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Ethno-veterinary uses and informants consensus factor of medicinal plants of Sariska region, Rajasthan, India

Bhuvaneshwar Upadhyay*, K.P. Singh, A. Kumar

Biotechnology Lab, P.G. School of Biotechnology and Department of Botany, University of Rajasthan, Jaipur, Rajasthan 302003, India

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ABSTRACT

Aim of study: The study was conducted in Sariska region of Rajasthan, India to identify the important species used for ethno-veterinary medicine; finding out methods for various ethno-veterinary medicine preparations, and calculate the informant consensus factor (ICF) in relation to medicinal plant use.
Materials and methods: An ethno-veterinary survey was carried out in the Sariska region of Rajasthan, India. A total of 490 informants (287 men, 203 women) belonging mainly to families which had strong links with animal keeping activities of the area were interviewed using 'specimen display' method and forest walk method.
Results: The highest ICF (0.61) was scored for the digestive problems including ailments stomachache, indigestion, liver expansion, diarrhea, intestinal worms, and stomach disorder. *Citrullus colocynthis* is used for fever and general sickness, with a highest use value (UV) of 0.62. While *Pedalium murex*, and *Ziziphus nummularia* used for diarrhea (UV = 0.57) and *Azadirachta indica*, used as antiseptic, in foot and mouth disease and prevention from diseases were reported with a UV 0.51.
Conclusions: The documentation of this inherited rich traditional ethno-medicinal knowledge has provided novel information and this will not only provide recognition of this undocumented knowledge but will also help in conservation of such rare, gradually vanishing important ethno-veterinary species. It will also provide new pharmacological dimensions for better health care of the human being regarding many ailments.

1. Introduction

Domestic animals play an incredibly considerable role in tribal life for food, milk, leather, fat, and transport. With the continuation of long trial and error from ancient times to modern age through various phases of history, early man developed various skills in the treatment of their pets using plants based medicines for the healthy living and disease curing of the pet animals. These trial and error methods eventually evolved ethno-veterinary medicine as proficient it today is (Upadhyay et al., 2010).

Prior to the establishment of present allopathic system of medicine, ethno-medicine was the major therapeutic system all over the world including India (Parveen et al., 2007; Upadhyay et al., 2010). In India, the Vedic literature, particularly *Atharvaveda* is a rich repository of traditional medicine prescriptions for treatment of various animal diseases. Shalihotra undoubtedly appears to be the first veterinarian of pre-historical times. Excavation findings, edicts, and old scriptures such as *Agnipurana*, *Devipurana*, *Garudpurana*, *Lingapurana*, *Matsyapurana*, *Skandapurana*, *Charaka samhita*, *Susruta samhita*, and books written by Palakapya and Shalihotra also documented various treatment methods of animal diseases using medicinal plants. Ayurveda has many mentions about the diseases of animals and their cures (Rastogi and Kaphle, 2008).

Ancient Indian text in the form of the holy *Vedas*, *Puranas*, *Brahmanas*, and *Epics*, has loads of information on animal care, health management, and disease cure. *Vedas* and *Puranas* like *Hasthyapuran*, *Ashwapuran*, *Garudpuran* and *Matsyapuran* deal largely with domestication, diet, health, and care of animals. The ancient Indians were so pertinent with the knowledge of herbals, that even Alexander the Great acquired some of the skills used by Indians, particularly for treatment of snakebite.

The aim of this paper is to gather information on the present status of folk veterinary knowledge in Rajasthan. The information on plant remedies for treating domestic animals and other effects of plants on various animals. Folk veterinary information collected in Sariska regions of Rajasthan is reported and discussed here.

2. Study site

The study area includes Sariska and its adjacent areas. Sariska is situated in Eastern part of Rajasthan, which is basically famous

Abbreviations: ICF, informants concensus factor; UV, use value.

* Corresponding author. Tel.: +91 9460336680.
E-mail address: bhuvan.com@gmail.com (B. Upadhyay).

