WORLD JOURNAL OF PHARMACEUTICAL RESEARCH
SJIF Impact Factor 8.074
Volume 7, Issue 7, 191-195. Conference Article ISSN 2277– 7105

TRADITIONAL DRUG DEVELOPMENT OF MEDICINAL AND AROMATIC PLANT OF ASTERACEAE IN NILGIRI DISTRICT, TAMIL NADU

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Article Received on
13 Feb. 2018,

Revised on 05 March 2018,
Accepted on 26 March 2018,

DOI: 10.20959/wjpr20187-11601

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ABSTRACT

The Nilgiri hills are situated in the Western Ghats of Peninsular India. Asteraceae is one of the largest families having medicinal and aromatic plants in Nilgiris. There are annual, biennial or perennial herbs, under shrubs, shrubs. This paper includes the database on various aspects of medicinal plants of the family Asteraceae. The Asteraceae plants are also used to traditional drug development. In the present study, a total number of 42 medicinal and aromatic plants belonging to 36 genera. The database on various aspects include species richness, medicinal uses and altitude of different species which comprises wild species and domesticated ones. Many species have been grown in homesteads and become part of traditional home remedies. A limited number of species are commercially cultivated though a few more have potential for large-scale production like *Chrysanthimum parthenium* (L.) Pers., *Cynara scolymus* L., *Matricaria chamomilla* L., *Helianthus annus* L., *Tagestus erecta* L.

KEYWORDS: Aromatic, Asteraceae, Medicinal plants, Nilgiris, Western Ghats.

INTRODUCTION

India is one of the 17 mega biodiversity centers on the earth due to the presence of highly varied edaphic and climatic region (Meyers *et al.*, 2000). Nilgiri Hills are situated in the Western Ghats of India. The Nilgiri Hills means blue hills (Neelam- blue and Giri- hill or

mountain) is one of the most spectacular natural mountains ranges in South India; the Nilgiris are situated at the confluence of the Western and Eastern Ghats as the Sahayadri Hills, comes under Nilgiri Biosphere Reserve. Western Ghats of India, one of the eight hottest hot spots of the world is known for its rich biodiversity. Tamil Nadu is situated in Southern end of India, east of Kerala and north of Andhra Pradesh and Karnataka. Several folds or parts of Western Ghats separate the states of Tamil Nadu and Kerala. Asteraceae is one of the largest families having medicinal and aromatic plants in Nilgiris. These plant species are basic element of the ethno-botanical and conventional health care system.

The name Asteraceae is derived from the term Aster means *composite* and refers to the characteristic inflorescence – have flower heads composed of many small flowers, called florets, and are surrounded by bracts (Moreira & Munoz, 2007). The Asteraceae (=Compositae) is the richest vascular plant family in the world, with 1600–1700 genera and 24,000–30,000 species. They are easily distinguished by the florets grouped in capitula, and the fruit a cypsela often with a pappus. Asteraceae comprises almost every life-form: herbs, succulents, lianas, epiphytes, shrubs, trees, and they reach every environment and continent, except Antarctica (Funk *et al*., 2005). In Indian traditional medicine, herbs are used as an integral part. Besides healthcare, herbs are also used for beautification of the body and for preparation of various cosmetics and colours. Though synthetic chemical compounds have replaced many Ayurvedic plant products, the quality, safety and efficacy of natural products could be find suitable match to health care management system, Sharma *et. al*., (2003).

Nilgiri district represented by of 42 plant species of the Asteraceae belongings to 36 genera, which are being used by the local people from time immemorial in traditional health care system. They have very vast and important knowledge about many plants and their uses in traditional system of medicine. However, the information about this valuable resource is scattered and even some of these resources are at the verge of extinction. Therefore, the present work is an effort towards the compilation and documentation of medicinal plants resources of Nilgiri District. Herbal medicine has been widely practiced from time immemorial to the present day, all over much more attention than allopathic drugs because of their without side effects, adverse cost efficacies throughout the world. Herbal drugs obtained from plants are believed to be much safer in the treatment of various diseases (Ayyanar and Ignacimuthu, 2005).

