

Ethnomedicine for cold and cough by the tribes of Visakhapatnam district, Andhra Pradesh

Hari Babu, M. and T.V.V. Seetharami Reddi

Department of Botany, Andhra University, Visakhapatnam 530003

Corresponding author: reddytvvs@rediffmail.com

Abstract

The paper deals with 31 species of plants covering 31 genera and 20 families used by the tribes of Visakhapatnam district, Andhra Pradesh, for curing cold and cough. Fabaceae is the dominant family with 6 species followed by Rutaceae (4 spp.) and others. Trees and herbs dominate with 10 species each followed by others. Leaf is used in maximum 11 practices followed by root (5) and others. Sixteen practices were found to be new or less known.

Key Words: Cold and Cough; Gadaba; Khond; Visakhapatnam district; Andhra Pradesh

Introduction

The tribals of Visakhapatnam district of Andhra Pradesh are using the plants in their vicinity for their daily medicinal needs and their vast knowledge has to be scrutinized and evaluated pharmacologically for the development of herbal medicines based on tribal claims. The district is situated in the north eastern part of Andhra Pradesh. The area inhabited by tribes is 6, 298 sq. km. constituting 56.4% of the total geographical area of the district. As per 2011 census, the population of Visakhapatnam district is 4,290,589 of which the tribes include 618,500 comprising 14.42 percent of the total population ranking first in the restructured Andhra Pradesh state. The predominant tribes are Bagata, Gadaba, Goudu, Khond, Konda dora, Konda kammara, Kotia, Mali, Mukha dora, Porja and Valmiki. Though ethnobotanical studies were carried out on different diseases (Banerjee 1977; Rao *et al.* 2000, 2001, 2006; Hari Babu *et al.* 2011a,b, 2014, 2020; Padal *et al.* 2013; Hari Babu & Reddi 2014, 2016, 2018) on the tribes of the district exclusive studies on cold and cough were not undertaken necessitating the present study.

Materials and Methods

The ethnomedicinal data presented here is the outcome of a series of intensive field studies conducted during 2005-2007 in 88 representative interior tribal pockets consulting 60 vaidyas. The field trips were planned in such a way to cover all seasons of a year and each trip was about 5-10 day's duration covering 4-5 pockets a day. After establishing good rapport with the tribes, the utility of plants, detail methods of uses were documented. Voucher specimens were deposited in the Herbarium of the Department of Botany, Andhra University, Visakhapatnam (AUV).

Enumeration

Plant species used to cure cold and cough are arranged alphabetically with botanical name followed by vernacular name, locality, collector, voucher specimen number, type of ailment, method, mode and duration of treatment. The newly reported practices are marked with an asterisk (*).

***Abrus precatorius* L.** Fabaceae 'Guriginja' Chintapalli, MHB 2807

Cough: A spoonful of leaf juice is administered twice daily for three days.

***Acacia pennata* (L.) Willd.** Fabaceae 'Korinta' Gajupakalu, MHB 3414

***Whooping cough:** Pulp of 2 ft. tendril is mixed with 50 ml of water and administered once a day for five days.

***Achyranthes aspera* L.** Amaranthaceae
VN: 'Kukka pallu' Araku, MHB 3395

Cough: Dry leaves are made into cigars and the smoke is inhaled for two days.

***Aegle marmelos* (L.) Correa** Rutaceae
'Maredu' Sapparla, MHB 3738

***Cold:** Five hundred gm of leaves are ground with 50 gm of jiggery and made into pills of one gm. Six pills are administered at a time twice a day for two days. A stove with burning coals is arranged under the fiber cloth bed covered with leaves of this plant and patient is made to lie-down on that bed for 30 minutes to get relief from cold.



