



Traditional Uses of Plants in the Tolfa–Cerite–Manziate Area (Central Italy)

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Abstract: *Traditional knowledge of local plant uses is rapidly fading away, especially in rural Mediterranean areas. We carried out ethnobotanical research in 2010-2011 in order to investigate the local knowledge of wild plants in the Tolfa–Cerite–Manziate area of Italy (Latium, district of Rome). We carried out a total of 45 semi-structured interviews with farmers, herders, and fishers. Here, a simple diachronic comparison is made between the current study and a previous one conducted in some of the villages of the study area to highlight potential losses of traditional knowledge of local plants. We documented a total of 102 plant species, belonging to 48 families, along with their uses (excluding food uses). We also reported some non-plant based remedies that were primarily used in veterinary medicine. Some plant uses, especially for making handicrafts, have not been reported previously (e.g., those of *Celtis australis* L. *Cannabaceae*, *Betula pendula* Roth *Betulaceae*). Many plant uses are no longer remembered in the area, which indicates a loss of local ethnobotanical knowledge.*

Keywords: Ethnobiology, Folk remedies, Cultural erosion, Latium

Introduction

Local, traditional, or indigenous knowledge of plant uses is rapidly disappearing in many areas of the world (Cox 2000). This is especially evident in several European countries, where such knowledge evolved over centuries of human use of the environment (Pardo-de-Santayana et al. 2010). Despite this recent cultural erosion, ethnobotanical research in Europe is still limited in comparison with other regions, especially for studies exploring plant uses other than medicine and food.

Many ethnobotanical studies have been carried out in Italy over the last few decades (Guarrera 2006). The majority of these studies focused on medicinal plant uses. Despite the fact that researchers have hypothesized contamination of local ethnobotanical knowledge either with ancient medicinal treatises or neoteric knowledge (Leonti et al. 2009; Pardo-de-Santayana et al. 2010), many studies continue to highlight interesting and novel plant uses.

In this ethnobiological study, we focus our attention on the Tolfa–Cerite–Manziate area. The territory has been inhabited over time by proto-Etruscans, Etruscans (seventh century BC) and then

by Romans (third century BC) (Vander Poppen 2008). It belonged to the Papal States from the eighth century to the nineteenth century. The area has always had a rural character despite its proximity to the city of Rome and its suburbs (Salvati and Sabbi 2011). Today, this rural area is famous for cattle breeds (e.g., the *Maremmana*) but local farmers also raise horses, sheep, and other animals.

Over time, people in the study area have developed a complex corpus of ethnobiological knowledge and traditions. This knowledge has only been explored in the ethnobiological literature once by P. M. Guarrera and M. Chiavoni over a period spanning from 1980 to 1990 (Guarrera 1994). Despite the fact that only a part of the territory was surveyed (Tolfa Mountains and Canale Monterano) and documented uses were limited to medicinal and food plants, the study by Guarrera (1994) suggested the presence of a rich body of ethnobiological knowledge.

The current study is nested within a broader research project aimed at exploring ethnobotanical knowledge in Italy (e.g., Caneva et al. 2013; Guarrera 2006) and has two aims:

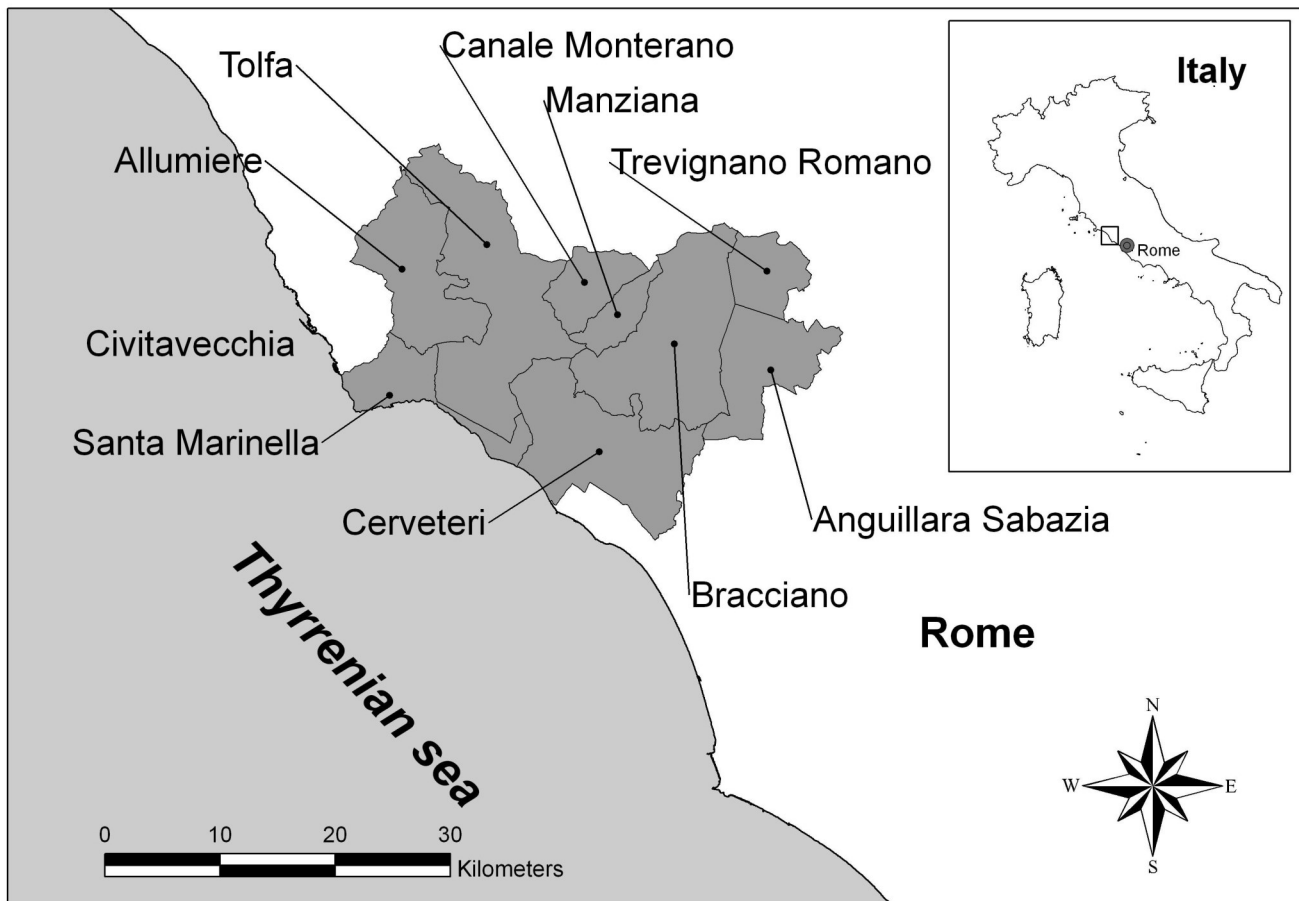


Figure 1. Geographical position of the study area with names of the municipalities.

To document information on current ethnobotanical knowledge of people in the Tolfa–Cerveteri–Manziana area (including plant uses that are often neglected such as those related to handicraft making, domestic and agro-pastoral uses as well as ritual use).

To compare the data collected in this study with those reported in Guarrera (1994), which dates back to the 1990s and to other studies in the Latium region in order to identify loss of knowledge and novelty in plant uses. Extensive data on food plants are reported in a separate article.

Study area

The investigated area covers the northern part of the Nuts-3 prefecture of Rome (Latium, central Italy) with a total surface of 556 km² (Figure 1). The area is located between longitude 11° 44'–12° 11' and latitude 41° 55'–42° 14'. As part of an ancient volcanic system, the area is bounded by mountains (Monti Cimini and

Monti Sabatini) and by the Tyrrhenian Sea.