MATERIALS AND METHODS

The present study was carried out in selected areas of Nilgiris. Field trips were made to study every month, throughout the year (September 2016-August 2017). The voucher specimens for each species were collected and identified with the help of "Flora of the Presidency of Madras" (Gamble, 1935), The Flora of the South Indian Hill Station (Fyson , 1915), The Flora of Tamil Nadu and Carnatic (Mathew,1969), Studies on the flora of Nilgiris (Sharma *et.al*., 1977) Useful plants of India CSIR, New Delhi.(Anonymous, 1986). Herbaceous flora of Dehradun CSIR, New Delhi (Babu, 1977) and Indian Biodiversity portal was also used to easy identification and confirmation. The present data in the current paper is based on the Questionnaire method on the utility of the plants in selected areas (Marappalam,Coonoor, Aruvankadu, Ooty, Doddabetta, Kalhatty, Masinagudi, Segur, Gudalur, Nadugani, Naduvattum, Pykara, Emerald and Avalanchi) by the authors. Description of the species stated with correct name, synonym, habit, vernacular name (local dialect), Hindi, Tamil, Sanskrit, English names, uses, altitudinal range, flowering and fruiting time and subsequent author citations. The main objective of the study was to create the database on traditional drug development of medicinal and aromatic plants of Asteraceae family from Nilgiri district. So that it could provide necessary information about the present status of medicinal and aromatic plants of the family**.**

RESULT AND DISSCUSSION

Asteraceae family is very interesting to the taxonomist due to its great diversity of habit, habitat, morphology and histology of vegetative and reproductive structures (Bremer., 1994, Takhajan., 1997) as many species of the Asteraceae are important medicinal plants. Heywood *et al*., 1977 reported on Asteraceae plants are array of chemical weapons.

Medicinal and aromatic plant species are widely spread due to a variety of climatic factors and altitudinal variations coupled with varied environmental habitats. The ethnic population of Nilgiris has a very long tradition of close relationship with the wild plants. The indigenous knowledge is positively associated with the uses of plants in the isolated village and not in the village with less dependence on forest resources. In general, wild edible plants of the Nilgiri Hills have been largely neglected; despite its nutritional importance has indicated by the frequent findings is them as rare plants, including new records for region or country. Moreover, it is perceptible that these large studies (Mohanan and Balakrishnan, 1991; Prasad and Balasubramanian, 1996; Paulsamy *et al.* 2005; Prasad *et al.*, 2003; Rajasekaran *et al.*

2005; Paulsamy *et al.*2009; Paulsamy *et al.* 2010). Some of the plants in Asteraceae are medically significant and are also commonly featured in medical and photochemical journals. Many members of the family are grown as ornamental plants for their flowers.

In the present study a total number of 42 species of medicinal and aromatic plants with 36 genera of Asteraceae from Nilgiri district were reported. Among them Ageratum, Artemesia, Bidens, Blumea, Chrysanthimum, Sonchus, (2 species). Acanthospermum, Achillea, Adenostemma, Calendula, Carthamus, Centipeda, Centrantherum, Cirisium, Cosmos, Dahlia, Eclipta, Elephantopus, Emilia, Eupatorium, Galinsogo, Gnaphalium, Helianthus, Helichrysam, Lactuca, Lagera, Matricaria, siegesbeckia, Silybum, Spheranthus, Tagetus, Taraxacum, Tridax, Vernonia, Xanthium all genus are each one species. Most of the plant species (37 spp.) are herbs, some are shrubs (3 spp.) and few (2 spp.) are under shrubs. These plant species are useful in traditional and ethno-medico botany to treat different ailments such as asthma, diarrhoea, dysentery, cough, cold, inflammation, arthritis, rheumatism etc. by local occupant of the state.