Albizia odoratissima (L.f.) Benth. Fabaceae ‘Chinduga’

Sapparla, MHB 3422

***Cough:** A spoonful of leaf juice is administered thrice daily for two days.

Aloe vera (L.) Burm. f. Xanthorrhoeaceae ‘Kalabanda’

Nadam veechi, MHB 2521

***Cough:** Twenty gm of mucilaginous jelly from leaves is eaten twice a day for two days.

Bacopa monnieri (L.) Wettst. Plantaginaceae ‘Sambrani’

Padmapuram, M H B 4427

Cough: A spoonful of whole plant juice and a spoonful of seed powder of *Terminalia chebula* mixed in a glass of hot water is administered twice a day before meals.

Cinnamomum verum J. Presl. Lauraceae

‘Dalchina’ Ontimiddi, M H B 2513

Cold: Bark with rhizome of *Curcuma longa* are taken in equal quantities and ground. A spoonful of paste is administered twice daily for five days and this paste is also inhaled along with hot water for relief.

Cissampelos pareira L. Menispermaceae

‘Chiru boddhi’ Digumodhuputt, M H B 3532

Cold and Cough: Dried root ground with dried root of *Rawolfia serpentina* (1:1). A spoonful of powder along with hot water is administered thrice daily for two days.

Citrus medica L. Rutaceae

‘Dabba’ Madagada, M H B 2927

Cough: Two spoonful of fruit juice and a spoonful of honey ground with 10 gm of sugar candy are administered with a glass of water once a day for four days.

Cochlospermum religiosum (L.) Alston Bixaceae

‘Konda buruga’ D. Gonduru, MHB 3890

***Cough:** Thirty gm gum of stem is taken thrice a day for two days.

Desmodium gangeticum (L.) DC. Fabaceae

‘Bhumi ippa’ Guntaseema, M H B 4439

Whooping cough: A spoonful of root extract is administered twice a day till cure.

Endosamara racemosa (Roxb.) R. Geesink Fabaceae

‘Nela tangedu’ Rudakota, M H B 3187

***Cold:** Two spoonful of stem bark paste with a spoon of honey is administered twice daily for three days.

Euphorbia tirucalli L. Euphorbiaceae

‘Kada jamudu’ Padmapuram, M H B 2739

***Cough:** Two drops of latex mixed in 50 ml of seed decoction of *Piper nigrum* is administered thrice a day.

Glycosmis pentaphylla (Retz.) DC. Rutaceae ‘Konda gilugu’ Diguvvasoba, M H B 3459

***Cold and Cough:** Five gm of root bark extract mixed with a pinch of jiggery is administered to infants twice a day till cure.

Helianthus annuus L. Asteraceae

‘Suryakanti’ Ananthagiri, M H B 2838

***Cough:** Two spoonful of seed paste mixed with a spoonful of honey is administered daily twice for three days.

Helicteres isora L. Malvaceae

‘Chamala’ Marrivada, M H B 3371

Whooping cough: Two spoonful of tender twig’s paste with a pinch of salt mixed in 50 ml of hot water is administered twice a day for three days.

Hemionitis arifolia (Burm. f.) T. Moore Pteridaceae ‘Ramabanam’ Padmapuram, MHB 3594

***Cough:** A spoonful of root paste with a glass of hot water is administered twice a day for five days. Two spoonful of leaf paste with a pinch of salt is administered with a glass of water thrice a day for two days.

Leptadenia reticulata (Retz.) Wight & Arn. Apocynaceae

‘Mukku thummudu’ Poojaripakalu, MHB 2649

Cold and Cough: Leaf latex is inhaled thrice a day for two days.

Leucas aspera (Willd.) Link Lamiaceae

‘Tummi’ Kinchumanda, MHB 4534

***Cold:** Leaves crushed in hands and inhaled with one nostril of nose three times a day.

Murraya koenigii (L.) Spreng. Rutaceae ‘Karivepaku’

Chinamodhugaputt, MHB 3610

***Cough:** Two spoonful of leaf juice is administered twice a day for two days.

Naravelia zeylanica (L.) DC. Ranunculaceae

‘Konda mudusu’ Madagada, MHB 4371

Cold and Cough: Two drops of leaf juice poured into nostrils twice daily for three days.