The landscape is featured by a mosaic of plains, hills and low mountains (the highest elevation of the Tolfa Mountains is the *Monte delle Grazie*, 616 m a.s.l.). Mountains are partially of volcanic origin and formed by older sedimentary deposits of flyschoids (Angelelli and Faramondi 1995; Devoto and Lombardi 1977). The alluvial plain of the Tiber River constitutes part of the lowlands of the area (Salvati and Sabbi, 2011).

The climate is Mediterranean with some areas at the edge of the temperate belt (Savo et al. 2012). The average long-term (1951–2007) annual rainfall totals 805 mm, while the average annual medium temperature is 15.5 °C [climate data were obtained from the CRA-CMA (2012)]. However, decreases in precipitation coupled with an increase of temperature have been recorded in recent years (Savo et al. 2012).

The vegetation landscape is characterized by a mosaic of pastures, cultivated land, and woodland. A



majority of the landscape persists as natural or semi-natural habitats (Fanelli et al. 2007), despite the occurrence of fires (especially during the summer) and the relatively high human presence (urban sprawl from the city of Rome). The typical Mediterranean landscape has been preserved in some stands, including meadows with wild *Cynara cardunculus* L. Asteraceae and grasslands with sulphurous springs. Most of the woodlands are composed of broad-leaf species (e.g., *Fagus sylvatica* L. Fagaceae, *Quercus robur* L. Fagaceae, *Castanea sativa* Mill. Fagaceae), especially on hillsides (Anzalone 1961; Di Pietro 2010; Spada 1977). The area includes many sites of the Natura 2000 network and Sites of Community Importance (SCI) (Habitats Directive¹).

A large part of the study area is covered by scattered towns and villages. Some industrial areas are located in the Southern lowlands close to the city of Rome, while rural areas are more abundant in the Western part of the study area (Salvati and Sabbi, 2011).

Methods

Ethnobotanical survey and analysis of data

The Tolfa–Cerite–Manziate area includes 9 municipalities: Allumiere, Anguillara Sabazia, Bracciano, Canale Monterano, Cerveteri, Manziana, Santa Marinella, Tolfa, and Trevignano Romano (Figure 1). These municipalities span from the coast to an inland hilly area bordering Bracciano Lake (of volcanic origin).

We collected data on plant uses between 2010 and 2011 through semi-structured interviews without time limits (Bernard 1988). We used a purposive sampling technique (Bernard 1988) by selecting informants among people with a close relationship with the local environment. When approaching a village, we approached elders sitting on benches, people at senior centers, or people working on their land. In some cases information on potential informants was also solicited from local bartenders. Informants were selected among farmers, shepherds (*butteri*), fishers and housewives (who generally cultivate at least a home garden). During our field surveys, we performed 45 interviews. Each informant was first presented information about the aims of the study and Prior Informed Consent (Rosenthal 2006) was requested verbally before starting the interview. Consent was also requested to conduct interviews using an audio recorder and to photograph plants and

eventually handicrafts or herbal preparations. Interviews were conducted following the ISE Code of Ethics (ISE 2006).

Interviews were structured in two parts. The first part of the interview was aimed at collecting personal data on the informants (age, job, place of residence). The second part of the interview was focused on the relationship of the informants with plants and concerning how informants were using plants. Specifically, we recorded data on the vernacular name of the species, the description of uses, and the parts used. We also recorded if informants used fresh or dried plants and if they used plant species in combination with others. In addition, we recorded how mixtures are prepared and doses related to plant uses (especially of medicinal plants). In this paper, we report all plant uses with the exception of food uses (Table 1, Table 2): medicinal, veterinary, handicraft, domestic, ritual uses, games, agro-pastoral, and anti-parasitic uses. Plant uses were categorized following the classification suggested in Signorini et al. (2013), with the addition of the category for anti-parasitic uses, which was not considered in that work. We also reported non-plant based uses, which are mostly remedies used in human and veterinary folk medicine (Table 3).

We gathered the plants used and noted by the informants. All the plants that were mentioned were taken into account even if noted by a sole informant. Plant species were identified following the “Flora d’Italia” (Pignatti 1982) with use of updated scientific nomenclature (ThePlantList.org 2014).

The reported plant uses were then qualitatively compared to those reported in a previous study (Guarrera 1994) conducted in a region partially overlapping with the study area. Similar comparisons done in other regions are reported in Di Tizio et al. (2012) and Pieroni et al. (2013). Methods used in this study were similar to those used in the Guarrera (1994) even though that study was mainly focused on medicinal and food plants and was conducted at a different time and in a smaller area. The small set of data did not allow for quantitative analyses so, for this reason, we only performed a qualitative comparison of lists of plant species and plant uses. As an example, the use of *S. nigra* to make blowguns was documented in Guarrera (1994) but it was also reported by informants in the current study. Other plant uses were generally similar, such as the use of olive oil for tending burns in our study and for treating insect bites



Table 1. List of folk uses of plants (medicinal, veterinary, anti-parasitic, handicrafts, domestic, agro-pastoral, ritual uses, games).

Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciociarria ⁵	Acquapendente ⁵
Family Adoxaceae <i>Sambucus nigra</i> L.	<i>Sambuco</i>	Stem	GAM*: To make blowguns AGR-PA: Leaves as fodder DOM+: Juice to dye clothes DOM*: Juice to make ink	B	AL, TR			Y
Family Amaryllidaceae <i>Allium cepa</i> L.	<i>Cipolla</i>	Bulb	MED: People used to eat large amounts of <i>A. cepa</i> and <i>A. sativum</i> to cure the spagnola flu (terrible infectious disease spread during the First World War) MED: See <i>A. cepa</i> AGR-PA: Minced garlic as birdseed for chicks MED: Garlic necklaces were made for kids to wear as anthelmintic VET*: Garlic as birdseed to cure diseases of poultry	A	AN			
<i>Allium sativum</i> L.	<i>Aio</i>	Bulb Bulb		A A	AN CR			X Y
Family Anacardiaceae <i>Pistacia lentiscus</i> L.	<i>Lentischio</i>	Branches, resin	MED*: In the past, boiled and used to heal toothache (mouthwashes)	A	AL			X

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
Family Aquifoliaceae <i>Ilex aquifolium</i> L.		Branches	DOM: Branches to bind bundles of firewood	A	CR			
	<i>Trentavecc-hie</i>	Whole plant	RIT*: In the past, the whole plants were used as Christmas trees	A	CM, MA			Y
Family Apiaceae <i>Apium graveolens</i> L.	<i>Sedano</i>	Stem	MED+: The stem was boiled and eaten as diuretic MED: The stem was boiled and eaten as laxative	A	TO			
	<i>Finocchiella</i>	Stem	MED: The stem was drunk for its refreshing properties	A	BR			
<i>Foeniculum vulgare</i> Mill.		Whole plant	MED: Decoction was drunk for its refreshing properties	A	SM			X
Family Araceae <i>Arum italicum</i> Mill.	<i>Giàvero</i>	Leaves	AGR-PA*: Boiled leaves as fodder for pigs	A	CM			X
Family Araliaceae <i>Hedera helix</i> L.	<i>Edera</i>	Leaves	AGR-PA: Fodder for cows MED: Boiled leaves were mixed with bread crumbles and put on wounds	A	AN			
Family Asteraceae <i>Calendula arvensis</i> M. Bieb.		Aerial parts	AGR-PA: As a galactagogue for cows	A	CM			

