

# Using Medicinal Plants in Valmalenco (Italian Alps): from Tradition to Scientific Approaches

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**Abstract:** This ethnobotanical survey was carried out in Caspoggio (Valmalenco, SO, Italy) with the purpose of investigating the traditional uses of medicinal plants. Moreover, a bibliographic research meant to validate or refute the uses, focusing on the potentially responsible compounds, was performed. Fifty-nine species, attributable to 30 families (Asteraceae, Pinaceae, Malvaceae, and Lamiaceae the most cited), were mentioned. *Arnica montana*, anti-inflammatory for traumas and musculoskeletal pains; *Pinus mugo*, expectorant; *Malva sylvestris*, anti-inflammatory and soothing; *Achillea moschata*, digestive. The compounds, responsible for the therapeutic activities, are often polyphenols and terpenoids: helenanin in *A. montana*,  $\alpha$ -pinene,  $\delta$ -3-carene, and limonene in *P. mugo*, gossypin and malvin in *M. sylvestris*, luteolin and apigenin in *A. moschata*. Scientific evidence for at least one of the traditional activities described was found for 50 species but only in 26 out of 196 works consulted, it is possible to make a comparison between investigated extracts and traditional preparations. This study is thus a stimulus to new phytochemical investigations, mimicking as much as possible the traditional preparations. This work is part of the European Interreg Italy-Switzerland B-ICE project, aimed at creating a management model for the ongoing climate change and searching for new sources of territory valorization as attractions for tourists.

**Keywords:** Valmalenco; ethnobotany; traditional uses; medicinal plants; climate change

**Table S1.** Bibliographic research on plants used for human and animal healthcare. For the complete Reference list, please see the main text.

Latin name Vernacular name	Traditional uses in Valmalenco				Bibliographic reference: Ethnobotany	Bibliographic reference: Biological activity	Bibliographic reference: Active compounds
	Part of the plant and preparation	Field of use	Category of use	Detailed use			
<b>Adoxaceae</b>							
<i>Sambucus nigra</i> L. Sambuco nero Sembüc	Fruits/infructescences/accessory fruits (eaten raw)	Med	Digestive tract disorders	Laxative, intestinal motility	[3,15,153]	[153]	Anthocyanins (Cyanidin-3-sambubioside, Chrysanthemin, Cyanidin-3,5-diglucoside); Proanthocyanidins (epicatechin); Flavonoids (Rutin, isoquercetin); Peptic polysaccharides; Lectins (SNA-IV, SNA-V) of berries extracts: immunostimulant, antiviral (against flu), and antimicrobial activities [155]
	Flowers/inflorescences/flowering tops (infusion)	Med	Gynecological disorders, obstetric and puerperal problems	Galactagogue			
	Flowers/inflorescences/flowering tops (infusion in water or milk, syrup)	Med	Respiratory tract infections	Bronchitis Asthmatic bronchitis Expectorant, decongestant, emollient	[3,13,14,15,19,155,204,205,206]	[154,155,156]	
	Fruits/infructescences/accessory fruits (eaten raw)			Sorethroat and hoarseness Cough			
<b>Apiaceae</b>							
<i>Foeniculum vulgare</i> Mill. Finocchio selvatico, aneto	Epigeal part (Whole) (infusion)	Med	Digestive tract disorders	Gastric antispasmodic Digestive Carminative Stomachache	WHO Monograph - Fructus Foeniculi [29] [69,206,207]	WHO Monograph - Fructus Foeniculi [29] [31,69,70]	E.O.: antispasmodic, carminative, anticolitic [69,70]
<b>Asteraceae</b>							
<i>Achillea millefolium</i> L. Achillea millefoglio, danedun	Epigeal part (Whole) (compresses with infusion)	Med	Skin diseases and traumas	Anti-inflammatory, disinfectant and wound healing, Emollient, soothing	OMS Monograph - Herba Millefolii [23]	[25] (Anti-inflammatory, antibacterial)	Sesquiterpene santamarin: anti-inflammatory (OMS)

				[3,13,15,18,25]	[24] (Antibacterial)	Monograph - Herba Millefolii [23]
Flowers/inflorescences/flowering tops (infusion)	Med	Circulatory system disorders	Blood depurative	[3,25]		Dicaffeoylquinic acids, flavonoids, proazulenic sesquiterpene lactone (matricin): anti-inflammatory activity;
Flowers/inflorescences/flowering tops (infusion)	Med	Digestive tract disorders	Digestive Abdominal pain Stomachache Astringent, antidiarrheal	[3,13,15,19,24,25]	WHO Monograph - Herba Millefolii [23] [19,24,25]	E.O. antibacterial activity; flavonoids (apigenin, luteolin): estrogenic activity [25]
Leaves (infusion)					WHO Monograph - Herba Millefolii (Anti-inflammatory) [23] [25](Anti-inflammatory) [24]	E.O. (terpinolene, 1,8-cineol, thujone, $\gamma$ -terpinene, borneol, camphor), rutin: antibacterial, antioxidant, and antinociceptive; apigenin 7-O-glucoside, luteolin 7-O-glucoside: anti-inflammatory; quercetin, apigenin, and luteolin antispasmodic; luteolin-7-O-beta-D-glucuronide: coleretic; dihydrodehydrodiconiferyl alcohol, and 9-O-beta-D-glucopyranoside: estrogenic [24]
Epigeal part (Whole) (compress or bath with infusion)	Med	Musculoskeletal system disorders and traumas	Contusions Sprains and dislocations Articular pain and Inflammations			
Leaves (compress or bath with infusion)						
Flowers/inflorescences/flowering tops (infusion)	Med	Gynecological disorders, obstetric and puerperal problems	Anti-inflammatory and soothing Rash Menstrual pains Menopausal disorders	[3,13]	WHO Monograph - Herba Millefolii (Anti-inflammatory) [23] [24,25]	
Epigeal part (Whole) (wash or bath with infusion)						
Flowers/inflorescences/flowering tops (fumigation)	Med	Respiratory tract infections	Expectorant, decongestant, emollient	[15,24,25]	WHO Monograph - Herba Millefolii [23]	
Flowers/inflorescences/flowering	Med	General condition	Infections Relaxant footbath		[24,25]	