Ocimum tenuiflorum L. Lamiaceae

‘Krishna tulasi’ Tajangi, MHB 4090

Cold and Cough: Three leaves are ground along with 10 gm of sugar candy, two spoonful of honey and three seeds of *Piper nigrum* and the paste is administered once a day for two days.

Table 1. Some plants of Visakhapatnam district used for similar purposes in different countries.

S.No.	Plant species	Tribes/Area/Region/Country	Reference(s)
1.	<i>Achyranthes aspera</i>	Bini people of Nigeria	Gill <i>et al.</i> 1997
2.	<i>Achyranthes aspera</i> , <i>Euphorbia tirucalli</i> , <i>Leptadenia reticulata</i> , <i>Leucas aspera</i> , <i>Ocimum tenuiflorum</i>	Yanadi, Nakkala, Irula, Yerukala, Sugali/Lambadi, Chenchu of Chittoor district, Andhra Pradesh	Vedavathy <i>et al.</i> 1997
3.	<i>Aloe vera</i>	People of Kachchh region of Gujarat	Chandra Shekhar & Rana 2000
4.	<i>Achyranthes aspera</i> , <i>Leptadenia reticulata</i>	Bhil, Garasia, Nayaka, Dhanka of Aravalli ranges in North Gujarat	Punjani & Kumar 2002
5.	<i>Ocimum tenuiflorum</i> , <i>Terminalia chebula</i>	People of Arghakhanchi district, Nepal	Panthi & Chaudhary 2003
6.	<i>Achyranthes aspera</i> , <i>Senna tora</i>	Indigenous people of Palpa district, Nepal	Mahato & Chaudhary 2005
7.	<i>Achyranthes aspera</i> , <i>Terminalia chebula</i>	Irula of Coimbatore district, Tamil Nadu People of Sirmour district, Himachal Pradesh	Murugesan & Balasubramaniam 2007 Kumar & Chauhan 2007
8.	<i>Helicteres isora</i> , <i>Piper nigrum</i>	Mullu kuruma of Wayanad district, Kerala	Silja <i>et al.</i> 2008
9.	<i>Acacia pennata</i> , <i>Cochlospermum religiosum</i> , <i>Desmodium gangeticum</i> , <i>Euphorbia tirucalli</i> , <i>Glycosmis pentaphylla</i> , <i>Helianthus annuus</i> , <i>Leucas aspera</i> , <i>Naravelia zeylanica</i> , <i>Ocimum tenuiflorum</i> , <i>Senna tora</i> , <i>Terminalia chebula</i>	Konda reddy, Konda dora, Konda kammara, Konda kapu, Manne dora, Valmiki of East Godavari district, Andhra Pradesh	Suneetha <i>et al.</i> 2009
10.	<i>Bacopa monnieri</i> , <i>Leucas aspera</i> , <i>Ocimum tenuiflorum</i> , <i>Piper nigrum</i> , <i>Terminalia chebula</i> , <i>Witbania somnifera</i>	People of 11 districts of Karnataka	Shiddamallayya <i>et al.</i> 2010
11.	<i>Cissampelos pareira</i> , <i>Achyranthes aspera</i>	Gond, Kol, Baiga, Panica, Khairwar, Manjhi, Mawasi, Agaria of Rewa district, Madhya Pradesh	Shukla <i>et al.</i> 2010
12.	<i>Achyranthes aspera</i> , <i>Terminalia chebula</i>	Pawara, Bhil, Pardhi of Dhule & Jalgaon districts of Maharashtra	Jain <i>et al.</i> 2010