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
<i>Cota tinctoria</i> (L.) J. Gay s.l.	Capezzòne, capazzòne	Flower-heads	RIT: In local floral carpet compositions (<i>Infiorate</i>) MED*: Mouthwashes with infusion to cure sore throat (still in use)	B	AL			
<i>Matricaria chamomilla</i> L.	Camomilla	Flower-heads	MED*: Decoction against intestinal pain	A	CM	X	X	
<i>Picris</i> sp.	Strama	Aerial parts	AGR-PA: Fodder for horses	A	BR			
<i>Silybum marianum</i> (L.) Gaerth.		Seeds, dry plant	AGR-PA+: Seeds were used for feeding animals	A	AN			X
<i>Tanacetum balsamita</i> L.	Santa Maria	Flower-heads	RIT: In the ritual water for the Saint John feast along with <i>L. angustifolia</i> , <i>A. tinctoria</i> and leaves of <i>J. regia</i> ; or with <i>T. parthenium</i> , leaves of <i>J. regia</i> and flowers of <i>H. perforatum</i>	B	AL	X		XY

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵	
	<i>Matricaria</i>	Flowers	RIT*: In the ritual water for the Saint John feast along with leaves of <i>J. regia</i> , flowers of <i>H. perforatum</i> and aromatic herbs (e.g. <i>T. balsamita</i>). The water is very fragrant	B	AL	X		Y	
Family Asparagaceae									
<i>Ruscus aculeatus</i> L.	<i>Pungitopo</i>	Branches	DOM: To make brooms MED: Once used to cure the <i>spagnola</i> flu	A	AN, TR				
Family Betulaceae									
<i>Betula pendula</i> Roth		Wood	DOM: To make mortars (used for pounding salt)	A	CM				
<i>Carpinus betulus</i> L.	<i>Carpine</i>	Wood	DOM: To make charcoal, see <i>A. unedo</i>	A	BR				
<i>Ostrya carpinifolia</i> Scop.	<i>Carpine</i>	Wood	DOM: To make charcoal, see <i>A. unedo</i>	A	BR				
Family Brassicaceae									
<i>Brassica oleracea</i> L.	<i>Verza</i>	Leaves	MED*: Leaves were put on the wounds as bandage AGR-PA: Fodder for cows	A	AL		X		
<i>Brassica rapa</i> L. s.l.		Leaves, turnips	AGR-PA: Fodder for cows	A	CM				
<i>Raphanus raphanistrum</i> L.	<i>Ramoraccio</i>	Plant	AGR-PA: Fodder for rabbits	A	AN				

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
Family Cannabaceae <i>Cannabis sativa</i> L.	<i>Canapa</i>	Fibers	DOM: Used to repair cracks in barrels. Once the plant was cultivated in Canale Monterano FISH-H: To repair cracks in boat planking AGR-PA+: To make halters for pack animals DOM+: To make bed sheets FISH-H+: Once cultivated to make ropes, it was soaked in water for a week before use FISH-H+: The nets of the fishermen once were made with hemp GAM: To make small pellets for blowguns	B	CM			
		Fibers	FISH-H: To repair cracks in boat planking	A	AN			
		Fibers	AGR-PA+: To make halters for pack animals	A	BR			
		Fibers	DOM+: To make bed sheets	A	AN			
		Fibers	FISH-H+: Once cultivated to make ropes, it was soaked in water for a week before use	B	AN, BR			Y
		Fibers	FISH-H+: The nets of the fishermen once were made with hemp	A	AN			
		Fibers	GAM: To make small pellets for blowguns	B	AL, TR			
		Wood	HAN: The wood bends easily. Ring-shaped objects (<i>roccette</i>) were made with the very flexible wood for mule saddles and other pieces of the saddle	C	AL, AN, CM, CR, TR			
<i>Celtis australis</i> L.	<i>Pozzaràgo</i> (AL, CM), <i>Ponzaràgo</i> (BR), <i>Buzzaraco</i> (CM, CR, MA), <i>Puzzaràgo</i> (TR)	Wood						

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
		Wood	HAN: To make connecting rods and pieces of mowers, since the plant has a very hard and elastic wood	A	TR			
		Wood	HAN: To make shepherd canes. During the process the wood is strengthened using fire	A	AN			
Family Caryophyllaceae <i>Silene vulgaris</i> (Moench) Garcke	<i>Ciufolettì</i> (BR), <i>Ciufolettò</i> (CM)	Fruits	GAM+: The emptied fruits are used as whistles	B	AN, BR, CM			Y
Family Convolvulaceae <i>Convolvulus arvensis</i> L.	<i>Curriola</i> , <i>Griola</i>	Aerial parts	AGR-PA: Fodder for rabbits and bores. In the past also for hens	A	CR			X
Family Cornaceae <i>Cornus mas</i> L.	<i>Crògnolo</i> , <i>Crògnelo</i> , <i>Crognàle</i>	Wood	HAN*: The wood is used to make different hand-crafts (sticks, handles, hooks and shepherd canes). The process of making canes is similar to the one described for <i>C. australis</i>	B	CM			Y

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
Family Cucurbitaceae <i>Ecballium elaterium</i> (L.) A. Rich.	Schizzave-leni	Fruits	GAM: Kids squeezed the fruit to make it explode	A	AL			
Family Cyperaceae <i>Scirpoides holoschoenus</i> (L.) Sojak	Giòncò	Stem	DOM: To make small baskets (<i>fuscelle</i>) for ricotta	A	CM			
Family Dioscoreaceae <i>Dioscorea communis</i> (L.) Caddick & Wilkin	Rafano, Abboiele	Fruits	MED*: Fruits were rubbed onto the skin to cure backache	A	AL	X		XY
Family Ericaceae <i>Arbutus unedo</i> L.	<i>Cerasa marina</i>	Wood	DOM: Firewood	A	AL			
<i>Erica arborea</i> L.	<i>Brugo</i> (AL), <i>Scopa marina</i> (CM, CR)	Wood	DOM: Used as firewood and to make charcoal (the wood was put in a hole on the ground, leaving small apertures for aeration and then the wood was left burning very slowly) DOM: Wood was carved to make figurines	B	AL, BR			

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
		Root	HAN: The roots were carved to make smoking pipes. The root is harvested during winter, cleaned and processed (sometimes pipes were also commercialized, e.g., in AL)	B	AL, CM, CR			
		Aerial parts	RIT: During winter, bundles of <i>Erica</i> were used to make bonfires for the feast of Our Lady of Loreto	A	AL			
		Branches	RIT: A small broom of <i>Erica</i> was put behind doors to keep the "evil eye" away	A	AL			
Family Euphorbiaceae <i>Euphorbia characias</i> L.	<i>Erba mora</i> , <i>Tutumagliu</i>	Aerial parts	FISH-H*: The plant was used for illegal fishing in fresh water basins (marshes, diches)	B	CR, SM			
		Aerial parts	MED*: Used for compresses in case of toothache	A	BR			
Family Fabaceae <i>Ceratonia siliqua</i> L.		Seeds	AGR-PA: Fodder for livestock	A	SM			

