

Biodiversity of ayurvedic cosmetic plants of Bangalore urban

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ABSTRACT

Since the beginning and after civilisation, human population is mainly dependent on plant and plant products for food, shelter and medicine. In 16th century modern civilised humans started following tribal's traditional knowledge on cosmetics utilisation in certain special occasions prepared from plant products such as Turmeric, Sandalwood, Aromatic leaves and flowers as perfumes and natural deodorants to have aesthetic external body appearance. Ayurveda as an Indian traditional literature reveals the use of commonly available medicinal plant products in skin glowing creams, hair dye, perfumes and medicated oils in the formulation of natural cosmetics for beautification of women. The younger generation are more focussed towards beauty by using branded synthetic products for the complete nourishment of body. The present study reveals that the younger population is gradually shifting towards herbal cosmetic products prepared by following traditionally used genuine medicinal plants with their unique chemical components, which are more convenient, eco-friendly and no side effect. A total of 105 plants were used in various herbal cosmetic preparations and of these 81 were mentioned in the Ayurvedic formulations. The present study deals with 43 Ayurvedic Medicinal plants used in cosmetics which are commonly available in Bangalore urban.

Keywords: Biodiversity, Ayurveda, Cosmetics, Plants, Bangalore.

1. INTRODUCTION

Earth is having great potentiality for existence of plants which can be utilised for the fulfilment of basic requirements of life forms. The history of cosmetics envisages more traditional methods of beautification of an individual to have virtuous beauty from young to older generation of the world. The resources of cosmetic plants need ideal documentation and awareness of knowledge of herbal products preparation. The commonly available plants grown in the surroundings can be utilised for simple preparations of cosmetics. Transformation of traditional knowledge and conservation of resources of cosmetic plants can be utilised for the forthcoming generation. It is a feasible way of obtaining genuine plant parts for the preparation of herbal cosmetics. Recently, a resolute record from cosmetics industries competing to release herbal products with new brand names to have increased economic growth. Indian environment renowned for the origin and distribution of various ethnic community and natural cosmetics is obtained from numerous commonly used medicinal plants. Ayurveda system of medicine plays a major role for the valuable contribution towards the recognition and proper utilisation of medicinal plants for the preparation of herbal cosmetics for the enhancement and maintenance of natural beauty by following traditional homemade herbal cosmetics to prevent side effects.

This complete research work throws sparkle on the occurrence and utilisation of resources of cosmetic plants for the well being of human beings. The documentation, identification and enrichment of resources of cosmetic plant species will be used for present generation to legitimate the ancient traditional knowledge of Ayurvedic cosmetic preparation traced in the literature and age old generation of Bangalore urban.

Study area

The study area located between 12°58'N and 77°34'E of southeast of the Deccan plateau at an elevation of 900 m. Geographically, the urban area covers 286 sq. km and most of the popular areas found in the Bangalore urban and exterior neighbour areas were located in Bangalore rural districts. The complete urban area is flat enclosed with red, fine loamy and clay soil. The climate of the city is moderate, wet and dry tropical climate due to higher elevation. The average temperature of the area is 15.4 °C and highest temperature is about 38.9 °C. The entire city recorded 179 mm of annual rainfall. As there is no rivers flow in the city, the urban populace is mainly dependent on the rivers Kaveri and Arkavathy for domestic purposes.

The entire Bangalore urban area is globally identified as garden city for the existing moderate climate favours dry deciduous canopy sort of vegetation. Some historical public gardens such as Lalbagh, Cubbon park and Bannerghatta national park offers wider distribution and acclimatisation of common and rare resources of cosmetic plant species biodiversity for ornamental, economic and conservation purpose. Since independence traditional households have the practice of commonly available plant species in the terrace and kitchen gardens. Presently, Bangalore urban area is occupies with neighbouring districts, states and non-domicile people from young and older generations mainly dependent on different profession and business. The lifestyle of this area is completely varied due to the occurrence of assort cultured people.

2. MATERIALS AND METHODS

Documentation of resources of cosmetic of plants

Documentation of resources of cosmetic plants have been carried out by floristic survey in various B.B.M.P maintained public parks, gardens, avenues, residential areas and herbal cosmetic markets of Bangalore urban to gather the data of resources of cosmetic plant species with botanical name, family, habit, plant parts used and mode of utilisation and therapeutic values by interviewing housewives, age olds and herbal cosmetic marketing people of Bangalore urban.

