From the sea to the mountains - plant use in Ajara, Samegrelo and Kvemo Svaneti, Sakartvelo (Republic of Georgia), Caucasus

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Research

Abstract

Background: Ajara, Samegrelo and Kvemo Svaneti are historical provinces of Georgia located on the south-facing macro-slope of the western part of the Greater Caucasus (Samegrelo and Kvemo Svaneti) and west of the Lesser Caucasus towards the Black Sea (Ajara). In this study we documented traditional plant use in Ajara, Samegrelo and Kvemo Svaneti.

Methods: Fieldwork was conducted from July-August 2014 and June -November 2019. Interviews using semi-structured questionnaires were conducted with 84 participants (40 women and 44 men), with oral prior informed consent.

Results: We encountered 276 plant species belonging to 181 genera of 88 vascular plant families, and 3 fungal species and 8x undetermined fungi of at least 9 genera, belonging to at least 7 fungal families, and 1 lichen being used in the research region. Of these 163 species were exclusively wild collected, 114 were grown in homegardens, and 18 were both grown in gardens and collected in the wild. Plants and their uses mostly overlapped among the areas within the region, with a slightly wider divergence in uses than in plants.

Conclusions: The environmental fit analysis showed that a large degree of this variation was explained by differences among participant communities. The elevation of the participant community significantly fit

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the ordination in plant-space and explained a large degree of the variation in plant species reported but not in use-space. Gender was not significant in plant-space or use-space.

Key words: Caucasus, ethnobotany, plant use, traditional knowledge, post-soviet development

Introduction

Georgia harbors a great diversity of crops and crop wild relatives, and plant use for medicine and other purposes is very common (Akhalkatsi et al. 2018a,b), and can often be traced back millennia (McGovern et al. 2018). Plant use is indeed widely shared among different ethnic and religious communities (Söderlind 2015). Ajara, Samegrelo and Kvemo Svaneti are historical provinces of Georgia located on the south-facing macro-slope of the western part of the Greater Caucasus (Samegrelo and Kvemo Svaneti) and east of the Lesser Caucasus towards the Black Sea (Ajara), (Kordzakhia and Javakhishvili 1971) (Fig. 1). The vegetation of the region includes montane forest, subalpine, alpine, subnival and nival zones and corresponds to the West Caucasian, i.e. Colchic, type of the vegetation vertical zonation (Gagnidze and Davitadze 2000; Zazanashvili et al. 1999). Most inhabitants speak both Georgian and their own local language (Megrelian, Svan and to a small extent Laz), all belonging to the Kartvelian group of the Iberian-Caucasian family of languages (Beridze et al. 2003).

Figure 1. Study area.

Ajara (აჭარა), officially known as the Autonomous Republic of Ajara (აჭარის ავტონომიური რესპუბლიკა), is a historical, and political-administrative region of Georgia. Located in the country's southwestern corner, Ajara stretches from the coast of the Black Sea into the Lesser Caucasus, north of Turkey. Ajara has been part of Colchis and Caucasian Iberia since ancient times. Colonized by Greeks in the 5th century BC, the region fell under Roman rule in the 2nd century BC. It became part of the Lazica before being incorporated into the Kingdom of Abkhazia in the 8th century AD, and part of the kingdom of Greater Georgia in the 11th century. The Ottomans conquered the area in 1614. The people of Ajara gradually converted to Islam in this period. The Ottomans were forced to cede Ajara to the expanding Russian Empire in 1878. After a temporary occupation by Turkish and British troops in 1918–1920, Ajara became part of the Democratic Republic of Georgia in 1920. Under the Soviet Union, Ajara formed the Georgian Soviet Socialist Republic as the Adjarian ASSR. After the dissolution of the

Soviet Union in 1991, Ajara became part of a newly independent Republic of Georgia. Only in November 2007 Russia ended its two-century military occupation in Georgia by withdrawing from Batumi.

Ajara is well known for its humid climate (especially along the coastal regions) and prolonged rainy weather. The region receives the highest amounts of precipitation both in Georgia and in the Caucasus. It is also one of the wettest temperate regions in the northern hemisphere, with a minimum of 2200 mm of precipitation per year along the coast. The west-facing (windward) slopes of the Meskheti Range receive upwards of 4500 mm of precipitation per year. The interior parts of Ajara are considerably drier than the coastal mountains and lowlands. Winter usually brings significant snowfall to the higher regions of Ajara, where snowfall often reaches several meters. Average summer temperatures are between 22–24 ºC in the lowland areas and 17–21 ºC in the highlands. The highest areas of Ajara have lower temperatures. Average winter temperatures range between 4–6 ºC along the coast while the interior areas and mountains average around -3–2 ºC.

Kvemo Svaneti, on the upper Tskhenistsqali River is administratively part of Racha-Lechkhumi. The landscape of Svaneti is dominated by mountains that are separated by deep gorges. Most of the region which lies below 1800 m is covered by mixed and coniferous forests. The forest zone includes tree species like as *Picea orientalis*, *Abies nordmanniana*, *Fagus orientalis* and *Carpinus orientalis*. The zone which extends from 1800 m to about 3000 m consists of alpine meadows and grasslands. The climate of Svaneti is humid and is influenced by the air masses coming in from the Black Sea throughout the year. Annual precipitation ranges between 1000 and 3200 mm. The lowest regions of Svaneti are characterized by long, warm summers and relatively cold and snowy winters. Areas above 2000 m lie within a zone that experiences short, cool summers (less than 3 months) and long and cold winters. Originally the area was a dependency of the Kingdom of Colchis, and of its successor Kingdom of Lazica, after which when the province joined the Kingdom of Abkhazia, which was incorporated into the Kingdom of Georgia in the early 11th century. The Mongols never reached Svaneti and, for a time, the region became a cultural safe house. Following the final disintegration of the Kingdom of Georgia in the 1460s, part of Zvemo (Upper) Svaneti formed an independent principality, while Kvemo Svaneti was temporarily part of Samegrelo. Difficult to access, the region retained significant autonomy until 1857, when Russia abolished its autonomy.

Samegrelo (სამეგრელო, სამარგალო) is a historic province in the western part of Georgia, formerly known as Odishi. It is primarily inhabited by the Samegrelons, with their own language which is part of the Kartvelian language family that also includes Georgian, Laz, Zan and Svan. As is the case with most Black Sea coastal areas of Georgia, Samegrelo's climate is subtropical with frequent rains. The coastal areas have many marshlands despite the Soviet Georgian authorities' efforts to dry them up. In ancient times Samegrelo was a major part of the kingdom of Colchis (9th-6th centuries BC) and its successor Egrisi (4th century BC-6th century AD). From the 11th-15th centuries, Samegrelo was a part of the Kingdom of Greater Georgia. From the 16th century to 1857, the independent Principality of Samegrelo was under the rule of the House of Dadiani. In December 1803, the principality came under the patronage of the Russian Empire and in 1867 was absorbed into the Tsarist Russian Empire. From 1918 to 1921, Samegrelo was part of the Democratic Republic of Georgia (DRG). After independence in 1991, Samegrelo became part of the Republic of Georgia.

Flora and vegetation

The Caucasus region contains an amazing variety of vascular plants, with about 6300 described species (Gagnidze (2002). The number of endemic taxa known for the Caucasus region is set at 2791 (Schatz et al., 2009).