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
<i>Cytisus scoparius</i> (L.) Link	<i>Scopa</i> , <i>Scopija</i> (AN, CM), <i>Scopòne</i> (AL,TR)	Stems	AGR-PA*: Stems were used to make huts (<i>paracéntoli</i>) in the past	C	AL, AN, CM, TR			Y
<i>Medicago sativa</i> L.	<i>Erba medica</i>	Flowers	RIT: To make floral carpets (<i>Infiarate</i>) (see <i>S. junceum</i>) AGR-PA+: Galactagogue for cows	A	CM			X
<i>Onobrychis viciifolia</i> Scop.	<i>Sulla</i>	Aerial parts	AGR-PA: Fodder for livestock	A	SM			
<i>Robinia pseudoacacia</i> L.	<i>Marrùca</i> (AL, BR, CM), <i>Agàce</i> (AL)	Wood	HAN: To make handles, railroad ties and to make shafts of small handcars	A	CM			
		Wood	HAN: To make handles of hoes	A	BR			
		Wood	DOM: To make carving forks to stir the <i>acquacotta</i> (a local typical soup)	A	AL			
<i>Spartium junceum</i> L.	<i>Ginestra</i> , <i>Maggio</i> (CM)	Leaves	AGR-PA: Leaves as fodder for rabbits	A	AN			
		Stem	VET: Once, bulls were castrated using the stem	A	BR			
		Stem	AGR-PA*: Once, stems were used to tie vines and tomatoes (it is put in water before the use in AL)	C	AL, AN, BR, CM, TR			Y

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
		Stem	DOM*: Once, to make the <i>fuscelle</i> (containers for cheese or ricotta)	A	CM			
		Stem	DOM+: To bind bundles of firewood	A	AL			
		Flowers	RIT*: Once, flowers were used to make floral carpets (<i>Infiorate</i>) on the Corpus Christi Day (also on the Ascension Day in CM). Flowers of <i>C. scoparius</i> and petals of <i>Rosa</i> sp. pl. were also used to create shapes and drawings on the streets	C	AL, BR, CM, TR			Y
<i>Trifolium incarnatum</i> L.	<i>Caporosso</i>	Aerial parts	AGR-PA: Galactagogue for livestock	A	AN			
<i>Trifolium pratense</i> L.	<i>Trifoglio</i>	Aerial parts	AGR-PA: Galactagogue for livestock	A	AN			

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
Family Fagaceae <i>Castanea sativa</i> Mill.		Wood	DOM*: To make the <i>curiàto</i> (flail), used to pound cereals or to make the vat (<i>pistaròla</i> or <i>pestaròla</i>) for preparing wine HAN*: To build barrels HAN+: To make the wheel to sharpen knives and sickles; to build handles and ceilings	A	CM			
		Wood	HAN*: To make the wheel to sharpen knives and sickles; to build handles and ceilings	B	BR, CM, TR			Y
		Wood	HAN+: To make the wheel to sharpen knives and sickles; to build handles and ceilings	A	CM			Y
		Wood	DOM*: To make furniture	C	AL, AN, CM, TR			Y
		Wood	DOM+: To make beams and tables	A	AN, CM			
		Logs	AGR-PA*: Poles for vines	A	CM			
		Wood	DOM+: Wood is used for building fences, shutters, window frames	A	BR			
		Leaves	DOM: Leaves are used to clean and perfume barrels of chestnut wood. Leaves are boiled with leaves of <i>P. persica</i> and of <i>J. regia</i>	A	BR, MA			

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
		Bark	GAM*: Pieces of bark can detach from the trunk during spring. This bark was used to make the <i>peta</i> (a small trumpet)	A	AL			
		Leaves	DOM*: Leaves are weaved to make a hat to stay fresh during the summer	A	AL			
		Leaves	GAM: Leaves were rolled to make cigarettes	A	AL			
		Shoots	DOM: To bind bundles of wood	A	AL			
		Wood	FISH-H: To make oars	A	AN, TR			
<i>Fagus sylvatica</i> L.	<i>Faggio</i>	Wood	DOM: To make cheese forms	A	CM			
		Logs	AGR-PA: To make ploughs	A	CM			
		Wood	DOM: To make a sieve (<i>crivello</i>) for cereals; the wood is easily bend	A	CM			X
		Wood	HAN: To make the <i>câvole</i> (taps for barrels) and the plank of the shoemaker	A	CM			
		Wood	HAN+: To build several handicraft objects	A	BR			
		Shoots	DOM*: To bind bundles of firewood	A	AL			

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
<i>Quercus cerris</i> L.	Cerro	Wood	DOM*: To make furniture	A	AL, CR			
		Galls	MED+: To prepare an ointment to apply on wounds	B	AL, CM			
		Wood	HAN: To make railroad ties (very hard wood)	A	CM			
		Wood	FISH-H: To build boats	A	TR			
		Wood	DOM: To build furniture	A	AN			
		Wood	DOM+: Firewood (fuel for making bread); among the best woods for this purpose (AL)	B	AL, BR			
		Wood	AGR-PA: To make beams and poles (resistant)	A	AN			
<i>Quercus ilex</i> L.	Elce (AN, BR), Erce (AL, TR)	Wood	DOM*: Firewood (fuel for making bread); the best wood for this purpose (AL)	B	AL, BR			
		Wood	HAN: To make railroad ties (very resistant)	A	TR			
<i>Quercus pubescens</i> Willd.	Cerro (AL, AN, BR, CM)	Galls	MED+: To prepare an ointment to apply on wounds	B	AL, CM			X
		Wood	DOM+: Firewood (for making bread)	C	AL, BR, CM			Y
		Wood	HAN+: To make canes	A	CM			
		Wood	DOM+: To make chests	A	CM			

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
		Acorns	AGR-PA*: Fodder for sheep and horses, but also for bores	A	BR			XY
		Wood	AGR-PA: To make ploughs	A	CM			Y
		Branches	FISH-H: For waving fish traps	A	AN			
		Wood	HAN*: To make railroad ties	A	CM			
		Wood	FISH-H*: To build boats	A	AN, CM			
<i>Quercus suber</i> L.		Bark	HAN: To make the <i>cupelle</i> (small barrels) and pieces of apiaries	A	AL			
		Bark	FISH-H: To make floats		SM			
		Bark	DOM: To make shoes	A	AL			
Family Hypericaceae								
<i>Hypericum perforatum</i> L.	San Giovanni	Flowers	RIT: In the ritual water for the Saint John Feast (see <i>T. parthenium</i>)	A	AL			
Family Juglandaceae								
<i>Juglans regia</i> L.		Wood	DOM: To make furniture. It is considered a valuable wood	A	CM, TR			Y

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
		Leaves	DOM: Leaves are used to clean wooden barrels. Leaves are boiled with leaves of <i>P. persica</i> and of <i>C. sativa</i> . The decoction is also used to eliminate black colouring agents	A	BR, MA			
		Leaves	RIT: In the ritual water for the Saint John Feast along with <i>T. parthenium</i> , <i>T. balsamita</i> , <i>L. angustifolia</i> and other aromatic herbs	B	AL	X		Y
Family Lamiaceae								
<i>Ballota nigra</i> L. subsp. <i>foetida</i> (Vis.) Hayek	<i>Cimice</i>	Whole plant	AGR-PA: Fodder for goats	A	CM			

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
<i>Clinopodium nepeta</i> (L.) Kuntze	<i>Mentuccia selvatICA</i>	Aerial parts	A-PAR*: Bunches of <i>C. nepeta</i> are hung in order to keep mosquitoes away (the effect is temporary). The plant is rubbed on the neck of horses with vinegar to keep horseflies away (but the repellent effect is also temporary, since it could last up to an hour and a half). Hunters also used this plant during hunting trips to keep insects away. Hunters used to bring a bottle of vinegar with branches of <i>C. nepeta</i> in it	A	BR			X
<i>Lavandula angustifolia</i> Mill.	<i>Spighetta</i>	Inflorescences	A-PAR*: In the olden times, people keep bunches of this plant among linen (for both the scent and the anti-parasitic properties). Sometimes bunches were candy-shaped	A	AL, CR			X