	tops (infusion, footbath)					
	Flowers/inflorescences/flowering tops (wash with infusion)	Vet	Cattle	Disinfectant for cattle legs wounds Intestinal disorders	[15]	WHO Monograph - Herba Millefolii [23]
	Flowers/inflorescences/flowering tops (infusion)	Vet	Cattle Dogs	Intestinal disorders		WHO Monograph - Herba Millefolii [23]
	Epigeal part (Whole) (compresses with infusion)	Med	Skin diseases and traumas	Anti-inflammatory, disinfectant and wound healing	[3,26]	Antimicrobial [26]
	Flowers/inflorescences/flowering tops (infusion)	Med	Circulatory system disorders	Hypotensive	[13,26]	
	Flowers/inflorescences/flowering tops (infusion)	Med	Digestive tract disorders	Gastric antispasmodic Digestive Carminative Abdominal pain Stomachache	[3,13,14,15,22,26,208,209]	
<i>Achillea moschata</i> Wulfen Erba iva, daneda	Epigeal part (Whole) (infusion)					
	Epigeal part (Whole) (footbath/bath with infusion)	Med	Musculoskeletal system disorders and traumas	Inflammations and pain	[13]	Phenolic and caffeic compounds (7-O-glucosyl luteolin, 7-O-β-glucosyl apigenin, 3-O-β-glucosyl-kaempferol, Luteolin, Apigenin, 3-O-β-Rutinosyl-isorhamnetin, 3-O-β-Glucosyl-isorhamnetin 5-O-caffeoylquinic acid, 4,5-dicaffeoylquinic acid): antioxidant activity; E.O. (camphor, 1-8-cineole, bornylacetate): antibacterial [26]
	Flowers/inflorescences/flowering tops (infusion)	Med	Gynecological disorders, obstetric and puerperal problems	Menstrual pains	[13,15,26]	

	Epigeal part (Whole) (infusion)	Med	Nervous system disorders	Sedative hypnotic, promotes sleep	[3,15,26]		
	Epigeal part (Whole) (infusion)	Med	Respiratory tract infections	Cough	[3,15,26]		
	Flowers/inflorescences/flowering tops (infusion)	Med	General condition	Anti-inflammatory	[3,15,22,26]		
	Flowers/inflorescences/flowering tops (infusion)	Vet	Cattle	Intestinal problems, bloating	[2,3,13,15,26]		
<i>Arnica montana</i> L. subsp. <i>montana</i> Arnica	Underground organs (roots/bulbs/tubers/rhizomes) (decoction)	Med	Urinary tract disorders	Remineralizing Urinary tract depurative		Helenanin (sesquiterpene lactone): analgesic and anti-inflammatory (WHO Monograph - Flos Arnicae [29] [30,33,34])	
	Flowers/inflorescences/flowering tops (exudate/EtOH extract application)	Med	Skin diseases and traumas	Anti-inflammatory, disinfectant and wound healing	[2,13,14,15,22,30]	WHO Monograph - Flos Arnicae [29] [30,36] Helenanin (sesquiterpene lactone): antimicrobial [31] MeOH extract <i>per os</i> (quinic acids, inositol esters, rutin, gallic acid): anti-inflammatory [32]	
	Leaves (boiled and applied)						
	Flowers/inflorescences/flowering tops (exudate/exudate in ointment or compresses with infusion)	Med	Musculoskeletal system disorders and traumas	Contusions Articular pain and inflammations Rheumatic pain Muscle inflammations and pain	WHO Monograph - Flos Arnicae [29] [2,3,13,14,15,30]	WHO Monograph - Flos Arnicae [29] [30,31,32,36]	Helenanin and dihydrohelenanin: anti-inflammatory [30,31,36]
	Flowers/inflorescences/flowering tops	Med	Digestive tract disorders	Stomachache Stomach depurative	WHO Monograph -	Flavonoids and phenols: antioxidant [30]	

	(infusion)				Flos Arnicae [29]		
	Flowers/inflorescences/flowering tops (exudate application)	Med	General condition	Anti-inflammatory Analgesic Infections	[15,30]	WHO Monograph - Flos Arnicae [29] [30,31,33,34,35,36]	
<i>Artemisia absinthium</i> L. Assenzio	Flowers/inflorescences/flowering tops (infusion)	Med	Digestive tract disorders	Digestive	[2,3,13,14,15,22,205]	[31,37,38] (Opposite effect - [40])	Bitter taste due to sesquiterpenes lactones (absinthin, anabsinthin, arthabsin, anabsin): digestive [31,37,39]
	Flowers/inflorescences/flowering tops (infusion)	Med	Nervous system disorders	Cephalea due to digestive disorders	[14]		
	Epigeal part (Whole) (eaten raw)	Vet	Cattle	Promotes digestion	[13,14,15]	[31,37]	
<i>Artemisia genipi</i> Weber Genépi	Epigeal part (Whole) (infusion)	Med	Digestive tract disorders	Digestive	[2,3,13,15,18]	[39,41]	Some of the sesquiterpenes lactones (such as santamarine) of génépi may activate hTAS2R46 bitter taste receptors [39,41]
	Epigeal part (Whole) (infusion)	Med	Gynecological disorders, obstetric and puerperal problems	Menstrual pains			
	Epigeal part (Whole) (infusion)	Med	Respiratory tract infections	Colds	[15,18]	[39,41]	
<i>Calendula officinalis</i> L. Calendula	Flowers/inflorescences/flowering tops (compresses with infusion, ointment)	Med	Skin diseases and traumas	Anti-inflammatory, disinfectant and wound healing Sunburns, burns, frostbites, redness and rash	WHO Monograph - Flos Calendulae [43] [3,13,14,15,44,47,206]	WHO Monograph - Flos Calendulae [43] [31,44,45,46,47]	Flavonoids (quercetin): antioxidant [45]  Triterpenoid esters (faradiol-3-O-laurate, faradiol-3-O-palmitate e

