

Eating and Healing

Traditional Food As Medicine

Andrea Pieroni, PhD
Lisa Leimar Price, PhD
Editors



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Introduction

Andrea Pieroni
Lisa Leimar Price

We both have childhood memories of the way women in our lives would arrange the cuisine so that it served as both food and medicine. Pieroni recalls chestnut-meal polenta boiled in the new red wine: that was one of the most common cough remedies used by grandmothers in Pieroni's home region in the mountains of northern Tuscany during the cold winter months. Price recalls her childhood in the United States and the chicken soup served to ease the discomfort of and speed recovery from a common cold, as well as the inevitable prune juice to relieve childhood constipation.

Since the days of our childhoods, these foods have become recognized as "functional foods." However, the link to culture and tradition is barely visible in scientific undertakings. In fact, what we both learned in our respective formal educations in pharmacy and anthropology was that food and medicine were two different arenas. Only recently are we learning the importance of the food-medicine linkages.

Plants may be used both as medicine and food, and it is difficult to draw a line between these two areas: food may be medicine, and vice versa. Plant resources in traditional societies, especially wild greens, are often used multicontextually as food and medicine. The gathering or cultivation, preparation, and consumption of these species are rooted in the emic perceptions of the natural environments coupled with available resources, local cuisine and medical practices, taste appreciation, and cultural heritage (Johns, 1990, 1999; Etkin, 1994, 1996; Price, 1997; Heinrich, 1998; Pieroni, 2000; Pieroni et al., 2002).

Much is still to be discovered about the fascinating links between food and medicine among different cultures, even more than 20 years after the superb work of Nina Etkin and Paul Ross (1982) on the medicinal plant uses among the Hausa in Nigeria, where out of 235

noncultivated medicinal plants, 63 taxa were also used as food. A number of studies on the potential health benefit aspects of traditional foods show that such plants have specific pharmacological effects. For example, Timothy Johns and co-workers (Johns and Kokwaro, 1991; Uiso and Johns, 1995; Johns, Mhoro, and Sanaya, 1996; Johns, Mhoro, and Uiso, 1996; Johns et al., 1999; Owen and Johns, 2002) have demonstrated how the overlap of food and medicine are related to the ingestion of phytochemicals that can explain very diverse cultural food behaviours and health outcomes. For example, in the case of the Maasai paradox, the Maasai obtain 66 percent of calories from fat, yet they do not suffer from illnesses typical of high-fat diets found in Western cultures. This has been attributed to the high level of saphins (which bind cholesterol) in the 25 or so different plants they combine into a soup along with their high-fat foods. Although we have had few but very important contributions in the area of plant foods as medicines, much less is known about traditional consumption of animal food-medicines such as fish (Begossi, 1998).

This book explores this gray area between food and medicine and the diverse ways in which these two cosmos overlap and penetrate each other in traditional and indigenous cultures.

We have placed Louis Grivetti's contribution as the first chapter in this book. Grivetti (along with Britta Ogle) made an important and lasting early contribution to understanding traditional food and medicine through his investigations into wild-food plant gathering and consumption (for example, Ogle and Grivetti, 1985a, b, c, d). The contemporary contributions of Grivetti and his collaborators and students continue this tradition of providing exciting and challenging insights (Grivetti and Ogle, 2000; Johnson and Grivetti, 2002a, b; Ogle et al., 2003). Thus, it is a great pleasure for us that Louis Grivetti agreed to place his contribution in the introductory position of the book, starting the volume off with his reflections on 30 years of research in the field of edible wild plants as food and medicine.

The main research themes in Grivetti's group have been the cultural and nutritional aspects of the use of edible wild plants; studies of cultural diversity in geographical regions of environmental similarity (culture variable/environment constant); or studies of cultures that occupy different ecological niches (environmental variable/culture constant). Three efforts have characterized Grivetti's work: (1) procurement and dietary uses of wild plants during periods of drought or

social unrest; (2) maintenance of the ability to recognize edible wild species; and (3) nutrient analysis of key species. The chapter by Grivetti summarizes this amazing work and concludes with selected topics for further investigation.

The contributions in the book look at many of the aspects described by Grivetti, analyzing diverse case studies from around the globe through the lens of cultural, environmental, and/or biopharmacological aspects of the traditional consumption of biological resources.

The chapters that come after Grivetti's are arranged according to geographic regions of the world: two contributions for Asia, two for Europe, two for North America, two for the Caribbean, four for South America, and three for Africa. While this division represents different geographic areas, the reader will find that certain topics and themes within each chapter are common in multiple regions.