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
<i>Salvia officinalis</i> L.	<i>Salvia</i>	Inflorescences Leaves	RIT*: In the ritual water for the Saint John feast (see <i>J. regia</i>) MED: Leaves are rubbed on teeth to clean them	A	AL	X		XY
Family Lauraceae <i>Laurus nobilis</i> L.	<i>Alloro</i>	Leaves Leaves	MED*: Decoction as digestive MED: Decoction for sore throat	A	AL	X	X	X
Family Linaceae <i>Linum usitatissimum</i> L.	<i>Lino</i>	Seeds Seeds Seeds	MED*: Hot compresses to cure boils MED: Hot compresses for wounds VET: Seeds were preserved over the winter. Seeds were soaked in water and then fed to sheep and cows as digestive	A A A	CR AN AN	X		
Family Malvaceae <i>Malva sylvestris</i> L.	<i>Malva</i> , <i>Marmola</i>	Leaves	VET: Boiled seeds as purgative DOM+: To make ropes and sheets (it was once cultivated in CM and AN) MED*: Decoction as laxative	A	MA	X		XY

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
		Aerial parts	MED*: Decoction drunk for its refreshing properties in case of stomach ache	C	AL, BR, CM, CR, MA, SM	X		XY
		Aerial parts, leaves	MED*: Mouthwashes with the decoction against toothache	B	BR, CR, MA	X		XY
		Leaves	MED: Decoction (refreshing) for reducing the swelling (fatigue) of legs	A	TR			
		Aerial parts, leaves and young buds	MED*: Compresses with the decoction (anti-inflammatory) against dental abscesses. Fresh or cooked leaves were also chewed for the same purpose	C	AL, BR, CM, TO	X		XY
		Aerial parts	MED*: Compresses of the boiled plant on pimples as resolvent	B	AN, TO	X	X	
		Aerial parts	MED+: Cooked and put on wounds	A	AL			
		Leaves	MED: Crushed and mixed with bread crumbs on wounds	A	AN			
		Aerial parts	VET*: Decoction of aerial parts and <i>C. dactylon</i> to cure livestock	A	BR			Y

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
<i>Tilia</i> sp. pl.		Flowers	MED*: Infusion of <i>C. lemon</i> and <i>Tilia</i> sp. pl. as sedative, for cold and cough	A	CM	X		X
Family Moraceae <i>Ficus carica</i> L.	<i>Fico</i> (BR, TO), <i>Ficògna</i> (CM)	Syconia Buds	MED*: During the summer, syconia were sundried. During the winter they were boiled along with apples to cure cold and cough VET*: Once, buds were put in the mouth of cows in case of tympanism because the bitter taste of the latex could help with digestion	B A	BR, TO CM	X 	X 	Y
Family Oleaceae <i>Fraxinus ornus</i> L.	<i>Ornello</i>	Bark Wood Bark	MED: Decoction against intestinal pain DOM*: To make charcoal (see <i>A. unedo</i>) or as firewood [not really valuable according to some informants (BR)] DOM: To bind bundles of firewood	A A A	CR AN, BR CR			

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
<i>Olea europaea</i> L.	Olivo	Leaves	AGR-PA*: Fodder for cows	A	AL			
		Wood	AGR-PA: To make poles for vines	A	TR			
		Leaves	MED*: Several leaves in decoction to cure hypertension	B	BR, TO			X
		Oil	VET: Mixed with salt and vinegar, it was given to cows in case of tympanism	A	MA			
		Oil	MED+: Oil was mixed with bread crumbs and put on burns	A	AN			
		Leaves	AGR-PA*: For the <i>invernile</i> (winter fodder for livestock)	A	BR			Y
		Wood	DOM*: Firewood (but not used for cooking)	A	CM, TR			
		Wood	DOM: The best wood to make tables, but also used for other pieces of furniture	A	TR			
		Branches	DOM*: To make baskets (with fresh branches)	A	CM			

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
		Oil	RIT*: Fishermen have their throat anointed with blessed oil on the day of Saint Biagio (the Saint protector of Anguillara)	A	AN			
		Oil	RIT+: To remove the evil eye	A	AN, CM			
		Oil	DOM*: The soap was made with residuals of the oil making, along with caustic soda and bones	A	TR			
Family Papaveraceae <i>Papaver rhoeas</i> L.	<i>Papanàra</i>	Petals Aerial parts Fruits	MED*: Decoction as sedative VET: The plant was crushed for preparing compresses for animals with swelling, the plant was mixed with pork fat because it softened the skin, then it was rubbed onto the skin or applied as a bandage GAM: Kids used the fruits to ink (or mark) the skin (to produce a small star)	A A	AL BR		X	XY Y

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
Family Pinaceae <i>Pinus pinea</i> L.	<i>Pino</i>	Bark	FISH-H: The bark was used to prepare a decoction which was then used to dye nets in a brown color (once nets were made with natural fibers)	B	AN, SM, TR			
Family Plantaginaceae <i>Plantago lanceolata</i> L.	<i>Orecchia di pecora</i> (BR, TR), <i>Mazzancolli</i> (AN)	Stem	AGR-PA: Dried stems were once used to tie tomatoes	A	AN, BR			
<i>Plantago</i> sp. pl. (<i>P. lanceolata</i> L., <i>P. major</i> L.)	<i>Piantaggini</i>	Aerial parts Leaves	AGR-PA: Fodder for livestock MED*: Leaves were rub onto the skin in case of inflammation caused by bites of bees or mosquitos	A A	TR AL		X	Y XY
Family Plumbaginaceae <i>Plumbago europaea</i> L.	<i>Caprinella</i>	Aerial parts	VET: Dried aerial parts were softened in warm water and used to make compresses to reduce the swelling of domestic animals	A	BR			

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciociararia ⁵	Acquapendente ⁵
Family Poaceae <i>Arundo donax</i> L.	<i>Canna</i>	Aerial parts	VET: The crushed aerial parts were applied on wounds and crusts caused by the yoke	A	MA			
		Culm	VET: Cows could die quickly after ingesting fresh plants of <i>M. sativa</i> . Farmers used a knife to make a small incision in the gut of the animal and then the cave culm of this plant was inserted in the incision for allowing the gases produced by the fermentation to flow slowly	A	SM			
		Culm	VET: The culm was used as a support for bandage (along with cow dung) for sheep	A	BR			
		Culm	DOM*: To make baskets (<i>cannistràri</i>); also with <i>S. alba</i> (CM) or <i>U. minor</i> (AN)	C	AN, BR, CM, SM			Y
		Culm	FISH-H: A big tool (<i>ratto</i>), made with weaved culms, was used for fishing	A	CM			

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
<i>Avena sativa</i> L.	<i>Biada</i>	Fruits	AGR-PA: Fodder for poultry	A	CM			
<i>Cynodon dactylon</i> (L.) Pers.	<i>Ramiccia, Gramiccia, Gramigna</i>	Fruits	AGR-PA: Fodder for donkeys	A	AL			
		Root	MED*: The decoction was drunk to cure several gastrointestinal problems, liver diseases and inflammations (also refreshing)	C	AL, BR, CM, TO	X	X	XY
		Root	MED*: Decoction as diuretic for renal problems and cystitis	B	AL, AN, BR	X	X	XY
<i>Hordeum vulgare</i> L.		Root	VET: Decoction with leaves of <i>M. sylvestris</i> to cure livestock	A	BR			
<i>Sorghum bicolor</i> (L.) Moench	<i>Saggina</i>	Fruits	AGR-PA*: Fodder for poultry	A	CM			
		Aerial parts	DOM*: To make brooms (it was cultivated in marginal areas, then, when the plant was dry, the fruits were eliminated)	A	B, CM			
<i>Triticum aestivum</i> L.		Fruits	AGR-PA: Fodder for hens	A	AL			X
		Culm	DOM: In the olden times, beds were covered with straw	A	AL			