		Emollient, soothing Insect bites					faradiol-3-O-myristate): anti-inflammatory. Quercetin: partially inhibits collagen degradation and MMP2 activity. Quercetin-3-O-glucoside and rutin stimulate primary fibroblasts. [44]
<i>Carduus nutans</i> L. <i>Cardo svizzero</i>	Epigeal part (Whole) (compresses with infusion)	Med	Circulator y system disorders	Promotes circulation	WHO Monograph - Flos Calendulae [43] [2,15]	WHO Monograph - Flos Calendulae [43] [46,48]	
	Flowers/infloresce nces/flowering tops (infusion)	Med	Urinary tract disorders	Cystitis and other inflammation of the urinary tract			Carotenoids or their degradation compounds may promote wound healing more than triterpenes [47]
	Flowers/infloresce nces/flowering tops (macerated oil, ointment)	Med	Musculosk eletal system disorders and traumas	Contusions Articular pain and inflammations	WHO Monograph - Flos Calendulae [43] [13,15]	[210]	Terpenoids and flavonoids: anti- inflammatory and antiedema [46]
	Flowers/infloresce nces/flowering tops	Vet	Alpacas	Animal skin allergic reactions			
	Flowers/infloresce nces/flowering tops (infusion)	Med	Urinary tract disorders	Depurative	[211,212]		Synergic activity of different non-polar compounds (i.e. palmitic, oleic, and linoleic acids): antiviral and anti- inflammatory [49]
	Flowers/infloresce nces/flowering tops (eaten raw)	Vet	Cattle	Galactagogue			
	Flowers/infloresce nces/flowering tops (eaten raw)	Vet	Cattle	Throat depurative		[49]	Flavonoids luteolin and apigenin: anti- inflammatory and antioxidant [211,212]

<i>Carlina acaulis</i> L. subsp. <i>intybus</i> <i>Carlina bianca</i> , Pane degli alpini	Flowers/inflorescences/flowering tops (eaten raw)	Vet	Cattle	Galactagogue		
	Flowers/inflorescences/flowering tops (eaten raw)	Vet	Cattle	Throat depurative		
<i>Cichorium intybus</i> L. Catalogna	Leaves (infusion)	Med	Urinary tract disorders	Depurative	[3,15,56,57,206,213,214]	[56,57]
<i>Matricaria chamomilla</i> L. Camomilla	Flowers/inflorescences/flowering tops (compresses with infusion)	Med	Ophthalmic ailments	Ocular anti-inflammatory	WHO Monograph – Flos Chamomillae [43] [3,14,15,22,206,215]	[31,67] Apigenin: anti-inflammatory [31,108,109]; ansiolitic and antispasmodic [31,108] Bisabolol: antispasmodic [108]
	Flowers/inflorescences/flowering tops (infusion)	Med	Digestive tract disorders	Abdominal pain Stomachache Gastric antispasmodic	[3,15,67,109,111,205,206]	WHO Monograph – Flos Chamomillae [43] [31,108,109,110] Bisabolol, chamazulene: antibacterial and antifungal [31]; Anti-inflammatory (WHO Monograph – Flos Chamomillae [43]; [31])
	Flowers/inflorescences/flowering tops (infusion)	Med	Nervous system disorders	Sedative hypnotic, promotes sleep	[3,13,14,15,31,109,111,112,205,206]	WHO Monograph – Flos Chamomillae [43] [31,108,109,111,112] Matricin: anti-inflammatory and spasmolytic (WHO Monograph – Flos Chamomillae [43])
	Flowers/inflorescences/flowering tops (bath/washing with infusion)	Med	General condition	Emollient, soothing	[15]	WHO Monograph – Flos Chamomillae [43] [31] Flavonoids (apigenina and luteolin): anti-inflammatory (WHO Monograph – Flos Chamomillae [43]; ansiolitic [111])



							Apigenin-7-O-Glucoside found in aqueous extracts [216]
	Flowers/inflorescences/flowering tops (compresses with infusion)	Vet	All	Ocular anti-inflammatory, conjunctivitis	[168]	[31,67]	
	Flowers/inflorescences/flowering tops (infusion)	Med	Circulatory system disorders	Blood depurative		[157]	Silymarin and silybin: anti hepatotoxic (WHO Monograph - Fructus Silybi Mariae [23]; [31,157,158]); anti-inflammatory and antioxidant.
<i>Silybum marianum</i> (L.) Gaertn. Cardo mariano	Flowers/inflorescences/flowering tops (infusion)	Med	Digestive tract disorders	Liver depurative	[22,157]	WHO Monograph – Fructus Silybi Mariae [23] [31,157,158]	(WHO Monograph - Fructus Silybi Mariae [23]; [31])  Silybin detected in inflorescences [217]
	Flowers/inflorescences/flowering tops (syrup)	Med	Oropharyngeal cavity affections	Sorethroat		[163] (Anti-inflammatory) [162]	Bitter Sesquiterpene glucosides 14-O-beta-D-glucosyl-11,13-dihydro-taraxinic acid and 14-O-beta-D-glucosyl-taraxinic acid (from MeOH extract): anti-inflammatory [166,218]
<i>Taraxacum</i> spp. Tarassaco Zicòria/dent de can	Flowers/inflorescences/flowering tops (applied raw)			Acne, pimples, foruncles, skin abscesses			
	Latex or sap (latex raw)	Med	Skin diseases and traumas	Anti-inflammatory, disinfectant and wound healing	[15,219]	[163] (Anti-inflammatory)	
	Epigeal part (Whole) (compresses with infusion)			Insect bites			Triterpene uvaol (from dried flowers): anti-inflammatory [168]

Underground organs (roots/bulbs/tubers/rhizomes) (eaten)	Med	Circulatory system disorders	Blood depurative	[2,19,165]		Sesquiterpene lactones and phenylpropanoids: anti-inflammatory. Terpenoids and bitter lactones: could be active on the liver [163]
Flowers/inflorescences/flowering tops (macerated in alcohol, eaten raw sometimes with leaves, infusion)	Med	Digestive tract disorders	Gastric antispasmodic Digestive Liver depurative	[13,14,15,22,164,165,205,206,220]	[163,164,165]	
Epigeal part (Whole) (syrup)						
Flowers/inflorescences/flowering tops (infusion)						
Leaves (infusion or decoction)			Kidney stones Cystitis and other inflammation of the urinary tract Urinary tract depurative Diuretic			
Epigeal part (Whole) (infusion)	Med	Urinary tract disorders		[2,13,19,163,165,206,219]	[163,165,166,167]	
Underground organs (roots/bulbs/tubers/rhizomes) (infusion or decoction)						
Flowers/inflorescences/flowering tops (syrup, infusion)	Med	Respiratory tract infections	Expectorant, decongestant, emollient Flu and flu syndromes Sorethroat and hoarseness Cough	[13,15,163,165]		