ASIA

Patrick Owen's contribution on Tibetan foods and medicines examines antioxidants in the Tibetan diet as potential mediators of high-altitude nutritional physiology. He reviews biotic and abiotic influences on high-altitude nutritional physiology. Tibetan highlanders have a low incidence of heart disease despite a diet rich in saturated fat. His work shows that an interplay of factors and protective elements are involved in the low incidence of cardiovascular disease and proposes that the highlander Tibetans have incorporated foods that contain prophylactic elements.

Lisa Price's chapter has a double function. She provides a background to wild/semidomesticated plant foods gathered in agricultural environments that provides a framework for a deeper understanding of these plants at the interface of foods and food-medicines. This framework is married to her own field research in Northeast Thailand and the role of wild plant foods in rural life. She goes on to discuss her findings on the overlap of gathered food plants with medicines and as functional foods and explores the multiple-use value of these plants in farmer's deciding to establish gathering restrictions for selected species they perceive as rare. Throughout the chapter, the roles of women in general, and in Northeast Thailand in particular, are discussed.

EUROPE

Andrea Pieroni and Cassandra Quave provide a comparative study on the consumption of wild plants among ethnic Albanians and Italians living in southern Italy. They distinguish between wild plants used in separate contexts as food or medicine, as functional foods, or as food-medicines. The research populations do not perceive functional foods to have specific medical properties, but just consider them to be “healthy,” while medicinal foods (food-medicines) have clear folk medical prescriptions.

Pieroni and Quave’s research on the medicinal or nutraceutical value of many of these plants has demonstrated high antioxidant activity and potential as therapeutic agents for the management and prevention of chronic diseases such as diabetes, stroke, and coronary heart disease. Their high levels of antioxidants may be especially important in the prevention and management of age-related diseases (ARDs). The authors suggest that recording and conserving traditional knowledge regarding the use of plants is of utmost importance, not only for the biocultural conservation of the communities/environments studied but also for future medical advancements in the prevention and management of chronic diseases. Given the current socioeconomic and cultural shifts in rural southern Italy, conservation and restoration of the plants and plant knowledge must be undertaken soon.

Manuel Pardo de Santayana, Elia San Miguel, and Ramón Morales analyze the digestive beverages used as medicinal food in a cattle-breeding community in northern Spain (Campoo, Cantabria). They note a tremendous erosion of traditional knowledge about wild plants and their uses. For example, they note that only 20 percent of the wild food species previously consumed are still eaten today. A few exceptions were represented by infusions. These infusions are frequently ingested for both the tasty flavor and medicinal digestive properties. One example is the homemade digestive spirits, such as *pacharán*, prepared with blackthorn fruits (*Prunus spinosa*). Their chapter illustrates the considerable interest in southern Europe to examine changes in lifeways and habits among traditional rural societies and the potential use of traditional knowledge for the development and marketing of new “old” nutraceuticals. In order to economically diversify and revitalize rural areas such as Campoo we should look

back and rediscover valuable traditional practices and knowledge, maintain active ones, and adopt strategies for exchanging information and experiences with other, similar cultures and regions.

NORTH AMERICA

For the region of North America, Nancy Turner and Helen Clifton collaborated to study the harvesting and consumption of seaweed among the Gitga'at, a Sm'algyax- (Tsimshian-) speaking people of Hartley Bay in British Columbia, Canada. Their work illustrates how the harvesting and consumption of seaweed reflects a complex, traditional ecological knowledge system that links the land and the sea, people and other life-forms, and culture to nature. Their study is about eating rather than the healing aspects of seaweed consumption, but it still provides an important contribution to this book because of the links made between nutritional, cultural, and environmental knowledge on an underresearched, traditional wild food resource. Helen Clifton, as a member of the Gita'at Nation of Hartley Bay, brings particular cultural richness to this chapter.

In the modern metropolitan U.S. context, Craig Hassel, Christopher Hafner, Renne Soberg, and Jeff Adelman analyze how traditional Chinese medicine (TCM) practitioners use descriptive sensory analysis procedures to assess the quality of medical herbs, and how that challenge inspired a joint network of herb growers and Chinese practitioners to improve the quality of TCM drugs. They provide information about foods used as medicine in the CM tradition and the dilemmas faced by CM practitioners in the United States when the Chinese medicinal epistemology is not accounted for in the Western biomedical paradigm.

THE CARIBBEAN

In the Caribbean, Marsha and Robert Quinlan report on the “bush medicine” (home health care) practiced in Dominica (Lesser Antilles) and show how the system is based on a version of New World hot/cold humoral theory. All body tissues and fluids, especially blood and mucus, are assumed to react to heat and cold. Cold illnesses are

associated with respiratory problems or are stress induced and require hot remedies, ingested as seasonings and herbal “teas,” to thin secretions and to help sufferers relax. Hot illnesses have to do with increased body heat, redness, and swelling and are usually thought to stem from dirt or feces in the body. These illnesses are treated with cold foods and “teas” that often have laxative properties. Moreover, a food or herb’s humoral quality is determined by how it affects illnesses and the body.