Data processing and authentication

The resources of cosmetic plant species were observed and identified by utilising available provincial floras and comparative studies with Ayurveda literatures such as Ramaswamy and Razi 1973, Sharma *et al.* 1984, Yoganarasimhan 1996, Anonymous 2000, Anonymous 2003, Rao and Shayeda 2012, Sachs 1995, Prasad 2009 and Gurudev 2001.

3. RESULTS AND DISCUSSION

The study of Ayurvedic cosmetic plants of Bangalore urban revealed the botanical name, family, habit, plant parts used, mode of utilisation and therapeutic values of 43 plants observed in the study area of 81 Ayurvedic medicinal plants of 105 herbal cosmetic plants (Table No. 1). These plants were distributed in Bangalore urban areas such as public parks, avenues and kitchen gardens (Figure 1). The Bangalore urban area revealed unique occurrence of different community people, culture, traditional practice and utilisation of resources of cosmetic plant species. The documentation of resources of cosmetic plant species is very essential to identify the commonly available plants sources for enhancement of quality of life observed in the neighbour areas to have balanced economic growth of an individual. The moderate climate of Bangalore urban favours varied occurrence, distribution and acclimatisation of resources of cosmetic plants species can be identified, prepared and utilised as herbal cosmetics for less expenditure. Conservation of traditional knowledge and utilisation of resources of cosmetic plants requires proper awareness for extended research to trace the new resource plants for the production of new cosmetic products for the present and future generation.