	Flowers/inflorescences/flowering tops (syrup)	Med	General condition	Anti-inflammatory	[3,15,163,165]	[163,165,168]	
	Flowers/inflorescences/flowering tops (applied raw)	Vet	Other animals	Anti-inflammatory for infected wounds	[219]	[163,168]	(Anti-inflammatory)
<b>Betulaceae</b>							
<i>Betula pendula</i> Roth Pendula	Leaves (infusion)	Med	Circulatory system disorders	Hypocholesterolemia	[42]		Acid betulinic: anti-inflammatory and diuretic [42]
	Leaves (infusion)	Med	Urinary tract disorders	Urinary tract depurative Diuretic	[3,15,42,221]	[42]	Poliphenols (catechins, p-coumaric acid, myricetin, quercetin, and kaempferol): antioxidant [221]
	Leaves (infusion)						
	Latex or sap (drunk raw)	Med	General condition	Tonic and corroborant	[42]		
<b>Brassicaceae</b>							
<i>Brassica oleracea</i> L. Verza	Leaves (applied as a poultice)	Med	Musculoskeletal system disorders and traumas	Arthrosis Contusions Sprains and dislocations Rheumatic pain Inflammations and pain Articular pain and inflammations	[3,205,206]		
	Leaves (applied as a poultice)	Med	Respiratory tract infections	Improves breathing			
<b>Caprifoliaceae</b>							
<i>Valeriana officinalis</i> L. Valeriana	Epigeal part (Whole) (infusion)	Med	Nervous system disorders	Sedative hypnotic, promotes sleep	[15,195,206]	[189,190,191,192,193,194,195] ([196] no statistically significant)	Valepotriates, valerenic acid and derivatives, E.O.: sedative [222] Valerenic acid and E.O. [194]

difference to placebo)  
Sesquiterpenes, valeric acid  
[168,195]

### Cupressaceae

<i>Juniperus communis</i> L. Ginepro Pedüli de càvar	Fruits/infructescences/accessory fruits (infusion)	Med	Digestive tract disorders	Digestive	[2,3,14,15,18,19,77,78,223,224]	[77,78,79]	E.O.: digestive [79]
	Epigeal part (Whole) (infusion)						
	Fruits/infructescences/accessory fruits (infusion)	Med	Nervous system disorders	Sedative hypnotic, promotes sleep	[225]		E.O. ( $\alpha$ -pinene 20-50%, sabinene <20%, $\beta$ -pinene 1-12%, $\beta$ -myrcene 1-30%) [77,78]
	Fruits/infructescences/accessory fruits (infusion, salve/ointment)	Med	Respiratory tract infections	Colds Expectorant, decongestant, emollient	[3,13,14,15,78,224]		

### Equisetaceae

<i>Equisetum arvense</i> L. Erba cavallina, equiseto, coda cavallina	Herbaceous stems/scapes (infusion)	Med	Urinary tract disorders	Diuretic Depurative Kidney stones Remineralizing	[2,3,13,14,15,62]	[60,61,62]	High concentrations of flavonoids, phenolic compound, and mineral salts: mild diuretic action; silicon salts: may indicate remineralisation properties [62]
	Herbaceous stems/scapes (applied as a poultice)	Med	Musculoskeletal system disorders and traumas	Contusions	[3]	[60,61,63,64,65,66]	Kynurenic acid: anti-inflammatory and analgesic [64,66]
	Herbaceous stems/scapes (infusion)	Med	Gynecological disorders, obstetric and puerperal problems	Menstrual pains			B-sitosterol, campesterol, isofucosterol: anti-inflammatory steroidal effects

	Herbaceous stems/scapes (infusion)	Med	General condition	Analgesic		[61,63,64,65,66]	[65]
<b>Ericaceae</b>							
<i>Vaccinium myrtillus</i> L. Mirtillo nero	Fruits/infructescences/accessory fruits (eaten raw)	Med	Ophthalmic ailments	Promotes eyesight and eyes health	WHO Monograph - Fructus Myrtilli [146] [3,13,14,15,187] (refuted by [185])	WHO Monograph - Fructus Myrtilli [146] [177,178,179,180,181,182,183,184]	Phenolic compounds (in particular anthocyanins): improve ocular microcirculation (WHO Monograph - Fructus Myrtilli) [146], [183]); therapeutic properties (nonspecific) [187]
	Fruits/infructescences/accessory fruits (eaten raw)	Med	Circulatory system disorders	Promotes circulation	WHO Monograph Fructus Myrtilli [146] [3,13,15,187]	WHO Monograph - Fructus Myrtilli [146] [178,183,186]	Cyanidin, delphinidin, and malvidin: protect from retinal damage [179,181]
	Fruits/infructescences/accessory fruits (eaten raw)	Med	Urinary tract disorders	Promotes urinary tract health	WHO Monograph - Fructus Myrtilli [146] [3,187,204]	[187]	
<i>Vaccinium vitis-idaea</i> L. Mirtillo rosso Gäudi	Fruits/infructescences/accessory fruits (eaten raw)	Med	Ophthalmic ailments	Promotes eyesight and eyes health		[180,181]	Compounds active on urinary tract: high molecular weight proanthocyanidins (condensed tannins) [183]; phenolic compounds [226]; arbutin and derivatives, tannins [187]
	Fruits/infructescences/accessory fruits (eaten raw)	Med	Circulatory system disorders	Circulation, veins and blood vessels			
	Fruits/infructescences/accessory fruits (eaten raw)	Med	Urinary tract disorders	Promotes urinary tract health	[3,13,187,204,226]	[183,187,188]	
<b>Gentianaceae</b>							
<i>Gentiana lutea</i> L. subsp. <i>lutea</i> Risanzana	Underground organs (roots/bulbs/tuber)	Med	Circulatory system disorders	Blood depurative			Bitter monoterpenes (gentiopicroside, swertiamarin, sweroside e

	s/rhizomes) (decoction)						amarogentin): digestive and eupeptic WHO Monograph - Radix Gentianae Scabrae [29])
	Underground organs (roots/bulbs/tuber s/rhizomes) (decoction, grappa)	Med	Digestive tract disorders	Digestive Stomach anti- inflammatory Liver anti- inflammatory Stomachache Vermifuge	WHO Monograph - Radix Gentianae Luinfusione [29] [2,14,15,22,2 27]	WHO Monograph - Radix Gentianae Luinfusione [29] [31,37,71]	Gentiopicroside, amarogentin: gastroprotective [71,227]
	Underground organs (roots/bulbs/tuber s/rhizomes) (decoction)	Med	Urinary tract disorders	Urinary tract depurative	[15,227]		
	Underground organs (roots/bulbs/tuber s/rhizomes) (macerated oil)	Med	Musculosk eletal system disorders and traumas	Contusions Inflammations and pain			
	Flowers/infloresce nces/flowering tops (decoction)	Med	General condition	Immunomodulant Tonic and corroborant	WHO Monograph - Radix Gentianae Luinfusione [29] [15]		
	Underground organs (roots/bulbs/tuber s/rhizomes) (decoction)	Vet	Cattle	Carminative			
<b>Hypericaceae</b>							
<i>Hypericum perforatum</i> L. Iperico	Flowers/infloresce nces/flowering tops (macerated oil)	Med	Skin diseases and traumas	Sunburns, burns, frostbites, redness and rash Anti-inflammatory, disinfectant and	WHO Monograph - Herba Hyperici [23] Guarrera 2005	WHO Monograph - Herba Hyperici [23] [31,72]	Hyperforin, hypericin, and pseudohypericin: antimicrobial; hyperforin and flavonoids: antioxidant and anti-