The Botanical exploration of the Caucasus started in the 17th century. Jean-Baptiste Chardin (1686), described the gardens in Tiflis, Georgia, as well as the surrounding areas as result of a journey in 1672-1673. Joseph Delaporte published similar impressions in 1768 (Gogolishvili & Skhiereli, 1986). Botanist Joseph Pitton de Tournefort, published a large treatment of the Caucasus flora and vegetation in 1717. Johann Christian Buxbaum published a five-volume treatment of the region in (1728-1740). The first real flora of the Caucasus region was however prepared by Adolf Marschall von Bieberstein (1808-1819). In the 20th century most of the Caucasus region formed part of the former Soviet Union, and botanically well studied in that time (Grossheim, 1928-1934, 1939-1967; Takhtajan, 2003-2012). A large number of detailed treatments of the Caucasus flora were compiled by Alexander Grossheim, who published the most complete Flora of the Caucasus (1928-1934). Starting in the 1940s, Grossheim produced also a series of volumes on human plant use for Armenia, Azerbaijan and Georgia (Grossheim, 1942, 1943, 1946, 1949, 1952). Especially his Manual of the Caucasian Plants (Grossheim, 1949) is still a standard reference today. Nakhutsrishvili (1999)

produced the most comprehensive vegetation description for the Caucasus.

The high biodiversity in the Caucasus is found in a wide variety of vegetation types. A large portion of the region is covered by broad-leaved and coniferous forests (Galushko, 1978-1980; Doluchanov, 1989; Nakhutsrishvili, 1999; Zazanashvili et al., 1999, 2000). In the northern Caucasus, forests are mostly found in the western part (Litvinskaya and Murtazaliev, 2009). The forest cover was estimated to be 36% in Georgia (Doluchanov, 1989), and forest cover has diminished from 35% to 11% in Azerbaijan. (Schatz et al, 2009). However, usage change, especially a reduction of sheep in the Northern Caucasus, as led the timberline to extend upwards in many areas (Bussmann et al., 2014, 2016a-d, 2017a-b).

In this study we documented traditional plant use in Ajara, Samegrelo and Kvemo Svaneti and hypothesized that (1) plant use knowledge in general is lower in these regions than in the rest of Georgia, that (2) most plant use is centered on home gardens and that (3) the consumption of herbs as "*Pkhali*" (herb pie), very prevalent in other regions of Georgia, would be limited..

Materials and Methods

Ethnobotanical interviews

Fieldwork was conducted from July-August 2014 and June -November 2019. Interviews using semi-structured questionnaires were conducted with 84 participants (40 women and 44 men), with oral prior informed consent. The participants were selected by snowball sampling, trying to reach gender balance and represent members of different age groups (25–96 years). However, most participants were over 45 years old, because only very few younger people remain in remote Georgian villages.

All interviews were carried out in the participants' homes and gardens by native speakers of Georgian, Laz, Megrelian and Svan, and then translated into English. Plants grown in the home gardens were used as prompts, while wild-collected species were free listed. Wild-collected and garden species were identified directly in the field, as well as using this literature (Flora of Georgia Committee 1971-2011; Makashvili 1952-1953), and voucher collections deposited in the National Herbarium of Georgia (TBI). The nomenclature of all species follows www.tropicos.org, under APGIII (Angiosperm Phylogeny Group 2009). The spelling of vernacular names was standardized using Makashvili (1991).

Statistical analysis

Distance among informants was calculated for two matrices: one in which columns represented plant species reported, and one in which columns represented uses reported. We calculated distance with the Bray-Curtis method and used the metaMDS function in the R package *vegan* (Okasanen et al. 2018) to implement nonmetric multidimensional scaling. The resulting ordinations plot individuals more closely together who report similar plants (in the case of the first matrix) or similar uses (in the case of the second matrix).

We then fit different continuous variables (elevation of community and age of individual) and categorical variables (gender of individual, community, and district) using to test whether each variable explains the location of informants in the ordination, also using *vegan* (Oksanen et al. 2018). We compared these fits to 999 randomized shuffles of the environmental variables to calculate significance.

We calculated informant consensus for a given use category as the number of use reports minus the number of taxa over the number of use reports minus one:

$$Nur - Nt \,/\, Nur - 1$$

We ranked species by three metrics: cultural importance value, the sum within species across all plant-uses of the number of informants reporting a plant-use over the number of informants reporting the plant; use diversity, the Shannon Index of uses (calculated with *vegan,* Oksannen et al. 2018); and use value, the number of reports of a species over total number of informants asked in a region (Philips and Gentry 1993).

Results

We encountered 276 plant species belonging to 181 genera of 88 vascular plant families, and 3 fungal species and 5 undetermined fungi of at least 9 genera, belonging to at least 7 fungal families, and 1 lichen being used in the research region. Of these 163 species were exclusively wild collected, 114 were grown in homegardens, and 18 were both grown in gardens and collected in the wild (Table 1). The most important use categories were food, and medicinal. For the demographics of all participants see Table 2.

Table 1. Plants used in Ajara, Samergrelo and Kvemo Svaneti

Plant family	Scientific name	Georgian Name and (Transliteration)	Name other language and (Transliteration)	Use description	Part used	Location
Actinidiaceae	*Actinidia callosa* Lindl.	აქტინიდია (akt'inidia); კივი (k'ivi)		Human Food	Fruit	Garden
Adoxaceae	*Sambucus ebulus* L.	ანწლი (ants'li)	დინჭირი (dinch'iri - Laz) ინჭირია, ინჭილა, ინჭირი (inchiria, inchilia, inchiri - Megrelian); განჭვ (ganchv - Svan)	Medicinal (Cough, Diarrhea, Tincture); Animal food (Fodder)	Fruit	Forest, Garden
Adoxaceae	*Sambucus nigra* L.	დიდგულა (didgula); თხიფსელა (tkhipsela)	გეყრუა (geq'rua - Laz); თახვანტია ჯა (takhvantia ja - Megrelian)	Medicinal (Tincture); Utensils and Tools	Fruit, Stem	Forest
Adoxaceae	*Viburnum lantana* L.		თურსა (tursa - Tushetian)	Medicinal (Cold, Inflammation)	Fruit	Garden
Adoxaceae	*Viburnum opulus* L.	ძახველი (dzakhveli)	წანწოფი (ts'ants'ofi - Megrelian)	Human Food	Fruit	Forest
Agaricaceae	*Agaricus arvensis* Schaeff.	ქამა (k'ama)	ქოქოდილ (kokodil - Megrelian)	Human Food	Fruiting body	Forest
Agaricaceae	*Agaricus campestris* L.	მარქვალა (markvala)		Human Food	Fruiting body	Forest
Agaricaceae	*Agaricus arvensis* Schaeff.	ქამა (k'ama)		Human Food	Fruiting body	Forest
Amanitaceae	*Amanita caesarea* (Scop.) Pers.	ნიყვი (niq'vi)		Human Food	Fruiting body	Forest
Amaranthaceae	*Amaranthus retroflexus* L.	ჩვეულებრივი ჯიჯლაყა (cveulebrivi jijlaq'a)		Human Food (Phkhali)	Shoots	Garden
Amaranthaceae	*Amaranthus spinosus* L.	ჩვეულებრივი ჯიჯლაყა (cveulebrivi jijlaq'a)		Human Food (Phkhali)	Shoots	Garden
Amaranthaceae	*Beta vulgaris* L.	ჭარხალი (ch'arkhali); შავი ფხალი (shavi pkhali)		Human Food (Raw, Cooked, Phkhali)	Leaves, Root	Garden
Amaranthaceae	*Beta vulgaris* L. ssp. *cicla* (L.) Moq.	ჭარხალი (ch'arkhali)	სოტოლია, სოტელია (sot'olia, sot'elia - Megrelian)	Human Food (Phkhali)	Leaves	Garden
Amaranthaceae	*Chenopodium album* L.	ნაცარქათამა (natsarqathama); ქათამნაცარა (katamnatsara)	ჯუმენია, ჩე ჯუმენე, ქოროფე, ქეროფე (jumenia, che jumene, korofe, kerofe - Megrelian)	Human Food (Phkhali); Animal food (Fodder)	Leaves	Forest, Garden
Amaryllidaceae	*Allium cepa* L.	ხახვი (khakhvi);	ხვარხვი (khvarkhvi - Megrelian)	Human Food (Phkhali, Raw, Cooked, Spice)	Bulb, Leaves	Garden