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
		Culm	AGR-PA: It was used to build huts (<i>paracéntoli</i>)	A	AL			
		Germinated seeds	RIT*: During Easter, seeds of cereals were planted and grown in the dark, so they would remain white. They were then used as offers to the church	A	TO			
<i>Zea mays</i> L.	<i>Granoturco</i>	Seeds	AGR-PA: As birdseeds for poultry	A	MA			X
Family Polygonaceae								
<i>Polygonum aviculare</i> L.	<i>Correggiola</i>		AGR-PA: Fodder for rabbits	A	CM			
<i>Rumex crispus</i> L.	<i>Rùmice</i>	Leaves	MED*: They were rolled up (as a roulade) and put under embers. The external part would burn, but the inner part was used to prepare a poultice, which, mixed with pork fat, was put on cysts	A	SM			X
		Leaves	MED*: Leaves were put on pimples	A	TR			X
Family Ranunculaceae								
<i>Clematis vitalba</i> L.	<i>Vitabbia</i>	Stem	AGR-PA*: To tie plants	A	BR			
	<i>Vitabbie</i>	Stem	GAM*: To make cigarettes	A	AL, CM			

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciociararia ⁵	Acquapendente ⁵
Family Rhamnaceae <i>Paliurus spina-christi</i> Mill.	Acácio (AN), <i>Marruca</i> (CM)	Leaves Wood	AGR-PA: Once, fodder for rabbits HAN: To make railroad ties	A A	AN CM			
Family Rosaceae <i>Agrimonia eupatoria</i> L.		Whole plant	MED: Decoction to cure diarrhoea	A	CM			
<i>Crataegus laevigata</i> (Poir.) DC. / <i>C. monogyna</i> Jacq.		Flowers	MED*: Infusion as sedative MED: Infusion as digestive	A A	CM AL		X	
<i>Malus domestica</i> Borkh.	Melo	Fruits	MED*: The decoction of dried slices of the fruit to cure sore throat and cough. Several different fruits were dried and mixed to prepare this decoction (<i>P. armeniaca</i> , <i>P. persica</i>)	C	AL, CM, TO	X		XY
<i>Prunus armeniaca</i> L.	<i>Albicocca</i>	Fruits	MED: Dried fruits to prepare a decoction for sore throat and cough (see <i>M. domestica</i>)	A	CM			

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
<i>Prunus avium</i> (L.) L.	<i>Cerase</i>	Wood	DOM*: To make writing desks, tables, furniture, cupboards (some wood parts are used also to restore old furniture). The wild cherry was also used for the same purposes	A	BR, CM			Y
<i>Prunus persica</i> (L.) Batsch	<i>Pesche</i>	Fruits	MED: Dried fruits to prepare a decoction for sore throat and cough (see <i>M. domestica</i>)	A	CM			
<i>Pyrus communis</i> L.	<i>Pero</i>	Leaves	DOM: Leaves used to clean wooden barrels. Leaves are boiled with leaves of <i>J. regia</i> and of <i>Castanea sativa</i>	B	BR, MA, TR			Y
<i>Rosa canina</i> L.		Wood	DOM: To make furniture	A	CR			
		Flowers	RIT*: To prepare a ritual water for the Saint John feast	A	CM	X		Y
		Flowers	RIT*: In local floral carpet compositions (<i>Infiorate</i>) along with flowers of <i>S. junceum</i> and of <i>A. tinctoria</i>	A	AL			

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
<i>Rubus ulmifolius</i> Schott	Rovo, Rogo, Le ròghe	Leaves	MED*: Leaves, sometimes with the addition of chewed bread or pork fat (or olive oil), applied on pimples	C	AL, AN, BR, CM, CR, TR	X		X
		Leaves	MED*: On wounds to stanch blood, also with grated potatoes	B	AL, MA	X		XY
		Leaves	MED: Leaves, along with pork fat, were applied onto the skin to remove thorns	A	AL, CM	X		X
		Leaves, branches	AGR-PA: Fodder for donkeys	A	AL			
		Fruits	MED*: A medicinal jam was prepared to cure cough (for children)	A	TR			X
<i>Sanguisorba minor</i> Scop.		Aerial parts	AGR-PA+: Fodder for hens	A	AN			
subsp. <i>balearica</i> (Bourg. ex Nyman) Muñoz Garm. & C. Navarro								
<i>Sorbus domestica</i> L.	Sorve	Fruits	MED*: Eaten against diarrhoea	A	TR			
Family Rubiaceae								
<i>Rubia peregriana</i> L.	Rùbbia (AL), Taccalàcci (TR)	Aerial parts	VET*: After labor, cows were fed with the aerial parts of this plant to facilitate the expulsion of the <i>seconda</i> (placenta)	B	AL			

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
Family Rutaceae <i>Citrus limon</i> (L.) Osbeck		Aerial parts	AGR-PA: Used as fodder	A	CM			
		Fruits	MED: Mouthwashes with the juice to cure sore throat (still today)	A	CM	X		Y
<i>Ruta</i> sp.	<i>Ruta</i>	Plant	MED: It was given to kids to smell as anthelmintic	A	AN	X	X	X
Family Salicaceae <i>Populus nigra</i> L.	<i>Pioppo</i> (CM), <i>Albuccio</i> (AL)	Wood	DOM: To make furniture	A	CM			
		Wood	FISH-H: To build boats	A	TR			
<i>Salix alba</i> L.	<i>Salice</i> (CM, SM), <i>Sálce</i> (AL)	Branches	MED: In the olden times, people use to chew a small piece of willow (bitter) to reduce stomach acidity	A	TR			
		Branches	VET*: Piece of willow (bitter) were put in the mouth of livestock in case of tympanism	A	MA, TR			X
		Branches	DOM*: To make baskets and hampers. Sometimes interwoven with <i>A. donax</i> and <i>U. minor</i>	C	AL, AN, CM, CR, SM			Y

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
		Branches	AGR-PA+: To bind bundles of firewood; to tie tomatoes to stakes	B	AL, BR			Y
Family Sapindaceae <i>Acer campestre</i> L.	<i>Stucchio</i>	Wood	HAN: To make pieces of the saddle	A	MA			
<i>Acer opalus</i> Mill. subsp. <i>obtusatum</i> (Waldst. & Kit. ex Willd.) Gams	<i>Azero bianco</i>	Young shoots (1-2 years old) Wood	HAN: To make part of smoking pipes	A	CM			
Family Scrophulariaceae <i>Verbascum</i> sp.	<i>Barbarasc-hio</i> , <i>Barbarassio</i>	Aerial parts	FISH-H*: Crushed and thrown in the water in order to stun fishes (less strong effect of <i>E. characias</i>). The powder of the dried plant was mixed slowly into the water	B	CR, MA, CM			

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciociararia ⁵	Acquapendente ⁵
Family Solanaceae <i>Hyoscyamus albus</i> L.		Seeds	MED: Seeds were roasted and then the fumes were inhaled against toothache. It is a poisonous herb, therefore the smoke is captured with a spoon and maintained for a short time in the mouth	B	AL			
<i>Solanum tuberosum</i> L.	<i>Patata</i>	Tubers	MED*: Potato slices were put on inflamed (red) eyes MED*: Grated tubers on burns	A	CR			X
Family Ulmaceae <i>Ulmus minor</i> Miller	<i>Olmo</i>	Bark	MED*: During reaping, when one cut himself or herself, the bark was tied around the wound. "Once I cut myself, I put a bandage of elm-tree: the lymph and the bark stanch directly the blood and made the skin dry"	C	AL, BR, CM, TO	X	X	XY