				wound healing Psoriasis Insect bites	[2,3,13,14,15, 19,22,72,205, 206]	inflammatory [72,73] hyperforin and hypericin: antidepressant (WHO Monograph - Herba Hyperici [23], [31])
Epigeal part (Whole) (macerated oil rubbed)	Med	Digestive tract disorders	Abdominal pain			
Epigeal part (Whole) (infusion)	Med	Urinary tract disorders	Urinary tract depurative		WHO Monograph – Herba Hyperici [23] [72]	
Flowers/inflorescences/flowering tops (macerated oil, compresses with infusion)	Med	Musculoskeletal system disorders and traumas	Contusions Sprains and dislocations Articular pain and inflammations Muscle inflammations and pain	[2,3,13,14,15, 22,72]	[72,73]	
Epigeal part (Whole) (macerated oil, infusion)	Med	Nervous system disorders	Lumbago and neuralgia Antidepressant Sedative hypnotic, promotes sleep	WHO Monograph – Herba Hyperici [23] [3,13,15,72]	WHO Monograph – Herba Hyperici [23] [31,73,74,75 ,76]	
Epigeal part (Whole) (macerated oil)	Med	General condition	Lymphatic system anti-inflammatory			
<b>Iridaceae</b>						
<i>Crocus vernus</i> (L.) Hill Croco, bucaneve	Epigeal part (Whole) (eaten raw)	Vet	Cats	Observed a thrill- like effect when ingested		
<b>Lamiaceae</b>						
<i>Lamium album</i> L. Ortica bianca	Leaves (infusion)	Med	Urinary tract disorders	Diuretic	[13,80]	[80,81]

	Flowers/inflorescences/flowering tops (macerated oil)	Med	Afflictions of the ear	Otitis	[3]		
<i>Lavandula angustifolia</i> Mill. Lavanda	Leaves (compresses with infusion)	Med	Skin diseases and traumas	Anti-inflammatory, disinfectant and wound healing	WHO Monograph - Flos and Aetheroleum Lavandulae [29] [15]	WHO Monograph - Aetheroleum Lavandulae [29] [82,84,85]	E.O.: anti-inflammatory (WHO Monograph - Flos Lavandulae [29]); wound healing ([228], [229]- Flowers, [82]- Leaves); sedative (WHO Monograph - Flos Lavandulae [29]; particularly linalool [31])
	Flowers/inflorescences/flowering tops (infusion)	Med	Nervous system disorders	Sedative hypnotic, promotes sleep	[3,15,206]	WHO Monograph - Flos Lavandulae [29] [31,86]	
	Flowers/inflorescences/flowering tops (salve/ointment)	Med	General condition	Anti-inflammatory		[83,84]	
<i>Melissa officinalis</i> L. Melissa	Flowers/inflorescences/flowering tops (applied as a poultice)	Med	Gynecological disorders, obstetric and puerperal problems	Menstrual pains	WHO Monograph - Folium Melissa [23] [230]	[113,114]	
<i>Mentha longifolia</i> (L.) Huds. Menta	Leaves (infusion)	Med	General condition	Tonic and corroborant			
<i>Mentha x piperita</i> L. Menta piperita	Leaves (gargles/washings with infusion)	Med	General condition	Anti-inflammatory	[115]	[115,116,117]	E.O. (menthol 30,69%, menthone 14,51%, and menthyl acetate 12,86%): anti-inflammatory [116]
<i>Nepeta cataria</i> L. Erba gatta	Epigeal part (Whole) (eaten raw)	Vet	Cats	Given to the kittens by the mother			



	Epigeal part (Whole) (infusion)	Med	Digestive tract disorders	Promotes digestion	[2,15,121,206, 231]		Carvacrol: anti- inflammatory [118,119]
<i>Origanum vulgare</i> L. Origano	Epigeal part (Whole) (compresses with infusion)	Med	Ophthalmi c ailments	Conjunctivitis		[118,119,12 0,121]	High carvacrol E.O.: anti- inflammatory; E.O.: antimicrobial against <i>Pseudomonas aeruginosa</i> , <i>Staphylococcus aureus</i> , and <i>Escherichia coli</i> (often found in ocular infections bacterial profiles [232]) [120]
<i>Rosmarinus officinalis</i> L. Rosmarino	Epigeal part (Whole) (infusion)	Med	Digestive tract disorders	Liver depurative	[141]	WHO Monograph Aetheroleum Rosmarini and Folium Rosmarini [146]  [141,142,14 3,144,145]	E.O. ( $\alpha$ -pinene 18–26%, camphene 8– 12%, $\beta$ -pinene 2.0–6.0%, $\beta$ -myrcene 1.5–5.0%, limonene 2.5–5.0%): (WHO Monograph Aetheroleum Rosmarini and Folium Rosmarini [146])  E.O. (1,8-cineole 43.77%, camphor 12.53%, and $\alpha$ - pinene 11.51%): antioxidant and hepatoprotective [142]  In the aqueous extract with antioxidant and hepatoprotective properties catechin, coumarin, cinnamic acid, and rutin are detected [144]
<i>Salvia officinalis</i> L. Salvia	Leaves (applied raw)	Med	Oropharyn geal	Gingivitis	[2,3,14,15,15 0,207,231]	[149,150]	Flavonoidic fraction, rosmarinic acid, manool,