13.	<i>Leucas aspera</i> , <i>Piper nigrum</i>	Folklore of Chikmagalur district of Karnataka	Prakasha <i>et al.</i> 2010
14.	<i>Piper nigrum</i> , <i>Witbania somnifera</i>	Santhal, Kolha, Bathudi, Kharia, Mankidia, Gond, Ho of Mayurbhanj district, Orissa	Rout & Panda 2010
15.	<i>Achyranthes aspera</i> , <i>Solanum surattense</i>	Bhil, Damor, Garasia, Kalbelia, Kathodia, Meena of southern Rajasthan Abbasi, Tareen, Jadoon, Syed, Mashwani, Tanoli, Awan, Qureshi, Sardar, Sheikh of Abbottabad district, Pakistan	Meena & Yadav 2010 Abbasi <i>et al.</i> 2010
16.	<i>Aegle marmelos</i> , <i>Terminalia chebula</i>	Rural people of Bangladesh	Baul & Mohiuddin 2012
17.	<i>Aegle marmelos</i> , <i>Aloe vera</i>	Bhil of Ratlam district, Madhya Pradesh	Jadhav 2012
18.	<i>Achyranthes aspera</i> , <i>Cissampelos pareira</i> , <i>Senna tora</i> , <i>Terminalia chebula</i>	Local people of Mandi district, Himachal Pradesh	Sen & Samant 2013
19.	<i>Achyranthes aspera</i> , <i>Ocimum tenuiflorum</i>	Santhal, Ma Paharia, Sauria Paharia, Oraon, Munda, Kol, Kharwar of Jharkhand	Kumar 2015
20.	<i>Achyranthes aspera</i> , <i>Aegle marmelos</i> , <i>Albizia odoratissima</i> , <i>Euphorbia tirucalli</i> , <i>Hemionitis arifolia</i> , <i>Ocimum tenuiflorum</i> , <i>Piper nigrum</i> , <i>Terminalia chebula</i>	Koya, Lambada, Gond/Naikpod, Yerukula, Nayak, Konda Reddi of Khammam district, Andhra Pradesh	Manjula & Reddi 2016
21.	<i>Abrus precatorius</i> , <i>Leucas aspera</i> , <i>Ocimum tenuiflorum</i> , <i>Phyla nodiflora</i> , <i>Terminalia chebula</i>	Gond, Kolam, Koya, Lambada, Manne, Naikpod, Pradhan, Thoti, Yerukala of Adilabad district, Andhra Pradesh	Swamy & Reddi 2017
22.	<i>Abrus precatorius</i> , <i>Cissampelos pareira</i> , <i>Ocimum tenuiflorum</i> , <i>Solanum surattense</i>	People in Shivalik Range of Panchkula, Haryana	Balakrishna <i>et al.</i> 2018
23.	<i>Phyla nodiflora</i> , <i>Solanum surattense</i>	Magar of Palpa district, Nepal	Singh <i>et al.</i> 2018
24.	<i>Abrus precatorius</i> , <i>Aegle marmelos</i> , <i>Aloe vera</i> , <i>Cochlospermum religiosum</i> , <i>Euphorbia tirucalli</i> , <i>Helicteres isora</i> , <i>Leptadenia reticulata</i> , <i>Ocimum tenuiflorum</i> , <i>Phyla nodiflora</i> , <i>Piper nigrum</i> , <i>Terminalia chebula</i>	Savara, Jatapu, Konda dora, Gadaba, Kuttuya, Yerukala of Srikakulam district, Andhra Pradesh	Naidu & Reddi 2018