Gabriele Volpato and Daimy Godínez studied the medicinal foods of Cuban households and demonstrate how economic factors, ethnicity, and historic antecedents play a role in the dynamic strategies that people adopt to heal minor troubles by using food preparations.

SOUTH AMERICA

For South America, Alpina Begossi, Natalia Hanazaki, and Rossano Ramos offer a unique contribution on animal-derived food medicines. They examine the various fish species that are recommended in the diets of invalids, as well as the medicinal fish used among the Caiçaras of the Brazilian Atlantic forest coast and the Caboclos of the Brazilian Amazon. By using interviews based on questionnaires and direct observations during long fieldwork periods on the islands of Búzios, Gipóia, and Vitória, and in the coastal communities of Juréia and Ubatuba on the Atlantic Forest coast, they discover that fish recommended for invalids tend to have a diet based on vegetal matter, detritus, or invertebrates. They propose that the use of nonpiscivorous prey (i.e., fish that do not feed on other fish) in the diet of invalids may be associated with the reduced risk of accumulating toxins from fish from lower trophic levels compared with fish from high trophic levels.

Natalia Hanazaki, Nivaldo Peroni, and Alpina Begossi address the comparative uses of edible and healing plants of native inhabitants of the Amazon and Atlantic Forest areas of Brazil. They collected data through interviews with 433 native residents whose livelihood is based mainly on fisheries and small-scale agriculture. They found that about 20 percent of the plants mentioned in the Amazon area were used for both food and medicine, while the proportion in the Atlantic Forest area consisted of approximately half of the documented species.

In their contribution, Ina Vandebroek and Sabino Sanca analyze the use of food medicines in the Bolivian Andes. They discovered that 50 percent of the 43 species they document as overlapping as food and medicine are wild species. Eleven of these are “weeds” growing around agricultural fields. Aerial parts and fruits are used most frequently for food as well as for medicine.

Ana Ladio investigated the gathering activity of wild plant foods with medicinal use in a Mapuche Community of Northwest Patagonia in Argentina. She shows how the selection of edible and medicinal plants in the Cayulef community is influenced by botanical, ecological, and sociocultural aspects that lead to distinct patterns of species use. Cayulef people know and use a variety of wild edible plants, some of which are also utilized as medicine—representing a substantial overlap of edible and medicinal species (63 percent). These medicinal foods enlarge the opportunities to cure illness and improve the well-being of families at the same time. Moreover, wild food species with medicinal and nonmedicinal uses belong to diverse botanical families that are distinct from the botanical families of the exclusively edible species. Ladio proposes that chemotaxonomical differences between the plants utilized as food-medicine can explain the existence of a systematic and evolutionary pattern in wild plant use.

AFRICA

Charles Ogoye-Ndegwa and Jens Aagaard-Hansen’s chapter explores the dietary and medicinal use of traditional herbs among the Luo of Western Kenya. They studied the cultural aspects (perceptions, attitudes, and practices) of traditional herbs with regard to dietary and medicinal use over a period of four years. They identified 72 different edible plants, most of which grow wild. Out of these 72, 65 were perceived to have medicinal value as well as being used for food. The authors emphasize how these herbs are an underutilized resource and how they could represent a precious potential for dealing with both food insecurity and the need for preventive health care in vulnerable communities.

In the context of southern Cameroon, Thomas Kuyper analyzes how different populations (Bantu, Bagyeli) differ in patterns of mushroom

consumption for dietary and medicinal purposes. He shows how these differences depend on the mushroom species that occur in the various ecosystems, their phenology, and the habitats in which local populations collect and cultivate their food sources. Extensive mushroom knowledge does not automatically imply a high social valuation of mushrooms and hence a high consumption. Kuyper points out the importance of understanding social and cultural factors that affect mushroom consumption when proposing interventions such as mushroom cultivation as a source for improving food security.

Mohamed Eddouks reports on the overlap between food and medicine and ethnopharmacology in Morocco. Eddouks demonstrates how food medicines represent an integral part of the health care system in Morocco and how many pathologies have been traditionally treated using foods. He provides cultural insights as well as a list of foods used as medicine in Morocco and examines phytotherapy in different regions of the country. He also notes that women frequently use more medicinal plants than men. He concludes that phytotherapy should not be used by only the poor but be a real tool of medicine for all people.

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