



Ethnozoological study of medicinal animals on Jeju Island, Korea

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ABSTRACT

Aim of the study: The purpose of this study is to analyze and record traditional knowledge of animals utilized by the indigenous people living on Jeju Island in Korea.

Materials and methods: Data was collected through the participatory rural appraisal method involving interviews, informal meetings, open and group discussions, and overt observations with semi-structured questionnaires.

Results: This study recorded a total of 64 families, 73 genera, and 77 species of animals that produced 1160 methods for usages. Fishes occupied 36.4% of the total animals listed, followed by mammals at 19.5%, molluscs at 16.9%, and arthropods at 10.4% of the whole, respectively. In regards to usage, 52 species utilized as food products, totaled 67.5%, followed by 40 species for medicinal use, five species related to cultivation, with three species connected to veterinary medicine, and one species for cosmetics.

Conclusion: This study validates the fact that animal species play a major role, not only for edible recipes, but also in healing practices among its inhabitants. The conservation of particular animal species related to this study needs to be considered by authorities within this field of research to preserve the local medicinal knowledge. The empirical knowledge recorded in this study will provide outstanding possibilities for the discovery of new sources of medicine for the drug industry.

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1. Introduction

Presently, the investigation of animal use within a local community is performed in various places of the wide. The use of animal products for the treatment of human or animal diseases appears prevalent in certain areas of the world, particularly where traditional medicine is considered, more useful than allopathic medicine. This is the case for areas such as Brazil (Costa-Neto, 1999; Costa-Neto and Marques, 2000; Alves and Rosa, 2007; Alves et al., 2009; Oliveira et al., 2010; Alves and Alves, 2011), the Middle East (Lev and Amar, 2002), Turkey (Sezik et al., 1997, 2001), India (Mahawar and Jaroli, 2008), China (Still, 2003), and Korea (Pemberton, 1999).

In China, more than 1500 animals are used as medicine; in India, 15–20% of Ayurvedic medicine is based on animal-derived substances, whereas in Latin America, 584 medicinal animal species have been recorded (Alves and Rosa, 2005; Alves and Alves, 2011).

The study of medicinal compounds derived from animals in traditional medicine is crucial, since it has been estimated that over 80% of the global population has a health system based on traditional medicine, using mainly plants and animals (WHO, 1993).

This research focuses on the ethnozoological fieldwork on Jeju Island, Korea. Jeju Island, possessing a wonderful ecological geography and a unique traditional culture, was designated by UNESCO as a Biosphere Conserve in 2002, a World Natural Heritage in 2007, and a Global Geopark in 2010.

The weather on Jeju Island depicts a vertical distribution from subtropics to a subarctic zone due to its geographical position, its elevation, and topography. The endemic animals and the diversity of its species are abundant compared to the other areas of the Korean Peninsula.

Considering the investigation of fauna, 1094 species of invertebrates and 544 species of fish were reported by Hyun (2006) and Song (2006) as marine animals. In the case of land animals, 23 species of fresh water fish were reported by Song (2006); 4316 species of insects, 134 species of acari, and 354 species of arachnids were recorded by Kim and Chung (2006), 346 species of birds were classified by Park (2006). Oh (2006) recorded 23 species of mammals, nine species of amphibians, and 15 species of reptiles. Pemberton reported the use of insects and arthropods as traditional medicine; however, further investigations were not conducted (Pemberton, 1999).

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Therefore, this research is the first ethnozoological study in Korea and collects various and relevant information regarding the traditional knowledge of animal use on Jeju Island, Korea.

2. Study area and investigative method

2.1. Study area

As to the geographical location of Jeju Island, Japan sits directly to the east, with China to the west, Taiwan to the south, and the Korean Peninsula to the north. Jeju Island is a volcanic island generated from the volcanic activity of the Cenozoic Era about two million years ago (Won, 1981).

Jeju Island, as the largest volcanic island in Korea, includes Mt. Halla (1950 m) and over 360 other parasitic volcanos and is also composed of eight inhabited isles and 54 uninhabited islets.

The study area lies between 33° 06'N to 34° 00'N latitude and 126° 08'E to 126° 58'E longitude. Its length is 73 km and the width is 41 km. The entire shape of the island is close to an oval formation in that the major axis inclines at about 15° against the latitude from the northeast to the southwest and it is 2.4 times longer than the minor axis (Fig. 1). The annual average temperature is 15.3 °C and the annual precipitation is approximately 1500–1600 mm.