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
		Galls	MED*: Galls growing on elm-tree contain a liquid called oil of Saint Jean (<i>olio di San Giovanni</i>) in AL, which is applied on wounds	C	AL, CM, CR		X	XY
		Bark	VET+: To cure wounds of domestic animals	A	AL			
		Bark	VET+: For fractures of animals that were not too serious. The injured part was covered with pork fat, bandaged, and casted using the bark of elm-tree	A	AL			
		Wood	AGR-PA+: It is used to make ploughs and yokes of cows	A	CM			Y
		Young branches	FISH-H*: To make baskets (<i>cannistràri</i>) or fish traps, also with A. <i>donax</i> or <i>S. alba</i>	C	AN, BR, CM, CR			Y
		Wood	HAN: To make gates; when the wood has been seasoned it gets hard	A	BR			

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciociarìa ⁵	Acquapendente ⁵
		Branches	FISH-H: Used to make a part of the <i>cucilli</i> (a fishing tool, sort of fishing net structure)	A	AN			
		Bark	DOM: To bind bundles of firewood	A	CR			
Family Urticaceae								
<i>Parietaria judaica</i> L.	<i>Panatarà</i> (CM, MA, SM), <i>Pallatàna</i> (AN, CM, CL), <i>Panicaria</i> , <i>panatària</i> (AL)	Aerial parts Leaves	VET: Decoction applied on wounds with a cloth MED*: Leaves were placed on pimples as resolvent AGR-PA*: Fodder for hens that are eager of this plant DOM*: Leaves (which are rough) were minced and put inside bottles and demijohns. Bottles were shaken, washed and rinsed. Sometimes, leaves were used along with eggshells	A A	MA SM		X	
		Aerial parts		B	AN, CM, CR			X
		Aerial parts		B	AL, CM			Y
<i>Urtica dioica</i> L.	<i>Ortica</i>	Aerial parts	AGR-PA*: Minced aerial parts, mixed with bread and some hot water, as birdseeds for turkeys (as a healthy food and for throat diseases)	B	BR, CR, MA			XY

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Scientific name	Vernacular name	Plant part	Plant use category and description ^{1,2}	No. of informants ³	Village ⁴	Teverina ⁵	Ciocciaria ⁵	Acquapendente ⁵
Family Violaceae <i>Viola</i> sp. pl.	<i>Violette di Pasqua</i>	Aerial parts	AGR-PA+: Boiled leaves were fed to hens to make them produce a larger amount of eggs	A	CR			
Family Vitaceae <i>Vitis vinifera</i> L.		Aerial parts (in flower)	RIT: Violets of Easter were put on a plate, near the Easter eggs	A	AN			
		Vinegar (with salt)	VET: Vinegar was given to drink to livestock, intoxicated by eating some riverine plants (<i>cannuccia di fosso</i>)	A	SM			

¹For medicinal plants, the health problem for which the plant is used is also provided.²Plant use categories: MED = medicinal use; VET = veterinary use; A-PAR = anti-parasitic use; FISH-H = use of the plant for fishing or hunting; HAN = handicraft use; DOM = domestic use; AGR-PA = agro-pastoral use; GAM = games; RIT = ritual use.³Number of informants: A = 1-2 informants; B = 3-5 informants; C = more than 5 informants.⁴Villages: AL = Allumiere; AN = Anguillara; BR = Bracciano; CM = Canale Monterano; CR = Cerveteri; MA = Manziana; SM = Santa Marinella; TO = Tolfa; TR = Trevignano Romano.⁵References: Teverina: Amici 1992 (X); Ciociaria: Ciccodicola 1995 (X); Acquapendente: Guarrera et al. 2004 (Y) and Guarrera et al. 2005 (X).

*Same or very similar plant uses to those described in Guarrera (1994).

+Diverse plant use, but in the same category of use as described in Guarrera (1994).

Uses without symbols are novelties in comparison with Guarrera (1994).

**Table 2.** Uses of plants in each category, with details on their novelty or similarity to other studies.

Category of plant use	Number of species	Number of plant uses	New plant uses ¹	Similar plant uses ²	Alternative plant uses ³
Human medicine	33	60	23	33	4
Veterinary medicine	16	19	12	5	2
Anti-parasitic	2	2	0	2	0
Agro-pastoral	42	46	30	10	6
Handicrafts	14	20	14	3	3
Domestic	34	52	25	18	9
Fishery or hunting	11	15	9	4	2
Games	8	8	4	3	1
Rituals	14	17	8	8	1

¹New plant uses that have not been reported before for the area.

²Similar or same plant uses as reported in literature.

³Alternative plant uses that are different but in the same use category.

and skin lesions in Guarrera (1994). Plant uses recorded in this study were also compared to those reported in other case studies conducted in the Latium region (Guarrera 2006 and references therein) in order to identify points of convergence and to evaluate differences in the local ethnobotanical knowledge. These comparisons were not quantitative considering that previous studies were conducted with different research methods (including distinctive foci of specific plant uses), study times, and geographic research areas (Mustafa et al. 2012).

Results

According to our survey, the ethnobotanical knowledge of the Tolfa–Cerite–Manziate area comprises the use of 102 plant species (Table 1). In Table 1, the names of the species are reported along with their vernacular names, plant parts, category of use, number of citations and the locality where the plant is used. Moreover, we report the detailed explanation of the most recent plant uses along with a comparison with plant uses reported in other studies of the Latium region, including that by Guarrera (1994). Species belong to 48 families, the majority of families (28) include only one species, while Rosaceae (12 species) and Poaceae (eight species) are prominently represented families.

Many plants have more than one use within and across categories. Several plants have similar uses in other areas of the Latium region, while some plants and their uses have not been previously reported in those areas. The locality that shares the highest number (74) of plant uses is that of Acquapendente (Guarrera et al. 2004, 2005). In our survey, we

recorded a total of 239 different plant uses, among which many (125) have not reported before for the area, some (86) are similar to the same use as reported in literature, several (28) are different but in the same usage category (Table 2). The ten non-plant based remedies are reported in Table 3. A total of six remedies are used in veterinary medicine and six in human medicine.

Many previously-recorded plant uses are no longer practiced or are no longer common in the memories of individuals in the local communities. Plants and remedies that are no longer used include: *Barbarea vulgaris* R. Br. Brassicaceae for cough, *Dittrichia viscosa* (L.) Greuter Asteraceae for haemorrhoids, or *Phillyrea latifolia* L. Oleaceae for toothache (Guarrera 1994). Today, the plants mentioned for toothache are *P. lentiscus* (a similar use is known for Vallecorsa, Southern Latium), *E. characias*, *M. sylvestris* and *H. albus* (the last three uses were also reported by Guarrera 1994).

In some cases, a specific medicinal use is no longer practiced because the disease is no longer present. For example, malaria has been locally eradicated and the antimalarial decoction of 100 cloves of garlic (*A. sativum*) in a liter of vinegar (*V. vinifera*) is no longer remembered or used. In other cases, plants are used less frequently because of reduced availability on the landscape. Informants mention that, in the past, *M. chamomilla* was abundant in local meadows and fields but now it is difficult to find this officinal herb due to the use of herbicides.