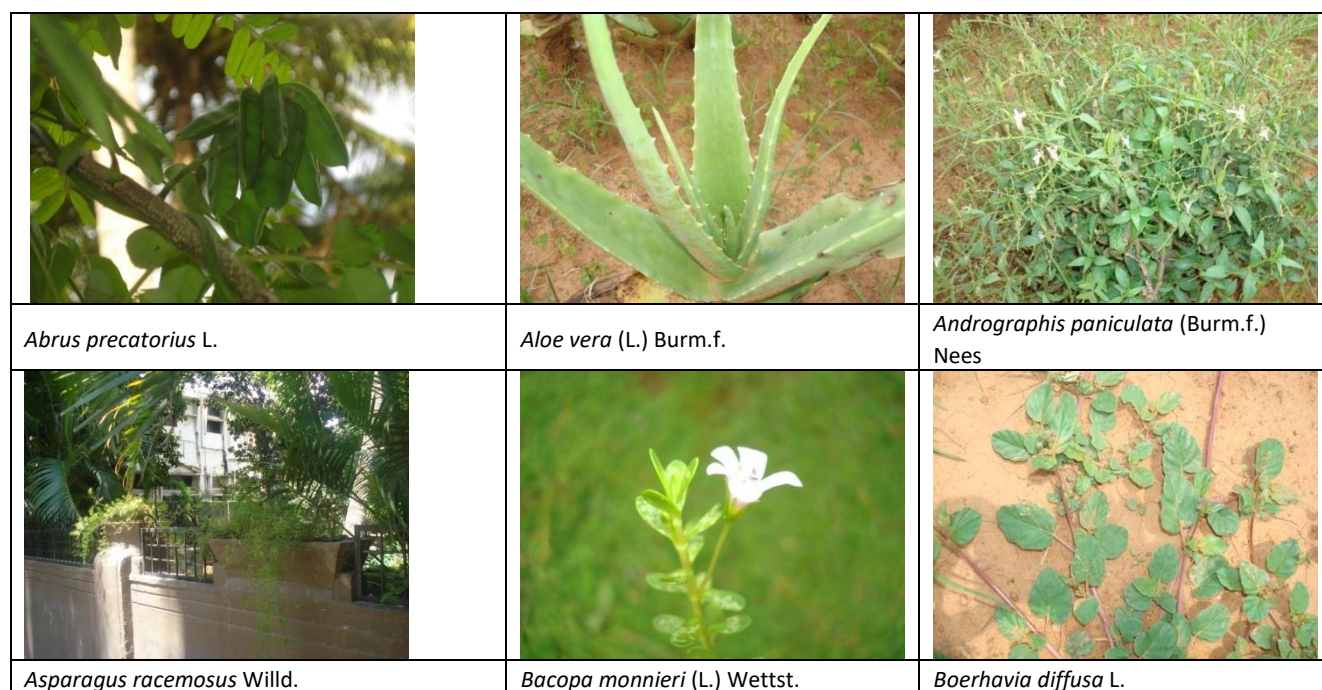
Table 1










Commonly used resources of Cosmetic plants of Bangalore urban

Sl. No	Botanical name	Family	Habit	Part used	Mode of utilisation	Therapeutic value
1.	<i>Abrus precatorius</i> L.	Fabaceae	Climber	Seed	Hair vitaliser	Dandruff
2.	<i>Acacia nilotica</i> (L.) Delile.	Mimosaceae	Tree	Stem bark	Cream	Stretch marks
3.	<i>Acorus calamus</i> L.	Araceae	Herb	Rhizome	Cream	Black heads
4.	<i>Aegle marmelos</i> (L.) Correa	Rutaceae	Tree	Fruit pulp	Bathing powder	Skin disorders
5.	<i>Aloe vera</i> (L.) Burm.f.	Liliaceae	Herb	Leaf juice	Gel	Pimples
6.	<i>Andrographis paniculata</i> (Burm.f.) Nees	Acanthaceae	Herb	Whole plant	Tablet	Acute dermatitis
7.	<i>Asparagus racemosus</i> Willd.	Liliaceae	Shrub	Root	Capsule	Black heads
8.	<i>Azadirachta indica</i> A. Juss	Meliaceae	Tree	Leaf	Capsule	Skin eruption
9.	<i>Bacopa monnieri</i> (L.) Wettst.	Scrophulariaceae	Herb	Whole plant	Hair oil	Alopecia
10.	<i>Boerhavia diffusa</i> L.	Nyctaginaceae	Herb	Whole plant	Hair oil	Premature greying of hair
11.	<i>Centella asiatica</i> (L.) Urb.	Apiaceae	Herb	Whole plant	Capsule	Acne
12.	<i>Clitoria ternatea</i> L.	Fabaceae	Climber	Root	Hair oil	Dandruff
13.	<i>Cocos nucifera</i> L.	Arecaceae	Tree	Endosperm	Hair oil	Premature greying of hair
14.	<i>Coriandrum sativum</i> L.	Apiaceae	Herb	Fruit	Face pack	Black spots
15.	<i>Cucumis sativus</i> L.	Cucurbitaceae	Climber	Seed	Cream	Post-acne spots
16.	<i>Curcuma longa</i> L.	Zingiberaceae	Herb	Rhizome	Capsule	Pimple
17.	<i>Cyperus rotundus</i> L.	Cyperaceae	Herb	Rhizome	Bathing powder	Body odour
18.	<i>Datura metel</i> L.	Solanaceae	Shrub	Seed	Hair vitaliser	Flacky dandruff
19.	<i>Eclipta prostrata</i> (L.) L.	Asteraceae	Herb	Whole plant	Capsule	Depigmentation
20.	<i>Ficus religiosa</i> L.	Moraceae	Tree	Bark	Wrinkle free cream	Wrinkles
21.	<i>Hemidesmus indicus</i> (L.) R. Br.ex Schult.	Asclepiadaceae	Climber	Root	Tablet	Skin rashes
22.	<i>Hibiscus rosa - sinensis</i> L.	Malvaceae	Shrub	Flower	Hair astringent	Astringent
23.	<i>Indigofera tinctoria</i> L.	Fabaceae	Herb	Root	Ointment	Hypopigmentary disorders
24.	<i>Lawsonia inermis</i> L.	Lythraceae	Shrub	Leaf	Hair oil	Long and thick hair
25.	<i>Mentha arvensis</i> L.	Lamiaceae	Herb	Leaf	Hair oil	Dandruff
26.	<i>Moringa oleifera</i> Lam.	Moringaceae	Tree	Leaf	Tablet	Skin rashes
27.	<i>Ocimum tenuiflorum</i> L.	Lamiaceae	Herb	Leaf	Capsule	Allergic eczema
28.	<i>Phyllanthus emblica</i> L.	Euphorbiaceae	Tree	Fruit pulp	Capsule	Acne
29.	<i>Piper longum</i> L.	Piperaceae	Herb	Stem	Cream	Acne
30.	<i>Plumbago zeylanica</i> L.	Plumbaginaceae	Herb	Root	Soap	Skin disorders
31.	<i>Pongamia pinnata</i> (L.) Pierre	Fabaceae	Tree	Root	Oil	Dandruff