Amaryllidaceae	*Allium fistulosum* L.	ჭლაკვი (ch'lakvibat)	სოხი, სორხი (sokhi, sorkhi - Megrelian); ჭაგვ (ch'hagv - Svan)	Human food	Bulb	Garden
Amaryllidaceae	*Allium porrum* L.	პრასა (p'rasa); პრასი (p'rasi)	პურასკია (puraskia - Megrelian)	Human Food (Phkhali, Spice)	Leaves	Garden
Amaryllidaceae	*Allium rotundum* L.	ყანის ნიორი (q'anis niori); ჭლაკვი (ch'lak'vi)	კატაპურასკია, ჯოღორიში ნიორი (katapuraskia, joghorishi niori - Megrelian); ღოღე სორხი (g'og'e sorkhi - Megrelian);	Human Food	Shoots	Garden
Amaryllidaceae	*Allium sativum* L.	ნიორი (niori)	ნივრა (nivra - Svan)	Human Food (Raw, Spice, Svan Salt)	Bulb	Garden
Amaryllidaceae	*Allium* sp.	ველური პრასა (veluri p'rasa)		Human Food	Stem	Forest
Amaryllidaceae	*Allium victorialis* L.	მთის ღანძილი (mtis g'andzili); ნიორა (niora); შიშკილი (shishk'ili); შყაჟვი ღვესუ	შიშღილ (shishkil - Svan)	Human Food (Phkhali, Pickled)	Shoots, Leaves	Forest
Amaryllidaceae	*Galanthus woronowii* Losinsk.	ვორონოვის თეთრყვავილა (voronovis tetrq'vavila); ენძელა (endzela)		Human Food; Medicinal	Bulb, Shoots	Forest
Amaryllidaceae	*Narcissus* sp.	ნარგიზი (nargizi); ნიორა მცენარე (niora mtsenare)		Human Food	Flowers	Forest
Apiaceae	*Aethusa cynapium* L.	ძაღლის ქინძი (dzag'lis kindzi)		Medicinal	Shoots	Forest
Apiaceae	*Agasyllis latifolia* (Bieb.) Boiss.	დუცი (dutsi)	ღეი (g'ei - Megrelian)	Human Food	Root	Forest
Apiaceae	*Anethum graveolens* L.	ცერეცო (tseretso)	ცეროცო, ცოროცო, ძერო (tserotso, tsorotso, dzero - Megrelian)	Human Food (Spice)	Shoots	Garden
Apiaceae	*Apium graveolens* L.	ნიახური (niakhuri);	სონა (sona - ენგრელიან)	Human Food (Spice); Medicinal	Shoots with Flower and Seeds	Garden
Apiaceae	*Carum carvi* L.	კვლიავი (k'vliavi)	გიცრულ (gitsrul Svan)	Human Food (Spice, Svan Salt)	Seeds	Forest, Garden
Apiaceae	*Coriandrum sativum* L.	ქინძი (kindzi)		Human Food (Spice, Svan Salt)	Shoots, Seeds	Garden
Apiaceae	*Daucus carota* L. ssp. *sativus*	სტაფილო (st'apilo)		Human Food	Root	Garden

Apiaceae	*Falcaria vulgaris* Bernh.	კოფრჩხილა (k'oprchkhila)		Human Food (Phkhali)	Leaves	Forest
Apiaceae	*Foeniculum vulgare* Mill.	დიდი კამა (didi k'ama); კამა (k'ama)		Human Food (Spice)	Shoots	Garden
Apiaceae	*Heracleum apifolium* Boiss	დიყი (diq'i)		Poison	Shoots	Forest
Apiaceae	*Heracleum* sp.	დიყი (diq'i)	დიყე, ფალახარჭი, ღოღე, ღოღელია (diq'e, falakharchi, ghoghe, ghoghelia - Megrelian); ჩიჩვლა (chichvla - Svan)	Human Food, Poison	Shoots	Forest
Apiaceae	*Petroselinum crispum* (Mill.) Fuss	ოხრახუში (okhrakhushi)	მაკიდო (mak'ido - Megrelian); მაკინდოლი (mak'indoli - Megrelian)	Human Food (Raw, Spice)	Shoots	Garden
Aquifoliaceae	*Ilex colchica* Pojark.	ბაძგი (badzgi); ბარცხი (bartskhi)	ჭყორი (ch'q'ori - Megrelian)	Ornamental	Fruit	Forest
Araceae	*Arum* sp.	ნიუკა (niuk'a); ქალაკოდა (kalak'oda)		Human Food (Phkhali)	Leaves	Forest
Araceae	*Zantedeschia aethiopica* (L.) Spreng.			Ornamental		Garden
Araliaceae	*Aralia spinosa* L.	არალია (aralia)		Human Food (Honey - Bees)	Flowers	Garden
Araliaceae	*Hedera colchica* (K. Koch) K. Koch	სურო (suro)		Animal food (Fodder)	Leaves	Forest
Aristolochiaceae	*Aristolochia iberica* Fisch. & C.A. Mey. ex Boiss.	ძირმწარა (dzirmts'ara)	ტურაში ყუჯი, ზინტკილი (turashi q'uji, zintkili - Megrelian)	Medicinal	Tuber	Forest
Asparagaceae	*Asparagus officinalis* L.			Human Food (Phkhali)	Leaves	Forest
Asparagaceae	*Ornithogalum woronowii* Kasch	იმერული ძაღლნიორა (imeruli dzag'lniora)	ჩხიკვიში დუდი (chkhikvishi dudi - Megrelian)	Human Food	Bulb	Forest
Asparagaceae	*Polygonatum glaberrimum* K. Koch	სვინტრი (svint'ri)	სკვანტილა (sk'vant'ila - Megrelian)	Human Food (Phkhali)	Leaves	Forest
Asparagaceae	*Ruscus colchicus* Yeo	ძმერხლი (dzmerkhli)	ზორმეხი (zormekhi - megrelian)	Human Food (Phkhali); Animal food (Fodder)	Shoots	Forest
Asparagaceae	*Scilla* sp.	ცისთვალა (tsistvala)	ღეჯიში პურასკია, ჩიტიშ ბორკი (ghechishi puraskia, chitish borki - Megrelian)	Human Food	Shoots	Forest
Aspleniaceae	*Phyllitis scolopendrium* (L.) Newman	ირმის ენა (irmis ena); პუზენა (pudzena)	ფუჯიში ნინა (fujishi nina - Megrelian)	Veterinary; Animal food (Fodder)	Whole plant; Leaves	Forest