	Leaves (infusion)	Med	cavity affections Digestive tract disorders	Depurative and abdominal bloating	[150,151,152]	[150]	carnosol, and ursolic acid: anti-inflammatory [152]
	Leaves (infusion)	Med	Urinary tract disorders	Depurative	[15]		E.O. (1,8-cineol, thujone, and camphor), non-volatile compounds in MeOH extract: antimicrobial and antifungal (i.e. for oral cavity affections) and anti-inflammatory ([150,231])
	Leaves (compresses with infusion)	Med	Musculoskeletal system disorders and traumas	Anti-inflammatory for pains and sprains	[152,231]	[152]	
	Leaves (infusion)	Med	Respiratory tract infections	Colds	[3,15,150,207,231]		Ursolic acid and other diterpenes: anti-inflammatory [150]
	Leaves (washings with infusion)	Med	General condition	Anti-inflammatory	[150,231]	[150,151,152]	MeOH extract with high contents of rosmarinic, ursolic, caffeic, and oleanolic acids; borneol: anti-inflammatory [151]
<i>Thymus</i> spp. Timo	Epigeal part (Whole) (infusion)	Med	Other	Depurative			
	Epigeal part (Whole) (infusion)	Med	Circulatory system disorders	Blood depurative	[199,204]	[144]	Phenolic compounds, carvacrol, thymol, and others (high variability): antibacterial and antioxidant [170,234,202]
	Flowers/inflorescences/flowering tops (infusion)	Med	Digestive tract disorders	Emollient, stomachache	[170,171,204,207,199]		E.O. and thymol: antibacterial [171]
	Epigeal part (Whole) (infusion)						

	Epigeal part (Whole) (infusion)	Med	Urinary tract disorders	Diuretic	[15,18,170] ([199] traditionally used as anti-diuretic)	
	Epigeal part (Whole) (infusion)	Med	Nervous system disorders	Relaxant	[3,170,171]	
	Flowers/inflorescences/flowering tops (infusion)	Med	Respiratory tract infections	Balsamic Cough Colds and flu symptoms Expectorant, decongestant, emollient	[2,13,14,15,18,19,170,171,199,204,206]	[169,170,171,172]
	Leaves (infusion)					
	Epigeal part (Whole) (infusion)					
	Epigeal part (Whole) (salve/ointment)	Med	General condition	Anti-inflammatory	[170]	([170] antioxidant) [171]
<b>Lauraceae</b>						
<i>Laurus nobilis</i> L. Alloro	Fruits/infructescences/accessory fruits (infusion)	Med	Digestive tract disorders	Antiacid, gastritis, acid reflux Carminative Abdominal pain	[3,15,31,89,90,206,235,236]	[89,90,91] 1.8 cineol and terpinene: gastroprotective activity [89,90]
	Leaves (infusion)		Gynecological disorders, obstetric and puerperal problems	Menstrual pains	[92,93]	[92,93] E.O.: anti-inflammatory and analgesic [92,93]
<b>Linaceae</b>						
<i>Linum usitatissimum</i> L. Lino	Seeds (boiled or left in water overnight, then drunk)	Med	Digestive tract disorders	Laxative, intestinal motility	[2,3,13,15,96]	[94,95,96] Oil and mucilages: laxative [95]

	Epigeal part (Whole) (boiled and applied as a poultice)	Med	Respirator y tract infections	Expectorant, decongestant, emollient	[2,3,13,14,15, 18,206]	[97]	
<b>Malvaceae</b>							
	Leaves (gargles with infusion)	Med	Oropharyn geal cavity affections	Oral cavity inflammation Toothache Gingivitis	[3,14,100,205 ,206,237,238]	[98,99,100,1 01]	
	Leaves (compresses with infusion)	Med	Skin diseases and traumas	Anti-inflammatory Emollient Regenerative	[2,3,15,22,10 0,205,206,207 ,237,238]	[100,101,10 2,103,104,1 05]	
	Leaves (compresses with leaves)	Med	Ophthalmi c ailments	Anti-inflammatory, Eye irritations	[3,100]	[100,101]	Anti-inflammatory activity: flavonoids and mucilages [100,238]; polysaccharide of mucilaginous complex [237]; polyphenols [98]; Malvidin-3-glucoside [105]
	Leaves (bath/washing with infusion)	Med	Early infancy ailments	Soothing, anti- inflammatory for diaper rash	[14,100,237]	[100,101]	
<i>Malva sylvestris</i> L. Malva	Leaves (infusion, washing with infusion)	Med	Other	Anti-inflammatory, refreshing, allergies, relaxant footbath	[3,100,237,23 8]	[100,101]	
	Leaves (infusion)	Med	Digestive tract disorders	Stomachache, Abdominal pain, Intestinal anti- inflammatory, promotes digestion	[2,14,15,22,1 00,205,237,23 8]		Phenolic compounds: protect kidney function [106]
	Leaves (infusion)	Med	Urinary tract disorders	Depurative	[2,15,100]	[106,107]	
	Leaves (compresses with infusion)	Med	Musculosk eletal system disorders and traumas	Anti-inflammatory for sprains, tired legs	[3,100]		

	Leaves (bath/washing with infusion)	Med	Gynecolog ical disorders, obstetric and puerperal problems	Anti-inflammatory, facilitates childbirth	[3,15,100,206 ]	[101]	
	Leaves (bath)	Med	Nervous system disorders	Relaxant, sedative	[100]		
	Leaves (infusion)	Med	Respirator y tract infections	Colds	[15,100,206,2 38]		
	Leaves (compresses, Bath/washing with infusion)	Med	General condition	Anti-inflammatory, soothing	[3,100,205,23 7,238]	[100,101]	
<i>Tilia spp.</i> Tiglio	Flowers/infloresce nces/flowering tops (infusion)	Med	Digestive tract disorders	Promotes digestion	[15,239,240,2 41]		
	Flowers/infloresce nces/flowering tops (infusion)	Med	Respirator y tract infections	Cough	[2,13,14,15,2 2,204,206,239 ,240,241]		
<b>Oleaceae</b>							
<i>Fraxinus excelsior</i> L. Frassino, Frassino maggiore	Leaves (infusion)	Med	Digestive tract disorders	Laxative, intestinal motility			
	Leaves (infusion)	Med	Urinary tract disorders	Diuretic, Urinary tract depurative	[15,22]		
<b>Onagraceae</b>							
<i>Epilobium sp.</i> Epilobio	Leaves (infusion)	Med	Urinary tract disorders	Urinary tract depurative	[31,58,59]	[59]	Anti-inflammatory activity: myricetin-3-O- glucuronide [58,59]; oenothein B, myricetine- 3-O-glucoside, myricetine-3-O-
	Leaves (infusion)	Med	General condition	Anti-inflammatory	[58,59]	[58,59]	