The study area is divided into two cities, which includes seven counties, five subcounties, and thirty-one villages in its administrative district and measures 1848.85 km² in area (Jeju Special

Self-governing Province, 2011). The total population in 2011 was 583,284 (Jeju Special Self-governing Province, 2011).

2.2. Investigative method

Field investigations were conducted throughout 25 sites in Jeju Island starting from April, 2011 to November, 2011 (Fig. 1). 108 key informants were interviewed. These people have lived over 40 years in the study areas.

Data was collected using the participatory rural appraisal (PRA) method, as the informants also become investigators themselves, involved in interviews, informal meetings, open and group discussions, and overt observations with semi-structured questionnaires (Kim and Song, 2008,2011; Song and Kim, 2011).

The content of the semi-structured questionnaires was composed of diverse ethnozoological information, including local names, parts used, ailments, methods of preparation, manufacturing and administration, dosage, and usable duration regarding each medicine (Martin, 1995; Alexiades and Sheldon, 1996; Cotton, 1996).

Animal specimens were collected, and were organized utilizing the normal specimen manufacturing method (Martin, 1995; Alves and Rosa, 2007, National Institute of Biological Resources, 2011). The voucher specimens were deposited for preservation in the herbarium of Jeonju University.

The precise identification and scientific names of animals were confirmed by the National Knowledge and Information System for Biological Species of Korea National Knowledge and Information

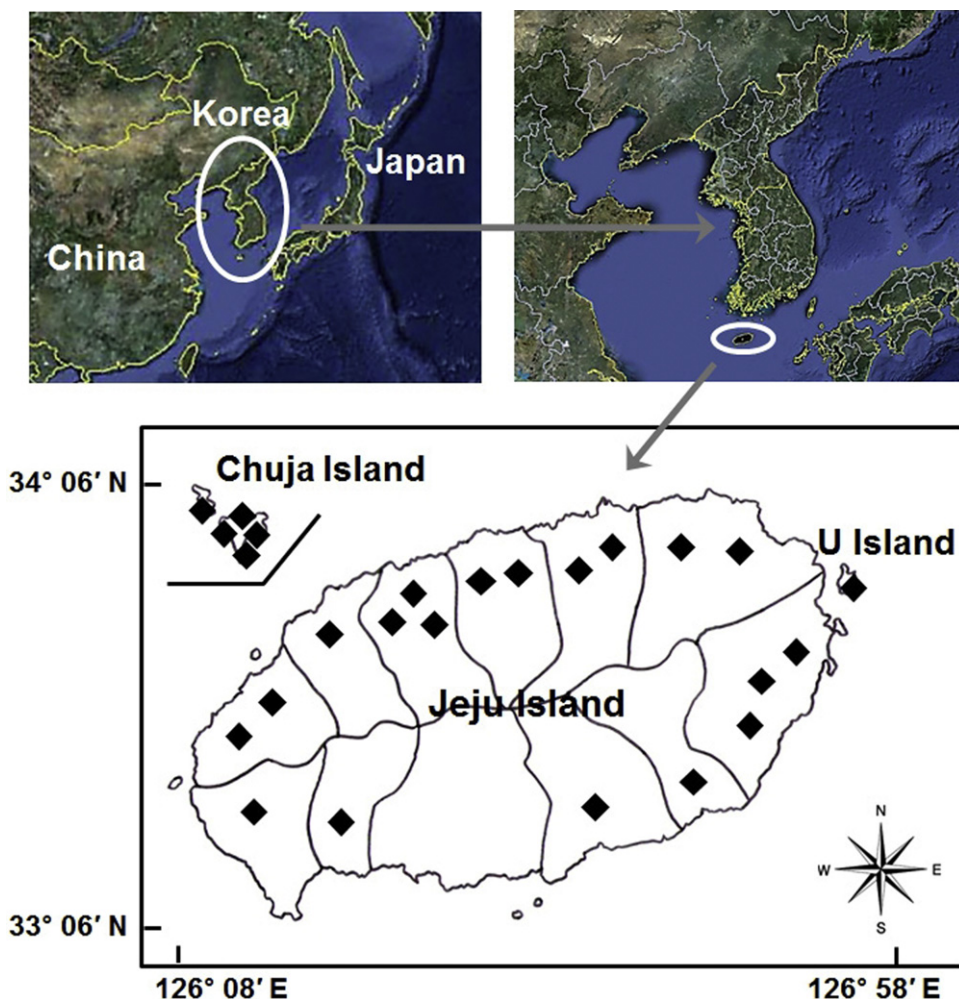


Fig. 1. Investigation sites.

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