

## Short Communication

### Traditional preparation of a health drink *Nannari Sharbat* from the root extract of *Decalepis hamiltonii* Wight & Arn.

A J Solomon Raju\* and K Venkata Ramana

College of Science and Technology, Department of  
Environmental Sciences, Andhra University,  
Visakhapatnam-530 003, Andhra Pradesh, India

Received 24 November 2009; Accepted 7 July 2010

The root of an endemic and endangered woody climber, *Decalepis hamiltonii* Wight & Arn. is a valued source of a health drink *Nannari Sharbat*. This drink is quite common in Rayalaseema districts due to its medicinal values, viz. stomach coolant, relief provider from constipation and acidity. In this paper the traditional procedure used by local people in some Southern states for the preparation of this drink and the impacts of root collection activity on the survival of this plants are described.

**Keywords:** *Decalepis hamiltonii*, Endemic, Endangered, Health drink, *Nannari Sharbat*, Periplocaceae

**IPC code; Int. cl. (2011.01)**—A61K 36/00

#### Introduction

The family Periplocaceae is represented exclusively by *Decalepis hamiltonii* Wight & Arn.<sup>1,2</sup>. It is endemic to Southern states (Karnataka, Kerala, Tamil Nadu and Andhra Pradesh) of India and in Tamil known as *Mahali kizhangu* and Kannada as *Makali beru*<sup>3,4</sup>. It has also been included as an endangered species in the red list by the International Union for Conservation of Nature. The leaves and fruits are medicinally important. The roots are used as a laxative, an appetizer, a health tonic; they are chewed to get relief from indigestion. In food industry, the root extract is used as substitute for vanillin and the roots are also pickled. The root extract is also used as a substitute for the roots of *Hemidesmus indicus* R. Br. to make soft drink and beverages. The locals use this root extract to prepare a health drink which is considered to be a relief provider from intestinal ailments like constipation and acidity<sup>4,5</sup>. Encouraged by available reports on this health drink, field studies were done in the natural areas of *D. hamiltonii* to find out the current state of its importance for commercial

and livelihood purposes. The collected information indicates that it is principally used to prepare a health drink, locally called *Nannari Sharbat* or *Rayalaseema Sharbat*. In this paper, a brief account of *D. hamiltonii* root collection activity by locals and the procedure used for the preparation of *Nannari Sharbat* has been discussed. Further, how this plant species is important as a livelihood source and for human health has been discussed.

#### *D. hamiltonii* root collection

The field studies have shown that the plant occurs in the deciduous forests of Chittoor, Anantapur, Kadapa and Nellore districts in Andhra Pradesh. Locals, especially Chenchu and Yanadi tribes collect the roots regularly for sale in the market. Certain tribal families have been found to be involved in the root collection activity as a source of their livelihood throughout the year in Chinnarotla, Tummalabayalu (near Srisailam) and Korrapolu (a border village of Prakasam District to Kurnool). These families go to the forest areas, stay there for about a week and return back with head loads of roots collected by them. The roots are cut from the well-grown plants only and are either sold to local Girijan Cooperative Corporation (GCC) of the Government of Andhra Pradesh or to buyers in the local markets. We were informed by locals that a few tribal and other farmers have taken up cultivation in Kadapa district as a source of livelihood. The roots are sold @ Rs. 100-150/kg during summer season and @ Rs. 80-120/kg at other times of the year. We observed that there is a huge demand for this root in Anantapur district when compared to other districts where it is naturally occurring. Lately, it is reported that an unnamed soft drink giant is using this root to prepare herbal drink and in effect, the locals are actively involved in root collection for want of money and in the process it has become a livelihood base for them.

#### Methodology for making *Nannari Sharbat* (Plate 1 & 2)

1. The fresh roots are first washed in water manually and then air-dried in the open sunlight for about a week.

\*Correspondent author  
E-mail: ajsraju@yahoo.com



Plate 1—*D. hamiltonii* roots and various steps involved in the traditional preparation of *Nannari Sharbat*: a. Root system; b & c. Mining for roots; d. A pile of cut roots; e. Root chips kept for drying in open sunlight; f. Semi-powdered root chips; g. Water being added to root powder placed in the container; h. The container with root powder and water is kept on fire-lit traditional stove; i. Liquid extract in wind red colour after heating to boiling point.