***Phyla nodiflora* (L.) Greene** Verbenaceae 'Bokkenaaku'
Padmapuram, MHB 3486

***Cold and Cough:** Squeezed plant juice is inhaled for relief.

Piper nigrum L. Piperaceae

'Miriyalu' Chintapalli, MHB 4495

Cold and Cough: A spoonful of leaf juice is administered once a day for two days.

Plumeria alba L. Apocynaceae

'Lakshmi poolu' Lankapakalu, MHB 4399

***Cough:** Ten drops of leaf latex is applied on the throat externally before bed for two days.

Selaginella repanda (Desv. ex Poir.) Spreng.

Selaginellaceae 'Odamara' Beddaguda, MHB 3987

***Dry cough:** Ten gm of whole plant and ten gm of leaves of *Emillia sonchifolia* are eaten along with a pinch of salt once a day for two days.

Senna tora (L.) Roxb. Fabaceae 'Tottemu' Madugula, MHB 3619

***Cough:** Two spoonful of root paste is administered with a glass of hot water twice a day for two days.

Solanum surattense Burm. f. Solanaceae

'Konda vankaya' Munchingputt, MHB 2525

Cough: A spoonful of root bark extract mixed in 100 ml of hot water is administered once a day for three days.

Terminalia chebula Retz. Combretaceae

'Karakkai' Ganjigedda, MHB 2787

Cough: The peel of fruit is chewed for half an hour twice for one day only.

Withania somnifera (L.) Dunal Solanaceae 'Aswagandha' Borra, MHB 3779

Cold and Cough: Twenty gm of tender roots are directly eaten twice a day for two days.

Results and Discussion

The paper deals with 31 species of plants covering 31 genera and 20 families used by the tribes of Visakhapatnam district, Andhra Pradesh, for curing cold and cough. Fabaceae is the dominant family with 6 species followed by Rutaceae (4 spp.), Apocynaceae, Solanaceae, Lamiaceae (2 spp. each) and the rest with one species each. Habit-wise analysis showed the dominance of trees and herbs with 10 species each, followed by shrubs (6 spp.) and climbers (5 spp). Morphological analysis showed the maximum utilization of leaf in 11 practices, followed by roots (5), whole plant and latex (3 each), stem bark, fruits, root bark and seeds (2 each) and tendril and gum in one practice each. They are administered either in the form of powder, paste, decoction, extract, pill, jelly or cigar along with water (normal or hot), milk, honey, salt or jiggery and taken internally or inhaled. Sixteen practices were found to be new or less known (Jain 1991, Kirtikar & Basu 2003). Plants used for similar purpose in different parts of India, Nepal, Pakistan and Nigeria are presented in Table 1.

Majority of the preparations are taken orally or inhaled. In the study area many people still have faith in the herbal remedy which play an important role in the life of these tribal communities.

Acknowledgements

The authors are grateful to the tribes of Visakhapatnam district, Andhra Pradesh, for their cooperation during field work and sharing their valuable knowledge on plants used by them for curing cold and cough.

References

- Abbasi, A.M., Khan, M.A., Ahmed, M. & Zafar, M. 2010. Herbal medicines used to cure various ailments by the inhabitants of Abbottabad district, North West Frontier Province, Pakistan. *Indian J. Trad. Knowl.* **9**: 175-183.
- Balakrishna, A., Srivastava, A., Shukla, B.K., Mishra, R.K. & Joshi, B. 2018. Medicinal plants of Morni Hills, Shivalik Range, Panchkula, Haryana. *J. Non-Timber Forest Products* **25**: 1-14.
- Banerjee, D.K. 1977. Observations on Ethnobotany of Araku Valley, Visakhapatnam district, Andhra Pradesh. *J. Sci. Club* **33**: 14-21.
- Baul, T. K. & Mohiuddin, M. 2012. Medicinal tree species in the plantation of Chittagong University Campus in Bangladesh. *J. Tropical Medicinal Plants* **13**: 93-97.
- Chandra Shekhar, S. & Rana, A.R. 2000. Indigenous knowledge on medicinal plants and their use in Narayan Sarovar Sanctuary, Kachchh. *Ethnobotany* **12**: 1-7.
- Gill, L. S., Idu, M. & Ogbor, D. N. 1997. Folk medicinal plants: Practices and beliefs of the Bini people in Nigeria. *Ethnobotany* **9**: 1-5.
- Hari Babu, M. & Reddi, T.V.V.S. 2014. Ethnomedicine for body pains, general weakness and body swellings by the tribals of Visakhapatnam district, Andhra Pradesh. *J. Econ. Taxon. Bot.* **38**: 3-4.
- Hari Babu, M. & Reddi, T.V.V.S. 2016. Ethnomedicine for fevers by the tribes of Visakhapatnam district, Andhra Pradesh. *J. Traditional & Folk Practices* **4**: 96-105.
- Hari Babu, M. & Reddi, T.V.V.S. 2018. Ethnomedicine for asthma by the tribes of Visakhapatnam district, Andhra Pradesh. *J. Traditional & Folk Practices* **6**: 78-83.
- Hari Babu, M., Sandhya Sri, B. & Reddi, T.V.V.S. 2011a. Newly reported ethnotherapeutic uses for treating diarrhoea and dysentery by the tribals of Visakhapatnam district, Andhra Pradesh. *J. Trop. Med. Plants* **12**: 229-233.