							galactoside, myricetine-3-O-rhamnoside and 3-O-glucuronides of quercetin e keampferol [58]
							Antioxidant activity: phenols [58,59]
<b>Orobanchaceae</b>							
<i>Euphrasia rostkoviana</i> Hayne Eufrasia	Flowers/inflorescences/flowering tops (compresses with infusion)	Med	Ophthalmic ailments	Ocular anti-inflammatory	[3,13,15,68,242]	[31,67,68]	Flavonoids: antioxidant [67]; anti-inflammatory [67,68]  Polyphenols: anti-inflammatory [68]  Active substances of the <i>Euphrasia herb</i> : iridoglicozoids (aucubin), tannins, phenolic acids, etheric oils, resin substances and flavonoids [68]
<b>Oxalidaceae</b>							
<i>Oxalis acetosella</i> L. Cücüli, pan del cucù	Leaves (infusion)	Med	Digestive tract disorders	Digestive	[3,15]		
<b>Papaveraceae</b>							
<i>Chelidonium majus</i> L. Celidonia, Erba dei porri	Latex or sap (applied raw)	Med	Skin diseases and traumas	Skin tags and warts	[2,3,13,14,15,55,132,205,206]	[54,55]	Anti-inflammatory activity: alkaloids [55,132,243] in particular sanguinarine, chelidonine, chelerythrine, berberine e coptisine [243]
<b>Parmeliaceae</b>							
<i>Cetraria islandica</i> (L.) Ach. subsp. <i>islandica</i> Lichene Nichel	Epigeal part (Whole) (infusion)	Med	Respiratory tract infections	Expectorant, decongestant, emollient Sorethroat and hoarseness	[2,3,13,15,18,22,51]	[50,51,52]	Polysaccharides (lichenan and isolichenan especially active): antitussive [50]; immunomodulating [52];

	Epigeal part (Whole) (salve/ointment)	Med	General condition	Anti-inflammatory	[51]	[51,53]	(lichenan only) anti- inflammatory [51]
<b>Passifloraceae</b>							
<i>Passiflora</i> spp. Passiflora	Epigeal part (Whole) (infusion)	Med	Nervous system disorders	Promotes sleep	[124,125]	[122,123,124,125,126]	Flavonoids and perhaps GABA: ansiolitic [125]
<b>Pinaceae</b>							
	Resin (topical application)	Med	Oropharyn geal cavity affections	Gingivitis, toothache, mouth ulcers and abscesses			
	Resin (ointment)	Med	Skin diseases and traumas	Anti-inflammatory, disinfectant and wound healing Sunburns, burns, frostbites, redness and rash	[2,3,14,244]	[31,87,88]	Procyanidins and larixinol: antioxidant [244]
<i>Larix decidua</i> Mill. Larice	Resin (melted, mixed with red wine and applied to put in plaster)	Med	Musculosk eletal system disorders and traumas	Broken bones	[2,13,15]		Lignans and flavonols (wood-bark): anti- inflammatory [87,88], abietane, pimarane, and labdane type diterpenes: anti-inflammatory [87]
	Fruits/infructescen ces/accessory fruits (syrup)	Med	Respirator y tract infections	Expectorant, decongestant, emollient Cough	[2,3,13,14,19, 87,244]	[88]	
	Buds (syrup)						
	Resin (inalation)						
	Resin (ointment)	Med	General condition	Anti-inflammatory	[244]	[31,87]	
<i>Picea abies</i> (L.) H.Karst Abete rosso	Resin (topical application)	Med	Oropharyn geal cavity affections	Gingivitis, toothache, mouth ulcers and abscesses	[15]	[88,131,132 ]	Antibacterial activity: bark flavonoids [88]; piperidine alkaloids (epidihydropinidine) [131]

	Resin (topical application)	Med	Skin diseases and traumas	Anti-inflammatory, disinfectant and wound healing	[3,132]		Antifungal activity: epidihydropinidine [131] Antimicrobial: buds E.O. [132]
	Buds (syrup)	Med	Respiratory tract infections	Cough	[3,13,15,242]	[31,88]	Anti-inflammatory activity: bark stilbens and buds E.O. [132]; lignans and bark flavonols [88] Activity antioxidant: bark flavonoids [88] Mucolytic, hyperemic and antiseptic activities: E.O. [31]
<i>Pinus cembra</i> L. Pino cembro	Pine cones (syrup)	Med	Respiratory tract infections	Cough, Sorethroat	[2]	[133] Antimicrobial	Phenolics, flavonoids, and proanthocyanidins: antimicrobial activity [133]
	Resin (topical application, ointment)	Med	Skin diseases and traumas	Anti-inflammatory, disinfectant and wound healing Sunburns, burns, frostbites, redness and rash		[134]	E.O. needles, twigs and cones: anti-inflammatory.
<i>Pinus mugo</i> Turra Pino mugo, Pino montano	Resin (topical application)	Med	Other medicinal	Anti-inflammatory		[134]	(Prevalence of $\alpha$ -pinene in needles, $\delta$ -3-carene in twigs and cones, limonene in twigs) [134]
	Immature pine cones (infusion)	Med	Digestive tract disorders	Digestive	[3]		
	Resin (melted, filtered and used to put in plaster)	Med	Musculoskeletal system disorders	Sprains and dislocations Broken bones			



		and traumas					
	Buds (syrup)	Med	Respiratory tract infections	Expectorant, decongestant, emollient	[2,3,13,15,19]	[135,136]	
	Immature pine cones (syrup)			Sorethroat and hoarseness Colds Cough			
	Resin (topical application)	Med	General condition	Infections		[134]	
	Resin (topical application)	Vet	Cattle	Disinfectant and wound healing			
<b>Plantaginaceae</b>							
<i>Plantago major</i> L. Porceléra/ciantàna /plantàna	Leaves (washing with infusion)	Med	Oropharyngeal cavity affections	Gingivitis, toothache, mouth ulcers and abscesses		[127,128,129]	Therapeutic properties due to flavonoids, alkaloids, terpenoids, phenolic compounds (caffeic acid derivatives), iridoid glycosides, fatty acids, polysaccharides, and vitamins. In particular, polyphenols (plantamajoside) and polysaccharides: wound healing activity; Flavonoids (plantagin, baicalein, and hispidulin): antioxidant (may contribute to wound healing) Iridoid glycosides (aucubin) and flavonoids (baicalein and hispidulin): anti-inflammatory; Pectin Polysaccharide II (PMII) antibacterial
	Leaves (applied raw)	Med	Skin diseases and traumas	Acne, pimples, foruncles, skin abscesses Anti-inflammatory, disinfectant and wound healing Skin tags and warts Insect bites	[2,3,13,15,19,22,127,128,130,205]	[127,128,129,130]	
	Leaves (infusion)	Med	Respiratory tract infections	Asthmatic bronchitis Cough	[13,15,127,130]	[127,129,130]	
	Leaves (applied as poultice)	Med	General condition	Anti-inflammatory Infections	[3,13,15,127]	[127,128,129]	
	Leaves (applied raw)	Vet	All animals	Leaves as wound healing	[13,18,22,127,128,130]	[127,128,129,130]	