Asteraceae	*Artemisia dracunculus* L.	ტარხუნა (t'arkhuna)		Human Food	Shoots	Garden
Asteraceae	*Bidens tripartida* L.	ორკბილა (ork'bila)	უჩა ბაწკარია (ucha bats'karia)	Medicinal	Seeds	Forest
Asteraceae	*Centaurea iberica* Trevir ex Spreng.	ნარცეცხლა (nartsetskhla)		Cultural (Ritual)	Whole plant	Forest
Asteraceae	*Cirsium vulgare* L.	ჩვეულებრივი ნარი (chveulebrivi nari)	ქუაცაცხი (kuatskhatskhi - Megrelian)	Human Food - Honey (Bees)	Flowers	Forest
Asteraceae	*Crepis* sp.			Human Food (Phkhali)	Leaves	forest
Asteraceae	*Helianthus annuus* L.	მზესუმზირა (mzesumzira)		Human Food	Seeds	Garden
Asteraceae	*Helianthus tuberosus* L.	მიწავაშლა (mits'avashla); მიწის ვაშლი (mits'is vashli)	დიხაში უშკური (dikhashi ushkuri - Megrelian)	Human Food; Medicinal	Tuber	Garden
Asteraceae	*Helichrysum graveolens* (M. Bieb.) Sweet	ნეგო (nego)		Medicinal (Heart problems)	Flowers, Leaves, Shoots	Forest
Asteraceae	*Lactuca sativa* L.	სალათა (salata); სალათის ფოთლები (salatis potlebi)		Human Food (Phkhali)	Leaves	Garden
Asteraceae	*Lapsana communis* L.	ფუჩფუჩა (puchpucha)	ბურტყალე (burt'q'ale-Megrelian)	Human Food (Phkhali)	Leaves	Forest
Asteraceae	*Petasites albus* (L.) Gaertn.	ბუერა (buera); ბუურღუ (buurg'u)	ბუღი, ბურღი (bughi, burghi - Megrelian); დილმა (dilma - Laz)	Human Food (Phkhali); Medicinal	Leaves, Root	Forest
Asteraceae	*Pyrethrum* sp.	გვირილა (gvirila)	ქამენია (kamenia - Megrelian)	Medicinal	Flowers	Forest
Asteraceae	*Senecio pojarkovae* Schischk.	პოიარკოვას თავყვითელა (p'oiark'ovastavq'vitela)	სისვლა (sisvla)	Medicinal - Sold	Whole plant	Forest
Asteraceae	*Siegesbeckia orientalis* L.	ბირკალუა (birk'alua)	ბაწკარია (bashk'aria - Megrelian)	Medicinal	Seeds	Forest
Asteraceae	*Solidago canadensis* L.	ყვავილწვრილა (q'vavilts'vrila)		Human Food; Weed (Honey - Bees)	Flowers	Forest
Asteraceae	*Tagetes patula* L.	იმერული ზაფრანა (imeruli zaprana); ყვითელი ყვავილი (qhvitheli qhvavili)	ჭითაპირი (ch'itap'iri - Megrelian)	Human Food (Spice, Svan Salt)	Flowers, Seeds, Leaves	Garden
Asteraceae	*Taraxacum officinale* Wigg.	ბაბუაწვერა (babuats'vera)	პაპაში ღვინი (papashi ghvini - Megrelian)	Human Food; Medicinal	Flowers	Forest, Garden
Asteraceae	*Tussilago farfara* L.	ვირისტერფა (virist'erpa)		Medicinal	Leaves	Forest
Asteraceae	*Xanthium strumarium* L.	ღორის ბირკა (g'oris birk'a)	ბაწკარია (bashk'aria - Megrelian)	Medicinal	Seeds	Forest
Balsaminaceae	Impatiens balsamina L.	ბაღის ინა (bag'is ina); ინა (ina)		Cultural (Dye, Cosmetic);	Fruit	Garden

				Utensils and Tools - Paint		
Begoniaceae	*Begonia rex* Putz.	ბეგონია (begonia); ბატიბუტი (bat'ibut'i)		Human Food	Seeds	Garden
Berberidaceae	*Berberis vulgaris* L.	კოწახური (k'otsakhuri); ჩვეულებრივი კოწახური (chveulebrivi k'ots'akhuri)		Human food, Medicinal	Fruit	Garden, Forest
Betulaceae	*Alnus barba*ta C.A. Mey.	მურყანი (murq'ani); ჩვეულებრივი მურყანი (chveulebrivi murq'ani); თხემლა (tkhmela)	თხომ, თხუმ, თხუმუ (tkhom, tkum, tkhumu _ Megrelian)	Medicinal (Diarrhea); Utensils and Tools (Tool handles)	Fruit, Leaves, Stem	Forest, Garden
Betulaceae	*Alnus glutinosa* subsp. *barbata* (C.A. Mey.) Yalt.	ჩვეულებრივი მურყანი (chveulebrivi murq'ani)		Utensils and Tools	Stem, Leaves	Garden
Betulaceae	*Betula litwinowii* Doluch.	თეთრი არყი (tetri arq'i)	ჭყერია (ch'q'eria - Megrelian)	Utensils and Tools	Shoots	Forest
Betulaceae	*Betula medwediewii* Regel	მედვედევის არყი (medvedevis arq'i)		Utensils and Tools	Shoots	Forest
Betulaceae	*Betula* sp.	არყი (arq'i)	გვალაში ბული (gvalashi buli - Megrelian)	Human Food; Utensils and Tools	Sap, Stem	Forest
Betulaceae	*Carpinus betulus* L.	ევროპული რცხილა (evrop'uli rtskhila); ცხემლა (tskhemla); ცხიმური (tskhimuri); ცხემური (tskhemuri)		Utensils and Tools	Stem	Forest
Betulaceae	*Corylus avellana* L.	ჩვეულებრივი თხილი (chveulebrivi tkhili);	თხირი (tkhiri - Megrelian)	Human Food, Utensils and Tools (Tool handles)	Seeds, Flowers, Shoots, Stem	Garden, Forest
Betulaceae	*Corylus pontica* K. Koch.	თხილი (tkhili)		Human Food, Utensils and Tools (Tool handles)	Seeds, Flowers, Shoots, Stem	Garden, Forest
Betulaceae	*Ostrya carpinifolia* Scop.	უხრავი (ukhravi)		Utensils and Tools	Stem	Forest
Bignoniaceae	*Catalpa bignonioides* Walter	კატალპა (k'at'alp'a); ლობიოს ხე (lobios khe)		Utensils and Tools	Stem	Garden
Boletaceae	*Boletus edulis* Bull.	დათვა სოკო (datva sok'o)		Human Food	Fruiting body	Forest
Boletaceae	*Leccinum scabrum* (Bull.) Gray	დედაბერა (dedabera)		Human Food	Fruiting body	Forest
Boraginaceae	*Symphytum caucasicum* M. Bieb.	ლაშქარა (lashkara)	სარო (saro - Megrelian); მელენი (meleni - Svan)	Medicinal (Fractures)	Root	Forest
Brassicaceae	*Armoracia rusticana* (G. Gaertn.) B. Mey. & Scherb.	პირშუშხა (p'irshushkha); ხრენი (khreni)		Human Food (Phkhali)	Leaves	Garden

