Animal remedies in the folk medical practices of the upper part of the Lucca and Pistoia Provinces, Central Italy

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Keywords: animal drugs, ethnomedicine, ethnopharmacology, Italy, pharmacognosy, Tuscany

Introduction

Although today much is known about the chemistry and pharmacology of many traditional plant remedies, studies on drugs of animal origin are still rare in the scientific literature. Nevertheless, animal remedies had a central role in historical European pharmacopoieas until at least the Sixties (Schindler and Frank, 1961), and throughout the European classical historical medical treatises (for example in Dioscoride's Materia Medica, or in the later works of St. Hildegard, Mattioli, Tabernaemontanus, Lonicer).

If we consider mammals for example, it is (it's doesn't look good in formal writing) clear that many species were commonly used in the past as food-medicines, while at present only a few mammalian ingredients still survive (and most of these) only for cosmetic purposes (as in the case of *Castor canadensis* and *Moschus moschiferus* secretes (Hänsel *et al.*, 1993).

The use of insects and arthropods is even more common. They are still used today for food and medicinal aims in traditional societies in Central America (Ramos-Elorduy de Conconi and Moreno, 1988), Africa (van Huis, 1996; Herren *et al.*, 2000) and Asia (Zimian *et al.*, 1997; Pemberton, 1999), where they still play an important role for example in the Traditional Chinese Pharmacopoeia (Stöger, 1985). On the contrary, in Western countries, the use of *Lytta vesicatoria*, Kermes sp. pl., *Dactylophius coccus*, and *Laccifer lacca* secret is today considered archaic (Evans, 1996).

Scientific investigations featuring newly isolated natural products from amphibians (Teuscher and Lindequist, 1994) and various marine organisms (Faulkner, 1996) are increasing in abundancy, but these seem to focus on Natural Product Chemistry rather than the science of Pharmacognosy.

Field ethnomedical studies carried out in the last two decades around the world described more than 40 animal-derived food-medicines containing animal-derived ingredients (Pieroni and Grazzini, 1999), and in the Mediterranean area, quotations of still used animal drugs are restricted to a field work carried out on the popular pharmacopoeia in Morocco (Bellakhdar, 1997) and Sudan (El-Kamali, 2000) and to a few notes collected during ethnobotanical studies in Turkey (Tabata *et al.*, 1994; Sezik *et al.*, 1997; Yesilada *et al.*, 1995 and 1999; Ertug, 1999).

Bioscientific reviews of indigenous animal drugs were also rare during the last decades (But *et al.*, 1990; But *et al.*, 1991; Al-Harbi *et al.*, 1996).

Therefore, ethnopharmacological studies focused on animal product-based remedies could be very important in order to clarify the eventual therapeutic usefulness of this class of biological remedies and this may open a new chapter in pharmacognosy.

In order to record all the biological remedies still used in the Italian folk practices, a field ethno-pharmacognostic study was carried out in the upper part of the Lucca and Pistoia Provinces, north-western Tuscany, Central Italy. In these regions there are many rural areas, which remain quite isolated and where the elderly still retain much valuable knowledge of local folk medicine.

Methods

Field research was conducted by collecting ethnomedical information during interviews with 29 knowledgeable persons living in villages of the mountainous (Appenninian) areas of the Lucca and Pistoia Provinces (north-western Tuscany, Central Italy, figure 1), and native to the territory. Characteristic of the villages are their

small populations (50-500 inhabitants) and a continuing traditional way of life.

People were asked to quote traditionally used animal remedies and an attempt was made in order to quantify the perceptions of various animal food as food medicine. A questionnaire was filled in for each quoted remedy. Audio mini-disk records were also obtained.

Discussion

The geographical isolation of the studied area has allowed the maintenance of a rich local knowledge and also the survival of old folk medical practices up to the present day. Animal drugs used in the folk medical practices in the studied area are reported in Table 1.

In particular the use of fresh cobwebs, human urine and living slugs or snails as hamostatic, vulnerary and anti-ulcer respectively, demonstrate the archaic persistence of old folk medical practices, which were already described by diverse historical medical texts of the Mediterranean areas as the treatises of Dioscoride and Mattioli.

More uncommon is the tradition of preparing an expectorant poultice by crushed freshwater crabs (*Potamon fluviatile*, figure 2), the gathering of which was - especially in the past - reserved to special knowledgeable persons. Moreover, the use of fresh menstrual flow in external application against warts and the ingestion of cooked mouse meat or its external use as anti-enuresis mean (especially for children), as well as the external use of the leg of a hare as anti-mastitis mean and of a black hen against typhus are characterised by remarkable symbolisms.

Another important aspect of the data collected on animal-based remedies is represented by food-medicines. In particular, some meat preparations, whose consumption was very rare in the past, were considered to have a special use for mild diseases: so the consumption of a raw egg as reconstituent for persons affected by psychic disorders and of frog legs as intestinal refreshing remedy.

Acknowledgements

Special thanks are due to all interviewees of the villages, who volunteered to share their precious experiences about traditional remedies: Francesca Baisi (75 y.o.), Rosita Bertagni (75 y.o.), Angela Bertolami (67 y.o.), Iride Bertei (70 y.o.), Maria Giuseppina Bertei (64 y.o.), Doriana Bertolini (65 y.o.), Elena Bertolini (81 y.o.), Giulio Bonini (98 y.o.), Antonietta Bosi (67 y.o.), Elio Brega (75 y.o.), Marianna (Ottavia) Fontanini (83 y.o.), Silvia Guerrini (70 y.o.), Graziana Guidi (62 y.o.), Niccoletta Guidi (56 y.o.), Corinno Magistrelli (77 y.o.), Paolino Panini (62 y.o.), Isolina Pieroni (69 y.o.), Rita Rossi (80 y.o.), Marisa Talani (66 y.o.), Liliana Vannozzi (77 y.o.), Andreina Venchi (83 y.o.).