- Hari Babu, M., Sandhya Sri, B. & Reddi, T.V.V.S. 2011b. Medicinal plants used for treating abdominal pain by the tribals of Visakhapatnam district, Andhra Pradesh. *J. Econ. Taxon. Bot.* **35**: 314-319.
- Hari Babu, M., Sandhya Sri, B. & Reddi, T.V.V.S. 2014. Indigenous phytotherapy for gynaecological disorders by the tribals of Visakhapatnam district (Andhra Pradesh). *J. Econ. Taxon. Bot.* **38**: 152-158.
- Hari Babu, M., Sandhya Sri, D. & Reddi, T.V.V.S. 2020. Herbal remedies for jaundice in Tribal System of Medicine from Visakhapatnam district, Andhra Pradesh. *J. Traditional & Folk Practices* **07&08**: 115-126.
- Jadhav, D. 2012. Ethnobotanical plants used in the treatment of the various respiratory disorders prevalent in the Bhil tribe of Ratlam district, Madhya Pradesh. *J. Non-Timber Forest Products* **19**: 219-222.
- Jain, D.L., Baheti, A.M., Jain, S.R. & Khandelwal, K.R. 2010. Use of medicinal plants among tribes in Satpuda region of Dhule and Jalgaon districts of Maharashtra - An ethnobotanical survey. *Indian J. Trad. Knowl.* **9**: 152-157.
- Jain, S.K. 1991. *Dictionary of Indian Folk Medicine and Ethnobotany*, Deep Publications, New Delhi.
- Kirtikar, K.R. & Basu, B.D., (Reprinted) 2003. *Indian Medicinal Plants*, Oriental Enterprises, Dehra Dun, Uttaranchal.
- Kumar, K. 2015. Studies on some herbal composition based on ethnomedicinal plants in Jharkhand. *J. Non-Timber Forest Products* **22**: 229-232.
- Kumar, N. & Chauhan, N.S. 2007. Ethnobotanical studies of Nahar area, District Sirmour, Himachal Pradesh. *J. Non-Timber Forest Products* **14**: 307-312.
- Mahato, R.B. & Chaudhary, P. 2005. Ethnomedicinal plants of Palpa district, Nepal. *Ethnobotany* **17**: 152-163.
- Manjula, R.R. & Reddi, T.V.V.S. 2016. Ethnomedicine for cold and cough by the tribals of Khammam district, Andhra Pradesh. *J. Non-Timber Forest Products* **23**: 29-33.
- Meena, K.L. & Yadav, B.L. 2010. Some ethnomedicinal plants of southern Rajasthan. *Indian J. Trad. Knowl.* **9**: 169-172.
- Murugesan, M. & Balasubramaniam, V. 2007. Ethnomedicino-botanical diversity of Irulas in Coimbatore district, Tamil Nadu, India. *J. Non-Timber Forest Products* **14**: 105-110.
- Naidu, B.V.A.R. & Reddi, T.V.V.S. 2018. Ethnomedicine for cold and cough by the tribes of Srikakulam district, Andhra Pradesh. *J. Traditional & Folk Practices* **6**: 137-145.
- Padal, S. B., Devender, R., Ramakrishna, H. & Prabhakar, R. 2013. Ethnomedicinal diversity of Ananthagiri Mandal of Paderu forest division in Andhra Pradesh. *Ethnobotany* **25**: 143-147.