Brassicaceae	*Brassica juncea* (L.) Czern.	სარეპტის მდოგვი (sarep't'is mdogvi)	დონგი (dongi - Megrelian)	Human Food (Phkhali)	Leaves	Garden
Brassicaceae	*Brassica montana* Pourr.		ხული (khuli - Laz)	Human Food (Phkhali)	Leaves	Garden
Brassicaceae	*Brassica oleracea* L.	კომბოსტო (k'ombost'o)		Human Food (Phkhali, Dolma, Salad)	Leaves	Garden
Brassicaceae	*Brassica oleracea* L. var. *gongylodes*	კოლრაბი (k'olrabi); ხვიტი (khvit'i)	კეჟერა ფხალი (k'ezhera pkhali - Laz); ხული (khuli - Megrelian)	Human Food (Phkhali)	Leaves	Garden
Brassicaceae	*Brassica rapa* L. subsp. *rapifera* Metzger	თალგამი (thalgami); ბოლოკი (bolok'i)		Human Food	Root	Garden
Brassicaceae	*Lepidium sativum* L.	წიწმატი (ts'its'mat'i)		Medicinal	leaves	Garden
Brassicaceae	*Raphanus raphanistrum* subsp. *sativus* (L.) Domin	თვის ბოლოკი (tvis bolok'i)	რედისკა (redisk'a, Russian)	Human Food	Root	Garden
Brassicaceae	*Raphanus sativus* L. var. *major*	ბოლოკი (bolok'i); მთის ბოლოკი (mthis boloki)		Human Food (Phkhali)	Leaves	Garden
Buxaceae	*Buxus colchica* Pojark.	ბზა (bza); ბზაკალი (bzak'ali)		Utensils and Tools	Stem	Forest
Cactaceae	*Opuntia* sp.	ოპუნცია (opuntsia)	ყაყაია, ჯვაბუშ ვარდი (q'aq'aia, zhvabush vardi - Megrelian)	Weed (Honey-Bees)	Whole plant	Garden
Campanulaceae	*Campanula alliariifolia* Wild.	ბუსკანტურა (busk'ant'ura)	კვატალა, ქუჩუბენია (kvatak, kuchubenia - Megrelian) კვანტილა (k'vant'ila - Kvemo Imereti, Racha)	Human Food (Phkhali)	Leaves	Forest
Campanulaceae	*Campanula glomerata* L.	დილხამი (dilkhami)	ჭარბადელო (ch'arbadeli - Laz)	Human Food (Phkhali)	Leaves	Forest
Campanulaceae	*Campanula lactiflora* M. Bieb.	კენკეშა (k'enk'esha)	ჭურია (ch'uria - Megrelian); დონდოლო (dondolo - Laz)	Human Food (Phkhali)	Leaves, Shoots	Forest
Cannabaceae	*Cannabis sativa* L.	კანაფი (k'anapi); ქანა (kana)	კგფი, კიფი (kgfi, kifi - Megrelian)	Human Food (Oil), Utensils and Tools (Rope)	Seeds	Garden
Caryophyllaceae	*Silene wallachiana* Klotzsch	ჭყიპანტა (ch'q'ip'ant'a)	ტკაცუნა (tkatsuna - Laz)	Human Food (Phkhali)	Shoots	Garden
Celastraceae	*Euonymus europaeus* L.	ევროპული ჭანჭყატი (evrop'uli ch'anch'q'ati)	კამფურის ხე (k'ampuris khe)	Utensils and Tools (Mouthpiece of tobacco pipes)	Stem	Forest
Commelinaceae	*Commelina communis* L.	ტყის ჭორტანა (t'q'is ch'ort'ana)	მაფატია (mapat'ia - Megrelian)	Weed (Honey - Bees)	Flowers	Garden, Forest

Convolvulaceae	*Calystegia sepium* (L.) R. Br.	დიდი ხვართქლა (didi khvartkla); ფუტია (put'ia)	ნახერწელ (nakhertsel - Svan)	Medicinal	Whole plant	Garden
Convolvulaceae	*Convolvulus arvensis* L.	ხვართქლა (khvartkla)		Human Food (Phkhali)	Leaves	Garden
Cornaceae	*Cornus mas* L.	შინდი (shindi)	ბძგირი (bdzgiri - Megrelian)	Human Food	Fruit	Forest
Crassulaceae	*Sedum acre* L.	მწვავე ფუნთუშა (mts'vave funtusha)	საყმაწვილოს წამალი (saq'mats'vilos ts'amali - Megrelian)	Medicinal	Whole plant	Forest
Cucurbitaceae	*Citrullus lanatus* (Thunb.) Matsum. & Nakai	ჩვეულებრივი საზამთრო (chveulebrivi sazamtro)		Human Food	Fruit	Garden
Cucurbitaceae	*Cucumis melo* L.	ნესვი (nesvi)	შინკა (shinka - Megrelian, Svan)	Human Food	Fruit	Garden
Cucurbitaceae	*Cucumis sativus* L.	კიტრი (kitri);	კინტირი (k'int'iri - Megrelian)	Human Food (Pickled, Raw, Salad)	Fruit	Garden
Cucurbitaceae	*Cucurbita maxima* L.	მსხვილი გოგრა (mskhvili gogra)	ჩქინობურა კოპეშია (chkinobura kopeshia - Megrelian); ქესტანა (kest'ana - Meskheturi)	Human food	Fruit	Garden
Cucurbitaceae	*Cucurbita pepo* L.	გოგრა (gogra); ხოკერა გოგრა	ხოკერია - კოპეშია, ხოკო (khokeria-kopeshia, khoko - Megrelian	Human Food	Fruit, Seeds	Garden
Cucurbitaceae	*Cucurbita pepo* L. var. *giromontia*	ყაბაყი (q'abaq'i)		Human Food	Fruit	Garden
Cucurbitaceae	*Lagenaria vulgaris* Ser.	აყირო, ყელიანი გოგრა (aq'iro, q'eliani gogra)	(კოლო ჭურა, ჭურა, ტუტლა, ჭურაში კოპეშია (kolo ch'ura, ch'ura, tutla, ch'urashi kopeshia - Megrelian); წაბლა ხაპი (mtsare khap'I, khap'i - Gurian)	Human Food;: In Samegrelo Animal Food, used as food for pigs	Fruit	Garden
Cupressaceae	*Juniperus* sp.	ღვია (g'via)	ოდაღაჯი (odag'aji - Laz)	Medicinal (Tincture); Cultural (Incense)	Bark, Shoots	Forest
Cyperaceae	*Cyperus badius* Poir.	წამალწვრილი (ts'amalts'vrili)		Medicinal	Shoots	Forest
Dennstaedtiaceae	*Pteridium tauricum* V.I. Krecz.	ეწრის გვიმრა (ets'ris gvimra); ეწერი (ets'eri)	გვიმარა (gvimara - Megrelian)	Medicinal	Leaves	Forest
Dioscoreaceae	*Tamus communis* L	ძაღლის სატაცური (dzag'lis sat'atsuri)	მორთა, უნთო, უნთოშ ჯინჯი, ძარხუხუ (mortha, untho, unthosh jinji, dzarkhukhu -	Medicinal	Shoots	Forest