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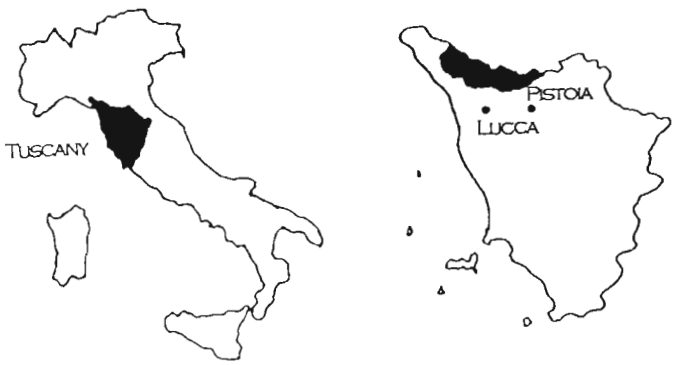

Figure 1. Geographical location of the studied area

Figure 2. The freshwater crab (*Potamon fluvatile*, Potamidae) used traditionally in the studied area externally as expectorant

Table I. Animal remedies used in the folk medical practices in the studied area

Scientific name of the species	Common name of the species	Part or product used	Vernacular name of the used	Use *	Modality of use	Recorded ethnomedical use	Role as food medicine
Anobium punctatum	woodworm	wood damaged by the animal	legno camulato	E	external application, then covering by an emulsion of water and olive oil	against skin inflammation	
Apis mellifera	bee	wax	cera	E	external application in mixtures with olive oil	emollient	
		honey	miele	I	in hot milk, then drunk	against cold; anti-inflammatory of the oral tract	X
Arion hortensis	slug	whole animal	lumacon	I	eaten raw	anti-ulcer	X
Bos domesticus	calf	brain	cervello	I	eaten cooked	reconstituent	X
	beef	meat	meat	I	soup	reconstituent	X
	cow	rennet	presame	E	external application on skin inflammations produced by thorns	suppurative	
		curds	cajata	I	eaten	mild laxative (especially for children)	X
		faeces	cacca della vacca	E	external application on the cow's udder (mixed with clay)	against cow mastitis (veterinary)	
Equus caballus	horse	meat	carne di cavallo	I	eaten cooked	reconstituent	X
Gallus sp.	hen	egg	uovo	I	eaten raw	anti-anaemic; reconstituent for persons with psychic disorders	X
		albumen	chiara d'uovo	E	cataplasm (together with tow or by linen or hemp cloths)	anti-sprains	
		meat	gallina	I	soup	reconstituent (especially given to the women, who have just given birth)	X
		faeces	cacca di gallina	E	external application	vulnerary	
		whole black animal	gallina nera	E (ritual)	put on the abdomen	against typhus	
Helix sp.	snail	whole animal	limaca	E	cataplasm of the crushed animal	against toothache	
		meat		I	eaten raw	anti-ulcer	X
Hirundo medicinalis	leech	whole animal	mignatta	E	bleeding externally	anti-hypertension; against lunge diseases; anti-contusions; anti-tonsillitis	

Scientific name of the species	Common name of the species	Part or product used	Vernacular name of the used	Use *	Modality of use	Recorded ethnomedical use	Role as *food medicine*
Homo sapiens	human	urine	piscia	E	topic application;	antiseptic and vulnerary	
				E	external application of a piece of wool cloth imbibed in urine and covered by hot ashes	anti-sprains	
				I	let rest one night outside under a stern sky ("alla serena"), than drank	against intestinal inflammations	
		menstrual flow	sangue del "corso"	E	external application on opened warts	anti-warts	
		faeces of a baby	cacca di un bimbo	E	external application on the woman breast	anti-mastitis	
Lepus europaeus	hare	leg	zampina di lebre	E (ritual)	put on the affected breast	anti-mastitis	X
Mus musculus	mouse	meat	topo	I	fried	anti-enuresis	X
		whole animal	topo	E (ritual)	the animal is rubbed onto the blanckets	anti-enuresis	X
Oryctolagus cuniculus	rabbit	meat	carne di cunjo	I	soup	anti-cold; anti-stomach-ache	X
Pediculus humanus	louse	whole animal	pidocchio	I	eaten raw together with milk	anti-hepatitis	
Potamon fluviatile	freshwater crab	whole fresh animal	granchio di fiume	E	poultice	expectorant	
Rana sp.	frosh	leg	cosce di rana	I	eaten fried	intestine refreshing	X
Sus sp.	pig	fat	sciungia; sciugna	E	external application (together with white lead)	anti-burns	
				E	application on the breast of a piece of straw paper coated by fat and made hot by a bag containing ashes (simultaneously the feet have to be warmed and also covered by fat)	against lung diseases	
		lard	lardo	E	eternal application	anti-haematoma	
				E	external application	emollient	
various species of the Araneidae family	spider	cobweb	ragnatela	E	external application	haemostatic and vulnerary	

* I: internal use ; E: external use