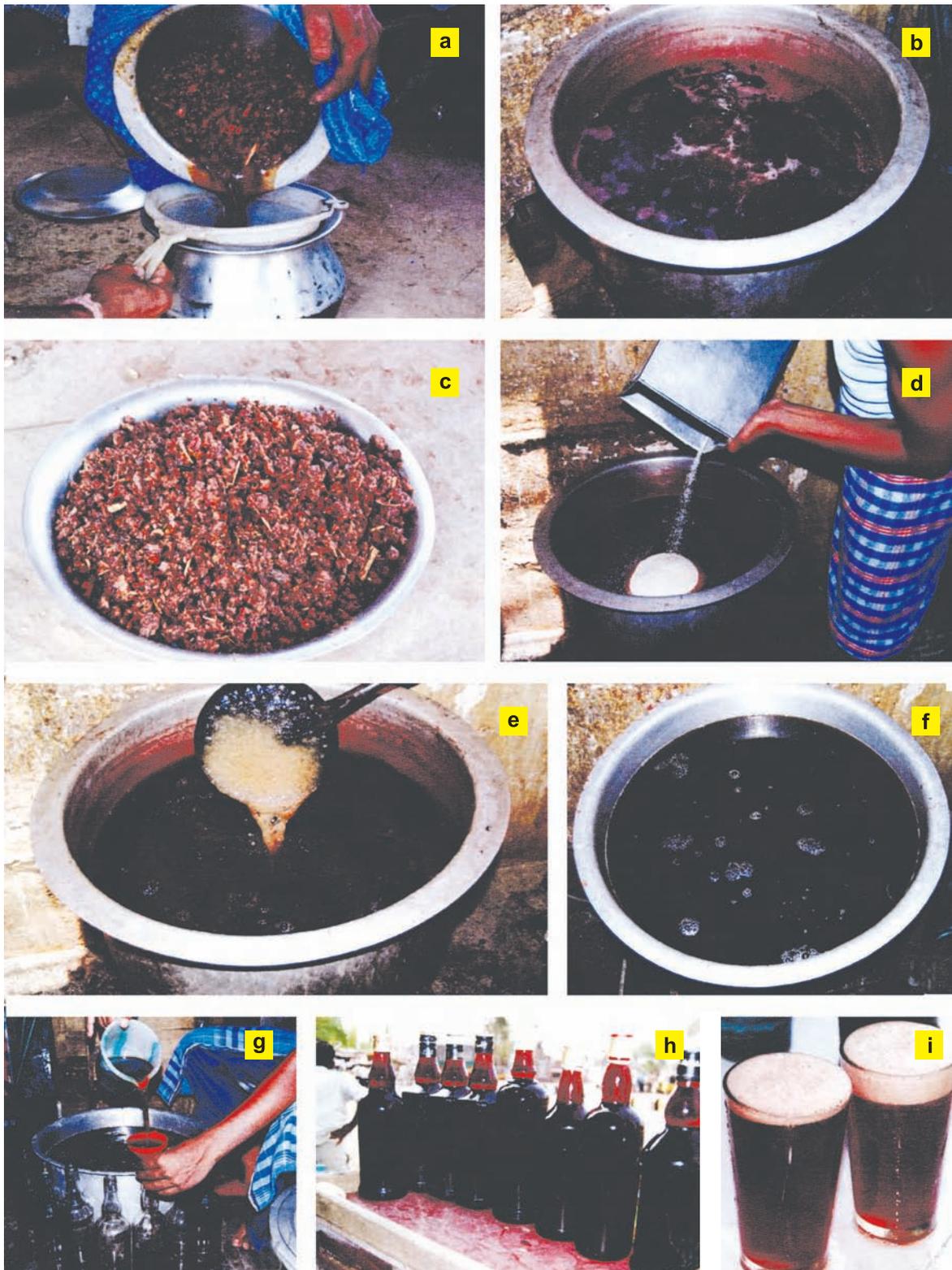


Plate 2—Various steps involved in the traditional preparation of *Nannari Sharbat*: a. Filtering liquid extract; b. Liquid extract after filtration; c. Root powder sediment after extraction of liquid concentrate; d. Adding sugar to the liquid concentrate after mixing sugar; f. *Nannari* concentrate obtained after heating; g. Bottling of concentrate; h. Bottled concentrate; i. *Nannari sharbat* ready for drinking.