			Megrelian); ლემშური (lemshuri - Laz)			
Dryopteridaceae	*Dryopteris filix-mas* (L.) Schott.	ჩადუნა (chaduna)	გვრიმარა(gvrimara - Megrelian)	Human Food (Phkhali)	Leaves	Forest
Ebenaceae	*Diospyros lotus* L.	იაპონური ხურმა (iap'onuri khurma); ჩვეულებრივი ხურმა (chveulebrivi khurma)	მარსინაია (marsinaia - Megrelian)	Human Food	Fruit	Garden, Forest
Ebenaceae	*Diospyros* sp.	ხურმა (khurma)	ალიაღა (aliag'a - Laz)	Human Food	Fruit	Garden
Ebenaceae	*Diospyros virginiana* L.	ვირგინიული ხურმა (virginiuli khurma); ხურმა (khurma)		Human Food	Fruit	Garden
Equisetaceae	*Equisetum arvense* L.	შვიტა (shvit'a)	თუნთიშ ჭემი (tuntish ch'emi - Megrelian)	Medicinal	Shoots	Forest
Equisetaceae	*Equisetum telmateia* L.	შვიტა (shvit'a)		Medicinal	Shoots	Forest
Ericaceae	*Vaccinium arctostaphylos* L.	მაღალი მოცვი (mag'ali motsvi); მოცვი მაღალი (motsvi maghali)	მეგმულდ (megemuld - Svan); ცინყა (tsingha - Svan); მელიშია (melicha - Megrelian)	Human Food (Jam, Compote, Raw, Wine, Phkhali), Medicinalal (Anemia, Cold, Diabetes, Inflammation)	Fruit, Leaves	Forest
Ericaceae	*Vaccinium myrtillus* L.	ბაღის მარწყვი (bag'is marts'q'vi); მოცვი (motsvi)	მინდორიში მელიშია (mindorishi melishia - Megrelian); მეგმულდ (megemuld - Svan)	Human Food (Jam, Compote, Raw, Wine, Phkhali)	Fruit, Leaves	Forest
Ericaceae	*Vaccinium* sp.	მოცვი (motsvi)	მელიშია (melishia - Megrelian)	Human Food	Fruit	Forest
Ericaceae	*Vaccinium uliginosum* L.	ლურჯი მოცვი (lurji motsvi)		Human Food	Fruit	Garden
Euphorbiaceae	*Euphorbia* sp.	რძიანა (rdziana)	მაბჟალია (mabzhalia)	Animal food (Fodder), Medicinal	Shoots, Leaves	Forest
Fabaceae	*Albizzia julibrissin* Durazz.	ლენქორანული ალბიცია (lenkoranuli albitsia)	მალ'ურია, მარულია (mal'uria, marulia - Megrelian)	Utensils and Tools	Stem	Garden
Fabaceae	*Galega orientalis* Lam.	ხბოშუბლა (khboshubla)		Human Food (Phkhali), medicinal	Leaves	Forest
Fabaceae	*Glycine max* (L.) Merr.	სოია (soia); მუხუდო (mukhudo)		Human Food	Seeds	Garden

Fabaceae	*Lathyrus roseus* Steven	არჯაკელი (arjak'eli)	ზერჩო (zercho - Rachuli)	Human Food (Phkhali)	Leaves	Forest
Fabaceae	*Onobrychis* sp.	ესპარცეტი (esp'artset'i)		Animal food (Fodder)	Young shoots, Whole plant	Garden
Fabaceae	*Phaseolus sativus* L.	ლობიო (lobio); ძირის ლობიო (dziris lobio); ჩვეულებრივი ლობიო (chveulebrivi lobio)	ლებია (lebia)	Human food	Seeds, Fruit	Garden
Fabaceae	*Pisum sativum* L.	მინდვრის ბარდა (mindvris barda)	ცერცვი (tsertsvi)	Human Food	Fruit	Garden
Fabaceae	*Robinia pseudoacacia* L.	აკაცია (ak'atsia); ეკლის ხე (ek'lis khe); ცრუაკაცია (tsruak'atsia)		Construction; Utensils and Tools (Tool handles); Human Food	Stem, Flowers, Shoots young	Garden, Forest
Fabaceae	*Trifolium* sp.	სამყურა (samq'ura)	სუმყუჯა (sumq'ija - Megrelian)	Animal food (Fodder); Human Food (Honey - Bees	Whole plant	Garden
Fabaceae	*Trigonella caerulea* (L.) Ser.	ულუმბო (ulumbo); შამბრიკა (shambrika)	უცხო სუნელი (utskho suneli - Svan)	Human Food (Spice, Svan Salt)	seeds	Garden
Fabaceae	*Vicia faba* L.	ცერცვი	ხაჯი (khaji - Megrelian)	Human food	Seeds	Garden
Fagaceae	*Carpinus caucasica* Grossh.	რცხილა (rtskhila)	ცხიმური, ცხემური (tskhimuri, tskhemuri - Megrelian)	Firewood; Utensils and Tools (Tool handles)	Stem	Forest
Fagaceae	*Castanea sativa* Mill.	ჩვეულებრივი წაბლი (chveulebrivi ts'abli); წაბლი (ts'abli)	გვიჯ (gvij - Svan); ჭუბური (ch'uburi - Megrelian)	Human Food, Utensils and Tools, Construction (Doors, Windows)	Fruit, Stem	Forest
Fagaceae	*Fagus orientalis* Lipsky	აღმოსავლური წიფელი (ag'mosavluri ts'ipeli); წიფელი (ts'ipeli); წიფელა (ts'ipela)	წიფური (ts'ipuri - Megrelian)	Utensils and Tools (Tool handles), Construction, Human Food	Stem, Seeds	Forest
Fagaceae	*Quercus dschorochensis* C. Koch	ჭოროხის მუხა (ch'orokhis mukha)		Medicinal, Utensils and Tools	Bark, Stem	Forest
Fagaceae	*Quercus iberica* M. Bieb.	მუხა (mukha)	ჭყონი (ch'q'oni - Megrelian)	Construction, Utensils and Tools	Stem	Forest
Fungi		გუნი ნიჩვ (g'uni nichv)		Human Food	Fruiting body	Forest
Fungi		თიკნიყურა (tik'niq'ura)		Human Food	Fruiting body	Forest
Fungi		პილპილა (p'ilp'ila)		Human Food	Fruiting body	Forest