- Panthi, M.P. & Chaudhary, R.P. 2003. Ethnomedicinal plant resources of Arghakhanchi district, West Nepal. *Ethnobotany* **15**: 71-86.
- Prakasha, H.M., Krishnappa, M., Krishnamurthy, Y.L. & Poornima, S.V. 2010. Folk medicine of NR Pura taluk in Chikmagalur district of Karnataka. *Indian J. Trad. Knowl.* **9**: 55-60.
- Punjani, B. L. & Kumar, V. 2002. Traditional medicinal plant remedies to treat cough and asthmatic disorders in the Aravalli ranges in North Gujarat. *J. Natural Remedies* **2**: 173-178.
- Rao, B.T., Lakshmi, B.B. & Rao, L.M. 2001. Medicoe ethnology and conservation of medicinal plants of Paderu forest division- Visakhapatnam. *Ecol. Env. Cons.* **7**: 17-131.
- Rao, B.T., Lakshmi, B.B., Rao, L.M., Ramaneshwari, K. & Hymavathi, V. 2000. Medicinal plants of Paderu forest division in the Eastern Ghats of Visakhapatnam. *Asian J. Microbiol. Biotech. Environ. Sci.* **2**: 67-80.
- Rao, V.L.N., Busi, B.R., Rao, B.D., Rao, Ch.S., Bharathi, K. & Venkaiah, M. 2006. Practices among *Khonds* of Visakhapatnam district, Andhra Pradesh. *Indian J. Trad. Knowl.* **5**: 217-219.
- Rout, S.D. & Panda, S.K. 2010. Ethnomedicinal plant resources of Mayurbhanj district, Orissa. *Indian J. Trad. Knowl.* **9**: 68-72.
- Sen, T. & Samant, S. S. 2013. Diversity, distribution and indigenous uses of medicinal plants in Rissa Khad, Watershed of district Mandi, Himachal Pradesh. *J. Non-Timber Forest Products* **20**: 199-214.
- Shiddamallayya, N., Azra, Y. & Gopakumar, K. 2010. Hundred common forest medicinal plants of Karnataka in primary healthcare. *Indian J. Trad. Knowl.* **9**: 90-95.
- Shukla, A.N., Sharad, S. & Rawat, A.K.S., 2010. An ethnobotanical study of medicinal plants of Rewa district, Madhya Pradesh. *Indian J. Trad. Knowl.* **9**: 191-202.
- Silja, V.P., Varma, K.S. & Mohanan, K.V. 2008. Ethnomedicinal plant knowledge of the *Mullu kuruma* tribe of Wayanad district, Kerala. *Indian J. Trad. Knowl.* **7**: 604-612.
- Singh, A.G., Kumar, A., Tewari, D.D. & Bharati, K.A. 2018. New ethnomedicinal claims from *Magar*

- community of Palpa district, Nepal. *Indian J. Trad. Knowl.* **17**: 499-511.
- Suneetha, J., Reddi, T.V.V.S. & Prasanthi, S. 2009. Herbal therapy for cold and cough from East Godavari district of Andhra Pradesh. *J. Non-Timber Forest Products* **16**: 135-138.
- Swamy, N.S.N. & Reddi, T.V.V.S. 2017. Ethnomedicine for cold and cough by the tribals of Adilabad district, Andhra Pradesh. *J. Non-Timber Forest Products* **24**: 235-238.
- Vedavathy, S., Sudhakar, A. & Mrdula, V. 1997. Tribal medicinal plants of Chittoor. *Ancient Sci. Life* **XVI**: 307-331.