2. The roots are then cut into small chips or pieces and dried in open sunlight for about 3 days to ensure that they are moisture; they are then semi-powdered and stored.
3. The required quantity of root powder is added to water in a container and allowed to stay for about 12 h and then the container with both powder and water is kept on fire-lit stove for 2-3 h until the water turns wine red colour. A measure of 100 g of root powder is mixed in 1 lt volume of water.
4. The root powder sediment is separated by filtering the water through a sieve; the sediment obtained is again reused for obtaining liquid extract. Sugar and water are then added to the liquid concentrate thus obtained and again boiled to obtain highly viscous concentrate. This liquid concentrate is now cooled to room temperature and again filtered through a fine sieve to remove the tiny root or other dirt particles.
5. The liquid concentrate is bottled and stored for use. The shelf-life of this concentrate is 4-5 months. One kg of dried roots together with water and sugar through the process mentioned above finally produces about 25 lt of concentrate. This concentrate is the source substance for *Nannari Sharbat*. One liter of concentrate is sold at Rs. 50/-.
6. A liter of concentrate is enough to make 20 glasses of *Nannari Sharbat*. The Sharbat essentially consists of the root concentrate and cold soda water; lemon and even pepper powder are added depending on the requirement of the consumer. A glass of sharbat is sold at Rs.6/-.
7. A kg of dried roots gives a gross income of Rs. 4,250/- (Rs. 1,250/- from liquid concentrate and Rs. 3,000/- from sharbat) and net income of Rs. 2,500/- after the expenditure is deducted.

### Results and Discussion

The roots of *D. hamiltonii* are over-exploited due to its demand for the preparation of a local soft drink. The drink is a stomach coolant and protects the body from heat and summer ailments. Locals collect the roots especially from plants which are in reproductively immature stage; this root collection activity is severely affecting natural regeneration. The plant with self-incompatible breeding system, cantharophilous pollination syndrome, anemochory

and non-dormant seed is struggling to exist in its natural areas which are disturbed by various human activities<sup>6</sup>. Therefore, effective measures are required for the conservation and management of this endemic and endangered plant species. Further, possibilities for the commercial cultivation of this plant need to be explored; while doing so, quality of the flavour is to be given a top priority or else there would not be any demand for this root which comes from commercial farms.

### Conclusion

The value of the root in the preparation of a traditional soft drink and also as a source of livelihood or income are the twin factors for locals to cut the roots of *D. hamiltonii* indiscriminately. The plants die following the removal of roots and the gaps thus created are occupied by the root system of other neighbour plants. Further, the plant being a woody climber enjoys sub- or over-canopy status with the help of its host tree; upon the removal of the root, the host tree grows well and then it does not allow the growth of newly emerging or established *D. hamiltonii* plants at under canopy level by preventing sunlight. Therefore, research should be initiated on *D. hamiltonii* for its commercial cultivation ensuring the quality of root extracts and for its effective conservation and management in its own native areas.

### Acknowledgement

This study is a part of the research work of a project funded by the Department of Science and Technology, Government of India, New Delhi.

### References

- 1 Venter HJT and Verhoeven RL, Diversity and relationships within Periplocoideae, *Ann Mo Bot Gard*, 2001, **88**, 550-568.
- 2 Sudhakar Reddy Ch, Reddy KN, Prasad PRC and Raju VS, Threatened Endemic Plants from Eastern Ghats, India, EPTRI-ENVIS Newsletter, 2003, **9**, 3-7.
- 3 Ravi Kumar K and Ved DK, 100 Red-Listed Medicinal Plants of Conservation Concern in Southern India, FRLHT, Bangalore, 2000.
- 4 Vedavathy S, *Decalepis hamiltonii* – An endangered source of indigenous health drink, *Nat Prod Rad*, 2004, **3**, 1-6.
- 5 Jonathan KH, Ecological and economic aspects of certain endemic flora of Eastern Ghats forests. ENVIS-SDNP Newsletter Special Issue, 2006, pp. 8-9.
- 6 Solomon Raju AJ and Venkata Ramana K, Pollination and seedling ecology of *Decalepis hamiltonii* Wight & Arn. (Periploceaceae), a commercially important, endemic and endangered species, *J Threatened Taxa*, 2009, **1**, 497-506.