Fungi		ტეტრისოკო (tetrisokho)		Human Food	Fruiting body	Forest
Fungi		ტვანასოკო (tvana sokho)		Human Food	Fruiting body	Forest
Fungi		ფიჭვა სოკო (pich'vasok'o)		Human Food	Fruiting body	Forest
Fungi		ცხვარა		Human Food	Fruiting body	Forest
Fungi		ხეთამხალი (khetamkhali)		Human Food	Fruiting body	Forest
Gentianaceae	*Centaurium erythraea* Rafn.	ასისთავა (asistava)	ცინტურია (tsinturia - Megrelian)	Medicinal	Leaves, Flowers	Forest
Gentianaceae	*Gentiana cruciata* L.	ნაღველა (naghvela)	ასისთავა (asistava)	Medicinal (Tincture)	Shoots	Forest
Gentianaceae	*Gentiana septemfida* Pall.	ნაღველა (naghvela)		Medicinal	Leaves	Forest
Geraniaceae	*Geranium robertianum* L.	ნემსიწვერა (nemsits'vera)		Human Food (Phkhali)	Leaves	Forest
Grossulariaceae	*Ribes grossularia* L.		ოფლეენდ (ophleend - Svan)	Human food	Fruit	Garden
Grossulariaceae	*Ribes nigrum* L.	მოცხარი (motskhari)		Human food	Fruit	Garden
Grossulariaceae	*Ribes rubrum* L.	ჩვეულებრივი მოცხარი (chveulebrivi motskhari); მთის ყურძენი (mtis q'urdzeni)	მერცხალა (mertskhala - Laz); ჩხარაზი (chkharazi)	Human Food	Fruit	Garden, Forest
Guttiferae	*Hypericum* sp.	კრაზანა (k'razana)	მაჭვერია (mach'veria - Megrelian)	Medicinal	Shoots	Garden
Helleboraceae	*Helleborus caucasicus* R. Br.	ხარისძირა (kharisdzira); ხარძენი (khardzeni)	წიმწარ (ts'imts'ar)	Veterinary (Cleans blood of a cattle)	Stem, Whole plant	Forest
Iridaceae	*Crocus sativus* L.	ზაფრანა (zaprana)		Human Food	Flowers	Garden
Juglandaceae	*Juglans regia* L.	ჩვეულებრივი კაკლის ხე (chveulebrivi k'ak'lis khe); ნიგოზი (nigozi)	ნეძი (nedzi - Megrelian); კაკალი (k'ak'ali - Svan)	Human food (Raw, Jam); Utensils and Tools	Fruit, Stem	Garden
Juglandaceae	*Pterocarya pterocarpa* (Michx.) Kunth ex Iljinsk.	ლაფანი (lapani)	ლეფონი (leponi - Megrelian)	Poison, Utensils and Tools	Leaves, Stem	Forest
Lamiaceae	*Glechoma hederacea* L:	ოშოშა (oshosha), ოშოშია (oshoshia)		Medicinal	Leaves	Forest
Lamiaceae	*Lamium album* L.	ჭინჭრის-დედა (ch'inch'ris-deda)		Human Food (Phkhali)	Leaves	Forest
Lamiaceae	*Mentha aquatica* L.	ტენცო (t'entso)	ღეჯიში ყვალმინთა (ghejishi q'valminta - Megrelian)	Human Food (Tea)	Shoots	Garden
Lamiaceae	*Mentha longifolia* (L.) L.	ტყის პიტნა (t'q'is p'it'na)	ტყაშ ყვალმინთა (tyash yvalminta - Megrelian)		Leaves, Stem	Garden, Forest
Lamiaceae	*Mentha pulegium* L.	ომბალო (ombalo)	ომბალი, ომბალე (ombali, ombale _ Megrelian)	Human Food	Shoots	Garden

Lamiaceae	*Mentha x piperita* L.	ბაღის პიტნა (bag'is p'it'na); პიტნა (p'it'na)	ყვალმინთა (q'valminta- Megrelian)	Human Food (Phkhali, Tea, Pickled)	Shoots, Leaves	Garden
Lamiaceae	*Ocimum basilicum* L.	რეჰანი (rehani)	სამშურე, საშურამი, შაშურამი (samshure, sashurami, shashurami- Laz, Megrelian)	Human Food (Spice)	Shoots	Garden
Lamiaceae	*Ocimum basilicum* var. *purpurascens* Benth.	რეჰანი (rehani)	წითელი რეჰანი (ts'iteli rehani)	Human Food	Shoots	Garden
Lamiaceae	*Satureja hortensis* L.	ქონდარი ბაღისა (kondari bag'isa)		Human Food	Shoots	Garden
Lamiaceae	*Satureja laxiflora* K. Koch	ტყის ქონდარი (t'q'is kondari)		Human Food, Medicinal	Shoots, Leaves	Forest
Lamiaceae	*Satureja spicigera* (C. Koch) Boiss.	ონჭო (onch'o);ომბალო (ombalo)	ჭვინი (ch'vini - Megrelian); ჭვინ (tchvin - Svan)	Human Food (Spice, Svan Salt); Medicinal (Diabetes)	Shoots, Leaves	Forest
Lauraceae	*Laurus nobilis* L.	დაფნა (dapna)		Human Food (Phkhali, Spice) Widely planted for sale.	Leaves	Garden
Liliaceae	*Lilium* sp.	დათვისკიტრა (datvisk'it'ra)		Human Food (Phkhali)	Leaves	Forest
Lythraceae	*Punica granatum* L.	ბროწეული (brots'euli); ბერწული (berts'uli)	ბერწული (bertsuli - Mengrerlian)	Human Food, Medicinal	Fruit	Forest
Malvaceae	*Malva* sp.	ბალბა (balba); მოლოქა (moloka)		Human Food (Phkhali)	Shoots	Garden
Malvaceae	*Malva sylvestris* L.	ბალბა (balba); მოლოქა (moloka)		Human Food (Phkhali)	Leaves	Forest
Malvaceae	*Malva neglecta* L.	ბალბა (balba); მოლოქა (moloka)		Human Food (Phkhali)	Leaves	Forest
Malvaceae	*Tilia caucasica* Rupr.	ცაცხვი (tsatskhvi); კავკასიური ცაცხვი (k'avk'asiuri tsatskhvi)	ცხაცხუ (tskhatskhu - Megrelian)	Utensils and Tools, Human Food (Tea, Phkhali)	Stem, Bark, Flowers, Leaves	Forest
Melanthiaceae	*Veratrum lobelianum* Bernh.	შხამა (shkhama)		Veterinary	Leaves	Forest
Moraceae	*Ficus carica* L.	ლეღვი (leg'vi)	ლუღი (lug'i - Megrelian)	Human Food, Medicinal	Fruit, Leaves	Garden
Moraceae	*Morus alba* L.	თუთა (tuta)	ჟოლი (zholi)	Human Food (Raw, Alcohol);	Fruit, Stem	Garden, Forest

				Utensils and Tools (Tool handles)		
Moraceae	*Morus nigra* L.	ხართუთა (khartuta)	ჟოლი (zholi)	Human Food	Fruit	Garden
Myrtaceae	*Acca sellowiana* (O. Berg.) Burret	ფეიხოა (peikhoa)		Human Food	Fruit	Garden
Myrtaceae	*Eucalyptus saligna* Sm.	ევკალიპტი (evk'alip't'i)		Construction, Medicinal	Stem, Leaves	Garden
Oleaceae	*Fraxinus oxycarpa* M. Bieb. ex Willd.	იფანი (ipani); კოპიტი (k'op'it'i)	ლაჯი, ლანჯი (mlaji, lanji - Megrelian)	Utensils and Tools	Stem	Forest
Onocleaceae	*Mattheuccia struthiopteris* (L.) Todd.	ჩადუნა (Chaduna)	გვიმარა (Gvimara - Megrelian)	Animal food (Fodder)	Leaves	Forest
Orobanchaceae	*Pedicularis* sp.	სატილია (sat'ilia)	კიტრაფურცელა (k'it'rapurtsela)	Human Food (Phkhali)	Leaves	Forest
Papaveraceae	*Chelidonium majus* L.	ქრისტესისხლა (krist'esiskhla)	ნაწიფუ (nats'ipu)	Veterinary, medicinal (Warts)	Latex	Forest
Parmeliaceae	*Usnea barbata* (L.) F.H. Wigg.	უსნეა (usnea)	ბაბუაწვერა (babuats'vera)	Animal food (Fodder)	Whole plant	Forest
Paulowniaceae	*Paulownia tormentosa* (Thunb.) Steud.	პავლოვნია (pavlovnia)	ადამიშ ჯა (adamis ja - Megrelian)	Utensils and Tools	Stem	Forest
Physalacriaceae	*Armillariella mellea* (Vahl) P. Kumm	მანჭკვალა (manch'k'vala)		Human Food	Fruiting body	Forest
Phytolaccaceae	*Phytolacca americana L.*	ჭიაფერა (ch'iapera)	ფერვა (perva - Laz); ჯამფეზია (jampezia - Megrelian)	Utensils and Tools (Dye); Medicinal (Hemorrhoides)	Bark (inner); Root	Forest
Pinaceae	*Abies nordmanniana* (Steven) Spach	კავკასიური სოჭი (k'avk'asiuri soch'i); სოჭი (soch'i)	ნეზუ (nezu - Megrelian); ნეზვრა (nezvra - Megrelian)	Utensils and Tools	Stem	Forest
Pinaceae	*Picea orientalis* (L.) Peterm.	აღმოსავლური ნაძვი (ag'mosavluri nadzvi); ნაძვი (nadzvi)	ნუზუ (nuzu - Megrelian); ტახრა (takhra - Laz)	Utensils and Tools, Medicinal, Construction	Stem, Resin	Forest
Pinaceae	*Pinus kochiana* Klotzsch ex K. Koch	ფიჭვი (phich'vi)		Construction (Stem)	Stem	Forest
Pinaceae	*Pinus sosnowskyi* Nakai	კავკასიური ფიჭვი (k'avk'asiuri pich'vi)	გგბი (ggbi - Laz); კატარი (k'at'ari - Imeretinian, Laz, Meskhetian)	Utensils and Tools, Medicinal, Construction	Stem	Forest
Plantaginaceae	*Plantago major* L.	მრავალძარღვა (mravaldzarg'va); მრავალძარღვა (maghli mtsvi)	მაჯარღვია (majarg'via - Megrelian)	Medicinal (Wounds, Gastro Intestinal System)	Leaves, Root	Forest
Plantaginaceae	*Valeriana officinalis* L.	კატაბალახა (k'at'abalakha)		Medicinal	Root	Forest