REFERENCE

1. Anonymous. *The Useful Plants of India* CSIR, New Delhi, 1986.
2. Ayyanar. M and Ignacimuthu, S. Medicinal plants used by the tribals of Babu CR. *Herbaceous Flora of Dehradun* CSIR, New Delhi, 2005; 1977.
3. Bisht and Purohit, Medicinal and aromatical plants diverstiy of Asteraceae in Utrakant. Nature and Science, 2010; 121-128.
4. Bremer, K., Asteraceae; *Cladistic and Classification*. Timber Press, Porland, Oregon, 1994; 10: 295-304.
5. Funk, V.A., Bayer, R., Keeley, S., Everywhere but Antarctica: using a supertree to understand the diversity and distribution of the Compositae. In: Friis I, Balslev H (Eds.) Proceedings of a symposium on plant diversity and complexity patterns – local, regional and global dimensions, *Copenhagen,* 2005; 343-374.
6. Fyson, P.F. 1915-20. The Flora of The Nilgiri And Pulney Hill Tops. Superintendent, Government Press, Madras, 3.
7. Gamble, J.S. And Fischer, C.E.C. Flora of The Presidency Of Madras. Botanical Survey of India, Calcutta, 1935; 3.
8. Heywood, V.H., Harborne, J.B., and Turner, B. L., The Biology and Chemistery of the Compositae. I & II *Academic Press, London, U.K.,* 1977; 1: 1-20.

9. Mathew, K. M. The Exotic Flora of Kodaikanal, Palni Hills. Rec. Bot. Surv. India, 1969; 20(1): 1–241.
10. The Flora of the Tamil Nadu Carnatic. Vol. 3. The Rapinat Herbarium, St. Joseph's College, Tiruchirapalli, 1983.
11. Mohanan M and Balakrishnan NP. Endangered orchids of Nilgiri Biosphere Reserve, India. In Proceedings of the symposium on Rare, Endangered and Endemic plants of the Western Ghats. Kerala Forest Department-Wildlife Wing, Thiruvananthapuram, 1991.
12. Moreira-Muñoz, A., Conservation in a changing world: biodiversity hotspots and the distracting paradigm. *Journal of Conservation Planning*, 2007; 1: 1–6.
13. Paulsamy S, Manorama S, Padmavathy S and Umashankar C. Richness and density analysis of medicinal plants in the understorey of shola forest of the Nilgiris. *J. Non-Timber forest. Prod.*, 2005; 12(2): 65-68.
14. Paulsamy S, Senthil Kumar P, Ananda Kumar AM and Sathish Kumar P. Elaeagnus Kologa Schlecht. - An underutilized edible and endemic fruit plant in Nilgiris, the WesternGhats, *Ind. J. Natural Products Resources*, 2010; 1(2): 258-260.
15. Paulsamy S, Vijayakumar KK, Bong-Seop Kil and Senthilkumar P. Status of the Red-Listed Plant Species, *Smilax wightii* A. DC. in Nilgiri Biosphere Reserve, the Western Ghats, India. *J. Ecol. Field Biol.*, 2009; 32(4): 249-256.
16. Prasad SN and Balasubramanian P. Strategies for sustainable exploitation of ethnobotanical resources of the Nilgiri Biosphere Reserve, S. India. In: Ethnobiology in Human Welfare (Jain, S.K. Ed). Deep Publications, New Delhi, 1996; 331-333.
17. Prasad VK, Raja Gopal T and Badrinath KVS. Notes on economic importance of wild plants of Rampa--- East Godavari District, Andhra Pradesh. India. *J. Econ. Taxon. Bot.*, 2003; 27(3): 603-612.
18. Rajasekaran A, Prasad SN and Balasubramanian P. Commercial exploited medicinal plants in the Nilgiri Biosphere Reserve, *India J. Non- Timber Forest Prod.*, 2005; 12(1): 8-14.
19. Sharma Laxmikant, Agarwal Gaurav and Kumar Ashwini. Medicinal plants for skin and hair care. *I. J. Trad. Knowl*, 2003; 2(1): 62-68.
20. Takhtajan, A., Diversity and Classification of Flowering plants. *Columbia University Press, New York*, 1997.
21. Tirunelveli hills, Tamil Nadu to treat poisonous bites and skin diseases. *I. J. Trad. Knowl*, 4(3): 229-236.