32.	<i>Ricinus communis</i> L.	Euphorbiaceae	Shrub	Root	Ointment	White patches
33.	<i>Rosa damascena</i> Mill.	Rosaceae	Shrub	Flower bud	Gel	Pimples
34.	<i>Santalum album</i> L.	Santalacaeae	Tree	Heart wood	Cream	Blemishing skin
35.	<i>Saraca asoca</i> (Roxb.) Willd.	Caesalpiniaceae	Tree	Stem bark	Syrup	Acne
36.	<i>Senna auriculata</i> (L.) Roxb.	Caesalpiniaceae	Shrub	Flower	Liquid hand wash	Dermatitis
37.	<i>Sesamum indicum</i> L.	Pedaliaceae	Herb	Seed	Hair oil	Hair loss
38.	<i>Terminalia arjuna</i> (Roxb.ex DC.) Wight & Arn.	Combretaceae	Tree	Stem bark	Powder	Acne
39.	<i>Terminalia bellirica</i> (Gaertn) Roxb.	Combretaceae	Tree	Fruit	Hair oil	Dandruff
40.	<i>Terminalia chebula</i> Retz.	Combretaceae	Tree	Fruit	Hair oil	Itching scalp
41.	<i>Tinospora cordifolia</i> (Willd.) Miers	Menispermaceae	Climber	Stem bark	Hair oil	Premature greying of hair
42.	<i>Trigonella foenum-graceum</i> L.	Fabaceae	Herb	Seed	Cream	Acne
43.	<i>Withania somnifera</i> (L.) Dunal	Solanaceae	Shrub	Root	Cream	Hypopigmentory disorders

Figure 1
Ayurvedic cosmetic plants of Bangalore urban



		
<i>Centella asiatica</i> (L.) Urb.	<i>Clitoria ternatea</i> L.	<i>Datura metel</i> L.
		
<i>Eclipta prostrata</i> (L.) L.	<i>Ocimum tenuiflorum</i> L.	<i>Piper longum</i> L.
		
<i>Plumbago zeylanica</i> L.	<i>Terminalia bellirica</i> (Gaertn) Roxb.	<i>Withania somnifera</i> (L.) Dunal

4. CONCLUSION

Ayurveda system of medicine is originated and considered as a genuine traditional system from ancient period. This system mainly requires plant based main and additional ingredients other than synthetic chemical molecules in the form of fillers, adhesives, excipients and flavours. Some medicinal plant parts can be directly utilised as natural preservatives to prevent utilisation of adulterants. Prevention of synthetic cosmetics products may favours good health of an individual. The self, simple and traditional methods of cosmetic preparations reduce side effects; it transforms the traditional knowledge from elder to younger generation. The neighbouring commonly available medicinal plants can be selected for the preparation of herbal cosmetics to conserve rare and endemic medicinal plants diversity.

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REFERENCES

1. Anonymous. The Ayurvedic Formulary of India. Second English edition, Part I, New Delhi. Govt. of India, Ministry of Health and Family Welfare, Dept. of Ayush, 2003, pp.488.
2. Anonymus. The Ayurvedic Formulary of India, First English edition, Part II, New Delhi, Govt. of India, Ministry of Health and Family Welfare, Dept. of Ayush, 2000, pp.425.
3. S.V. Ramaswamy and B.A.Razi. Flora of Bangalore district. Mysore. Prasaranga, University of Mysore, 1973, pp. 739.
4. B.D. Sharma, N.P. Singh, R.S. Raghavan and U.R. Deshpande. Flora of Karnataka analysis. Flora of India, Series – 2, Botanical Survey of India, New Delhi, 1984, pp.394.
5. S.N. Yoganarasimhan, Medicinal Plants of India, Karnataka, Vol-I, Dehradun. Interline Publishing Private Limited, 1996, pp.645.
6. M.Y. Rao and Shayeda. Cosmeceuticals. PharmaMed Press, Hyderabad, 2012.pp.423.
7. M. Sachs. Ayurvedic Beauty Care – Ageless techniques to invoke natural beauty, First Indian edition, New Delhi, Motilal Banarsidass Publishers Private Limited, 1995, pp.279.
8. S. Prasad. All about Ayurveda today-Ayurvedic drug index, Ayurvedline, Bangalore, Brilliant printers, 2009, pp.660
9. M.R. Gurudev, Botanical and Vernacular names of South Indian Plants. Bangalore, Divyaprakashana, 2001, pp.1000.

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