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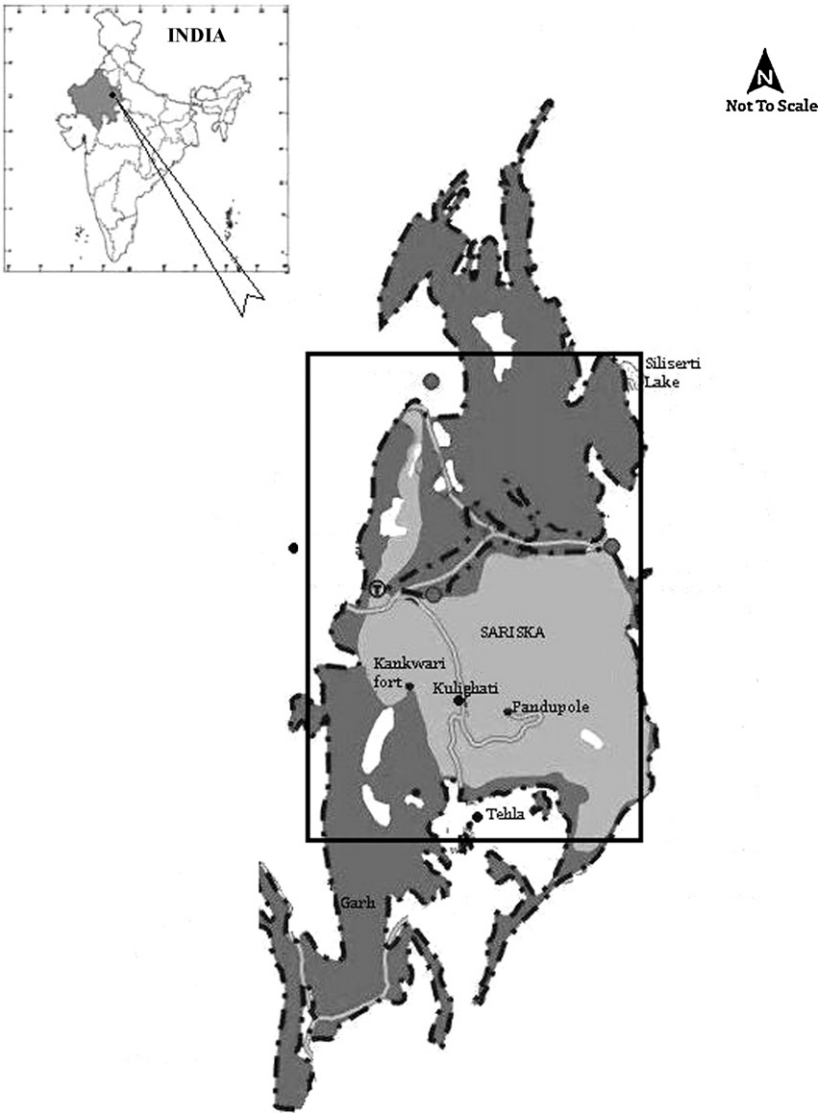

Fig. 1. Map of Sariska Tiger Reserve showing the study area.

for 'Sariska National Park'. It lies between 79°17′ to 76°34′ North Latitude and 27°5′ to 27°33′ East Longitude (Fig. 1) at an altitude from 300 to 722 m above sea level. Sariska was declared a wildlife sanctuary in 1958 and came under the "Project Tiger" as a Sariska tiger reserve in 1979. The study area covers quite a large area of 800 km^2, 480 km^2 of which form the core area of the national park. It is located among the Aravalli hill ranges in the Alwar district of Rajasthan. Owing to the presence of monuments of religious importance located within the park boundaries, the park is kept open throughout the year. The summers are extremely hot with temperatures going up to as high as 47–48 °C. In the winter months, the temperature touches a low of 3–4 °C (www.sariska.com (http://sariska.com/index.html)).

In the geographical study the Sariska region shows the presence of hills and narrow valleys of the Aravali hill range. The geography of Sariska supports scrub-thorn arid forests, dry deciduous forests, rocks and grasses. The wide range of flora and fauna present here is a magnificent instance of ecological adoption and tolerance, for the climate here is variable as well as inconsistent.

3. Methodology

3.1. Data collection

In order to document the utilization of indigenous medicinal plants, a methodical survey was carried out during March 2009 to February 2010. The survey was spread across the seasons so as to get maximum information. A questionnaire was used in interviews, variations being introduced during the interviews themselves (Appendix A). These interviews were made with the help of translators who were conversant with the local Hindi language (Mewati dialect). The peoples mainly involved in animal keeping activities belongs to tribal communities like Meena, Gujjars and Rewaris, who has this knowledge to come from their ancestors through a oral tradition. Our questionnaire allowed descriptive responses on the plant prescribed, such as part of the plant used, medicinal uses, mode of preparation (i.e., decoction, paste, powder and juice) and administration, form of usage either fresh or dried and mixtures of other plants used as ingredients, route of appli-