Agro-pastoralism is important in the Tolfa–Cerite–Manziate area, and, not surprisingly, veterinary uses

**Table 3.** Non-plant based uses (mostly remedies in human and veterinary medicine).

Name	Plant use category, description and ailment cured ¹	No. of informants ²	Village ³
Water form hot springs	MED: Applied on wounds	A	AL
Egg white	MED: The egg white was put on a tissue and then placed on the swollen part	A	CR
Soapy water	VET: Used to heal wounds caused by pack-saddle	A	AL
Milk	MED: Once, it was used to wash the face to make it shine	A	AN
Hot cinder	MED: To cure throat ache it was placed on the chest in the evening while lying in bed, the following morning throat ache was healed	A	CM
Pyrite	VET: In the area there are rocks that contain sulphur. They were used to reduce the inflammations of cow feet	A	AL
Clays of solfataras	MED/VET: To cure wounds of humans and animals, and mange (<i>raspo</i>) (skin infections of dogs)	A	AL, MA
Cuttlebone (<i>osso di seppia</i>)	VET: To cure an eye diseases of animals (periodic ophthalmia) called <i>occhio bianco</i> or <i>bianchella</i> or <i>male della luna</i> . It was grated and sprinkled into the eye	A	SM
Thermal water (in Bagnarello)	MED/VET: This water (at a temperature of 40° C) was used to heal wounds of horses and humans (within two days)	A	TO
Pork fat (<i>sugna</i>)	VET: For wounds and bruises caused by pack-saddle	A	MA, SM
Lime	FISH-H: Used for illegal fishing in fresh water (where the flow is not too strong)	A	CM

¹Plant use category: MED = medicinal use; VET = veterinary use; FISH-H = use of the plant for fishing or hunting

²Number of informants: A = 1-2 informants

³Villages: AL = Allumiere; AN= Anguillara; CM = Canale Monterano; CR = Cerveteri; MA = Manziana; SM = Santa Marinella; TO = Tolfa

of plants are vivid in the memories of local community members. Some veterinary remedies seem to be unique to the area when compared with bibliographic data from Guarrera (2006). Examples include the ancient use of *S. junceum* for castrating bulls and the use of *P. europaea* (*caprinella*) to cure the swelling in domestic animals. Although the practice of feeding cows with *R. peregrina* for expelling the *seconda* (placenta) has been previously mentioned in Guarrera (1994), it is known only in the Tolfa – Allumiere area (Guarrera 2006).

Some plants are used to feed livestock to improve their health as a sort of veterinary nutraceutical. *C. arvensis* along with several herbs of the Fabaceae family are used to feed cows for their galactagogue properties. Local farmers of the area believe that feeding poultry with *S. minor* subsp. *balearica*, but also *U. dioica*, could increase egg production. Additionally, if hens were making soft eggshell, some rubble

(Canale Monterano) or eggshell (Allumiere) were mixed with fodder.

Anti-parasitic uses are very few. Only two plants, *C. nepeta* and *L. angustifolia*, are mentioned by the informants. These two plants, like other Lamiaceae, are aromatic and thus have repellent properties (Guarrera 1999). On the other hand, the use of *Artemisia absinthium* L. Asteraceae as a repellent for cows, horses and other animals (Guarrera 1994) is no longer remembered.

Local inhabitants were used to diversify their diets with some fish caught in marshes, ditches, or the Bracciano Lake. Some fishing practices - now illegal - entailed the use of plants for narcotizing fish in small water basins (*E. characias* and *Verbascum* species). Several species of the genus *Euphorbia* and *Verbascum* are used for the same purpose in many other Italian areas (Guarrera 2006). Local people also used lime (Canale Monterano) for catching fish.



Many plants were used while working in the fields or at home. Some plant uses are already known for other Italian regions (e.g., the use of *S. alba* or *S. junceum* for tying vines [the name *Spartium* comes from the Greek Σπάρτον = rope]). *E. arborea*, used to make smoking pipes and other objects, is locally named *brugo*, which is the vernacular name of another plant of the Ericaceae family [*Calluna vulgaris* (L.) Hull Ericaceae] that does not grow locally. However, *E. arborea* is also called *scopa marina* (marine broom), because it is used to make brooms. Another way to connect a plant to a use in the area was the creation of proverbs like: “L’ornello fa il fuoco bello” (Anguillara) which means “The manna-ash tree (*F. ornus*) makes a beautiful fire” because the plant is used as firewood.

Many species are widely used either because they are common or have special technical properties. The invasive species *R. pseudacacia*, the common *Castanea sativa* or *Quercus* sp. pl. are among the species with the highest number of domestic uses as well as the rare *F. sylvatica*. These species are mainly used for their wood.

Some plant uses that have never been reported in the ethnobiological literature are potentially unique to the area, such as those of *C. australis* or of *B. pendula*. *C. australis* is widely used and appreciated in the area for its strength and flexibility, but it is rarely used in other Italian regions even though it has a large distribution. This plant also has many different names in the area, some of which are new according to the ethno-linguistic work by Penzig (1924). In contrast, *B. pendula* is a rare species that has a limited distribution in Italy.

In some cases it was possible to highlight, in a direct way, a potential loss of information. *Saponaria officinalis* L. Caryophyllaceae was widely used all over Italy to do laundry (Guarrera 2006). This plant grows everywhere in the area but was never mentioned by informants even if it was present during the interviews. This could indicate a loss of knowledge or eventually an absence of use, since some informants reported the practice of making soap from cinder and pork fat. Another potential loss of a use is that of *P. aviculare* (*correggiola*): the name comes from the *correggioli*, which are the leather strips or laces to bind the shoes, but this use was not mentioned during our interviews.

The report of plants used for games is very rare for the area but also for Italy (Guarrera 2006). *Castanea sativa* was used to make a small trumpet called *peta* (one of these trumpets is displayed at the

Museo Nazionale delle Arti e Tradizioni Popolari in Rome). The same use of *Castanea sativa* is also reported for this species in northern Italy (Guarrera 2006).

In the Tolfa–Cerite–Manziate area, people preserve various ritual uses of plants (in their memories or in their current daily life). Several aromatic plants (e.g., *T. balsamita*, *H. perforatum*, *J. regia*) were put in water overnight (between the 23rd and 24th of June), and this ritual water was used to wash the face on the morning of the Saint John feast (24 June) as a substitute for the very ancient rituals of the summer solstice. Many plants are still used to make floral carpets (*Infiorate*) during the *Corpus Christi* feast but also for Easter rituals. Evil eye, bad luck and witches were kept away in different ways (e.g., with rituals using olive oil or putting a small broom of *E. arborea* behind the main door) together with the *erba croce* (probably *Verbena officinalis* L. Verbenaceae, as reported for Acquapendente [Guarrera et al. 2005]).

Discussion

Our investigation on the ethnobotanical knowledge of the Tolfa–Cerite–Manziate area highlighted some new interesting uses of plants but also a potential loss of this knowledge. For example, the plant uses of *C. australis* or of *B. pendula* have not been previously reported in literature. Our comparison with a previous study in the area (which had different foci of research and areas of investigation) suggested a loss of knowledge. While it is not possible to quantify this loss, our results support a decrease of knowledge about medicinal uses of plants. Considering that the study area of Guarrera (1994) was more limited than ours, the number of medicinal plants that are no longer recalled is considerable. We believe that it is still important to document ethnobotanical knowledge so it can be realized how much of this knowledge is disappearing especially in places where technology and modern lifestyles are replacing traditional practices.

Local knowledge (ethnobotanical or ecological) is part of the social memory (*sensu* Folke et al. 2005) of a socio-ecological system such as that of the Tolfa–Cerite–Manziate area. The preservation of this local knowledge (and social memory) is important for sustainable management of the environment and for dealing with future socio-ecological changes (Adger et al. 2005; Johnson and Hunn 2010). In a general context of rural depopulation and local knowledge erosion, it is fundamental to define strategies to counteract these trends. Practical solutions to sustain



rural livelihoods and foster the resilience of local knowledge in the Tolfa–Cerite–Manziate area could entail the re-evaluation of traditional practices, food preparations, and handicraft making for tourism. This could generate some revenue for local population and reduce the loss of the rich local knowledge of the area.

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Declarations

Permissions: Prior informed consent to carry out interviews was requested verbally to each informant.

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Biosketches

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Notes

¹<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:01992L0043-20070101&from=EN>