indicus* (L.) R.Br. (Poaceae):

Nativity: Austro-Asian (Naik, 1998).

(f) *Waltheria indica* L. (Sterculiaceae):

Nativity : Tropical America (Veerasamy & Arumugan, 2014; Chandra Sekar, 2012; Reddy, 2008).

(g) *Xanthium indicum* Koenig (Asteraceae):

Nativity: Tropical South America (Srivastava, 1964; Patil, 2003; Chandra Sekar, 2012; Reddy, 2000; Singh *et al*., 2010)

(h) *Nerium indicum* Mill. (Apocynceae):

Nativity:

(i) Mediterranean Region (Purseglove, 1968; Singh *et al*., 1991).

(ii) China & Cochin China (Voight, 1845).

(i) *Goniocaulon indicum* (Klein ex Willd.) C.B.Cl. (Asteraceae):

Nativity: America (Singh *et al*., 1991; Srivastava, 1964; Rajagopal & Panigrahi, 1965).

(j) *Ipomoea indica* (Burm.*f*.) Merr. (Covolvulaceae):

Nativity: Tropical America (Singh *et al*., 2001).

(k) *Fumaria indica* (Haussk.) Pugsley (Fumariaceae):

Nativity: Pakistan & Afghanistan (Negi & Hajra, 2007).

(l) *Melilotus indica* (L.) All. (Papilionaceae):

Nativity: South Europe & Eurasia (Medakker & Sharma, 2016).

(m) *Tamarindus indica* (Caesalpiniaceae):

Nativity: Tropical Africa (Singh & Nigam, 2017; Purseglove, 1968; Benthall, 1946).

(n) *Alocasia indica* Schott. (Araceae):

Nativity: Malaya (Bailey, 1949).

(o) *Chrysanthemum indicum* L. (Asteraceae):

Nativity: China & Japan (Bailey, 1949; Purseglove, 1968).

(III) Names Based on City or Towns

(a) *Grangea maderaspatana* (L.) Poir, (Asteraceae):

Nativity: Tropical & South America (Chandra Sekar, 2012; Patil, 1990, 2017; Reddy, 2008).

(b) *Oxalis dehradunensis* Raiz. (Oxalidaceae):

Nativity:

(i) Mexico (Naik, 1998; Matthew, 1969).

(ii) Mexico & West Indies (Backer & Brink, 1963).

(iii) Tropical America (Rajagopal & Panigrahi, 1965).

(IV) Names Based on Geographical Regions or Locality:

(a) *Lannea coromandalica* (Houtt.) Merr. (Anacardiaceae):

Nativity: Myanmar (Medakkar & Sharma, 2016).

(b) *Malvastrum coromandelianum* (L.) Garcke (Malvaceae):

Nativity: Tropical America (Chandra Sekar, 2012; Singh *et al*., 2010).

(c) *Commelina benghalensis* L. (Commelinaceae):

Nativity: Southern Africa (Singh & Das, 2015).

(V) Names After Rivers:

(a) *Merremia gangetica* (L.) Cufod (Convolvulaceae):

Nativity:

(i) Tropical Africa (Rajagopal & Panigrahi, 1965).

(ii) Tropical America (Medakkar & Sharma, 2016).

RESULTS AND DISCUSSION

Alien taxa of a region become important for research since: (i) they will lead to false results in floristic analysis if their nativity or origin is not revealed, (ii) they will be miss-identified and lead to erroneously documented experimental and observational results if their presence remains undetected, (iii) aliens often hybridize with native species and in some causes new successful amphidiploids may results (iv) they have usually ecological consequences in natural vegetation and even in cultivated areas. At this backdrop, proper identification and evolution of alien species is an essential for scientific management of natural wealth in a region.

Total 26 select species belonging to 25 genera and 21 families of angiosperms are accounted presently. Of these, 12 alien species are fund under cultivation for various human needs, whereas 14 aliens and naturalized in different parts of India. Their habital categories are as such: trees (06), herbs (16), shrubs (02) and climbers (02). The figures in parenthesis stand for number of alien species. When analyzed for original home, they belonged to different continents, geographical regions or countries such as: (i) various parts of American continent (11), (ii) Africa (03) and (iii) China (03). Other regions or countries are Burma, Malaya, New Guinea, Philippines, East Indies, West Indies, Pakistan and Afghanistan, Japan, Myanmar, Europe and Eurasia, Austro-Asian and Mediterranean region with a single species representation in India.

The present authors analysed etymologically the specific epithets of these select 26 taxa. This analysis indicated that they are based on root-words which are Indian in origin belonging to: local plant names in India, names of country (India), city or towns, geographical region or locality and river in India. Although these seem to be of Indian origin (etymologically), their original homes are pointed out above after consulting taxonomic and floristic literary sources mentioned against each species. We know, botanists have to follow the rules and principles of ICN (International Code of Noenclature). These taxa under consideration, therefore, have been assigned these scientific names. They are not native of India but seem to be so. It is, therefore, such alien taxa may be termed as 'pseudo-native', a term not used before in botanical literature. This term can be defined as: When scientific plant name seems etymologically belonging to a particular region but truly alien, may be called 'pseudo-native'.

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