[129]

(Anti urticaria treatment)  
 Ursolic acid, oleanolic acid  
 and  $\alpha$ -linolenic acid:  
 inhibition of COX-2  
 Luteolin: suppresses  
 leukocyte migration and  
 inhibits mast cell  
 degranulation  
 [130]

<b>Polygonaceae</b>						
<i>Rumex acetosa</i> L. Acetosa	Leaves (eaten raw)	Vet	Cattle	Improves milk taste		
	Leaves (applied as poultice)	Med	Skin diseases and traumas	Wound healing, wounds	[15,18]	[147] (antibacterial) [148] (antibacterial)
	Leaves (Unknown)	Med	Other	Anti-inflammatory		
<i>Rumex alpinus</i> L. Slavàzza	Leaves (applied as poultice)	Med	Circulatory system disorders	Varicose vein	[3,15]	Nepodin (2-Acetyl-3-methylnaphthalene-1,8-diol): antibacterial [147,148]
	Leaves (macerated oil, applied as poultice)	Med	Musculoskeletal system disorders and traumas	Anti-inflammatory for joints, Contusions	[13]	
	Leaves (applied as poultice)	Med	General condition	Soothing		
	Leaves (boiled and eaten)	Vet	Pigs	Boiled leaves	[3,15]	
<b>Polypodiaceae</b>						
<i>Polypodium vulgare</i> L. Feles	Underground organs (roots/bulbs/tuber)	Med	Digestive tract disorders	Laxative, intestinal motility Vermifuge	[15,22,137,245,246,247]	[137] Resins of the rhizome: anthelmintic; glycosides (polydin): laxative

	s/rhizomes) (eaten raw)						[137]
	Underground organs (roots/bulbs/tuber s/rhizomes) (cooked and eaten)	Med	General condition	Immunomodulant			[137]
<b>Rosaceae</b>							
	Epigeal part (Whole) (infusion)	Med	Digestive tract disorders	Digestive			[27,28,248]
<i>Alchemilla vulgaris</i> L. Alchemilla	Epigeal part (Whole) (macerated oil)	Med	Musculoskeletal system disorders and traumas	Muscle Inflammations and pain Hernia		Anti- inflammatory [28]	[3]  Quercetin-3-O-b-D- glucopyranoside, quercetin-3-O-b-D- rutinoside, quercetin-3-O- a-D-arabinofuranoside, and 3-O-kaempferol-6-O- (p-coumaroyl)-b-D- glucopyranoside: anti- inflammatory [27]
	Epigeal part (Whole) (infusion)	Med	Nervous system disorders	Sedative hypnotic, promotes sleep			[13]  Phenols: anti- inflammatory and antioxidant [28]
<i>Crataegus monogyna</i> Jacq. Biancospino	Flowers/inflorescences/flowering tops (infusion)	Med	Respiratory tract infections	Cough		[250] Antibacterial	[249]
	Fruits/infructescences/accessory fruits (infusion)	Med	Urinary tract disorders	Diuretic, Urinary tract depurative		[138] (only stalks)	[2,14,15,138]
<i>Prunus avium</i> L. Ciliegio	Seeds (put in a pillow and heated)	Med	Musculoskeletal system disorders and traumas	Muscle Inflammations and pain Rheumatic pain		[251] (heat therapy)	[15]
<i>Rosa canina</i> L. Fròsole/Fròsuli (false fruits)	Flowers/inflorescences/flowering tops	Med	Other	Depurative			[15]  Medicinal properties of <i>R. canina</i> (in particular anti-inflammatory and

	(infusion)						antioxidant activities) due to flavonoids, carotenoids, fatty acids, vitamin C [140]
	Leaves (infusion)	Med	Digestive tract disorders	Laxative Promotes digestion	[3,15]		
	Leaves (infusion)	Med	Urinary tract disorders	Depurative	[3,13,139,140]	[139]	Particularly: FAs (linoleic and $\alpha$ -linolenic acids); GOPO® (Galactolipid (2S)-1,2-di-O-[(9Z,12Z,15Z)-octadeca-9,12,15-trienoyl]-3-O- $\beta$ -D-galactopyranosyl glycerol); oleanic, ursolic, and betulinic acids: anti-inflammatory activity [140]
	Flowers/inflorescences/flowering tops (infusion)	Med	Nervous system disorders	Relaxant			
	Fruits/infructescences/accessory fruits (infusion)	Med	Respiratory tract infections	Decongestant Sorethroat	[3,14,15,139,140]	[139,140]	
<b>Solanaceae</b>							
<i>Solanum tuberosum</i> L. Patata	Underground organs (roots/bulbs/tubers/rhizomes) (tubers sliced and applied)	Med	Ophthalmic ailments	Ocular anti-inflammatory	[3,15,205]	Anti-inflammatory [159,160,161]	Anti-inflammatory activity: glycoalkaloids ( $\alpha$ -chaconine, $\alpha$ -solanine, and solanidine) [159,160]; isolated peptides [161]  Antioxidant activity: phenolic compounds (chlorogenic acid), proteins (patatins), and peptides [160]
<b>Urticaceae</b>							
<i>Urtica dioica</i> L. Ortica	Leaves (cooked and eaten)	Med	Circulatory system disorders	Blood depurative	[13,14,174,175]	[173,174]	Anti-inflammatory activity against muscle pain and rheumatism: acetylcholine, serotonin, formic acid [173]; terpenes and phenols [176]
	Leaves (infusion)	Med	Digestive tract disorders	Digestion, Liver depurative	[2,3,15,22,174,206]	[173,174]	
	Leaves (infusion)	Med	Urinary tract disorders	Depurative	[2,3,13,15,18,173,174,175]	[173,174]	

Leaves (applied as a poultice)	Med	Musculoskeletal system disorders and traumas	Rheumatism, Contusions, Hematoma	[3,13,14,15,22,173,174,175,205]	[65,173,174,175,176]
Epigeal part (Whole) (infusion)	Med	General condition	Anti-inflammatory, Corroborant	[174]	[173,174,176]



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