Plantaginaceae	*Veronica anagalis* L.	ჩაღანდარი (chag'andari)	ჯიხანდარი (jikhandari - Laz)	Medicinal	Leaves	Forest
Pleurotaceae	*Pleurotus ostreatus* (Jacq. ex Fr.) P. Kumm	კალმახა (k'almakha); ხის სოკო (khis soko)	წიფრაშ ტყუბულ (tsifrash t'q'ubul - Svan)	Human Food	Fruiting body	Forest
Poaceae	*Agropyron repens* (L.) P. Beauv.	კაპუეტა (k'ap'uet'a)	წეელა (ts'eela - Megrelian)	Animal food (Fodder)	Whole plant	Forest
Poaceae	*Digitaria* sp.	მწყერფეხა (mts'q'erpekha)	ჭყორტოტი (ch'q'ortot'i - Megrelian)	Animal food (Fodder)	Whole plant	Forest
Poaceae	*Festuca djimilensis* Boiss. & Balansa	თომი (tomi)	წერაქვა, წოთვა (ts'erakva, tsotva - Megrelian)	Utensils and Tools (Stuffing for shoes)	Shoots	Forest
Poaceae	*Hordeum vulgare* L.	ქერი (keri)		Animal food (Cows), Human Food	Young shoots, Whole plant, Seeds	Garden
Poaceae	*Oplismenus undulatifolius* (Ard.) P. Beauv.	მჭადა (mch'ada)		Ornamental	Whole plant	Forest
Poaceae	*Panicum milanjianum* Rendle	ფეტვი (phetvi)	ჭკიდიშ-ჭკიდ(ch'kidish-ch'kid- Megrelian)	Human food	Seeds	Garden
Poaceae	*Setaria italica* (L.) P. Beauv.	ღომი (g'omi)	ღუმუშ ღუმ (g'umush g'um - Megrelian)	Human Food	Seeds	Garden
Poaceae	*Setaria viridis* (L.) P.Beauv.	მწვანე ძურწა (mts'vane dzurts'a)		Animal food - Cows	Seeds, Whole plant	Forest
Poaceae	*Triticum* sp.	ხორბალი (khorbali)	ქობალი (kobali - Megrelian)	Human Food	Seeds	Garden
Poaceae	*Zea mays* L.	სიმინდი (simindi)	ლ'ატი, ლ'აიტი (l'ati, l'aiti- Megrelian)	Human Food; Animal food (Fodder); Medicinal (Urinary - Prostate)	Seeds; Leaves young; Stigmata	Garden
Polygonaceae	*Persicaria maculosa* Gray	ბოსტნის წალიკა (bost'nis ts'alik'a)	სარდაკია (sardak'ia - Megrelian)	Medicinal (Hemorrhoides)	Leaves	Forest
Polygonaceae	*Polygonum aviculare* L.	ჩვეულებრივი მატიტელა (chveulebrivi mat'it'ela)	გველიში ლაკარტი (gvelishi lak'art'i - Megrelian)	Medicinal	Leaves	Forest
Polygonaceae	*Polygonum carneum* C. Koch	დვალურა (dvalura)		Human Food (Phkhali), (Medicinal - Tincture, Urinary - Diuretic)	Leaves, Root	Forest
Polygonaceae	*Polygonum hydropiper* L.	წალიკა (ts'alik'a)	სარდაკია, სანდაკია, სანდრაკია (sardak'ia, sandakia, sandrakia- Megrelian)	Medicinal (Hemorrhoides)	Leaves	Forest

Polygonaceae	*Polygonum panjutini* Kharkev.	პანიუტინის მატიტელა (chveulebrivi mat'it'ela)	სარდაკია, სანდაკია, სანდრაკია (sardak'ia, sandakia, sandrakia- Megrelian)	Human Food	Shoots	Forest
Polygonaceae	*Rumex acetosella* L.	კოკომჟავა (k'ok'omzhava)		Human Food (Phkhali)	Leaves	Garden
Polygonaceae	*Rumex alpinus* L.	მთის ღოლო (mtis g'olo)	ტელეფი (t'elepi - Svan)	Human Food (Phkhali)	Leaves	Forest
Polyporaceae	*Fomes fomentarius* (L.) Fr.	აბედი (abedi)	ობედიში სოკო(obedisi soko - Megrelian)	Utensils and Tools		Forest
Polyporaceae	*Polyporus squamosus* (Huds.) Fr.	ძერა (dzera)		Human Food		Forest
Portulacaceae	*Portulaca oleracea* L.	დანდური (danduri)		Human Food (Phkhali)	Shoots, Leaves	Forest, Garden
Primulaceae	*Cyclamen coum* subsp. *caucasicum* K. Koch O. Schwarz	ყოჩივარდა (q'ochivarda)	კარაკუნჩა, ტყვარჩელია, ტკვარჩელია (karakuncha, tq'varchelia, tkvarchelia, - Megrelian)	Veterinary	Tuber	Forest
Primulaceae	*Cyclamen vernum* Sweet	ყოჩივარდა (q'ochivarda)	კარაკუნჩხი (karakunchkhi - Laz);კვარკვალია (k'vark'valia - Megrelian)	Veterinary, Medicinal	Tuber	Forest
Primulaceae	*Primula vulgaris* subsp. *rubra* (Sm.) Arcang.	ფურისულა (purisula)	საწრიპინა (sats'rip'ina - Ajararian)	Human Food	Leaves, Flowers	Forest
Primulaceae	*Primula woronowii* Losinsk.	ტყის ფურისულა (t'q'is purisula)	ბაბილო (babilo - Mtiuluri, Kartluri)	Human Food (Phkhali)	Leaves	Forest
Pteridaceae	*Pteris cretica* L.	ტაბელა (t'abela)		Medicinal	leaves	Forest
Ranunculaceae	*Ranunculus* sp.	ბაია (baia)	მუმულიში ყვაჯი (mumulishi q'vaji - Megrelian)	Medicinal	Leaves	Forest
Rhamnaceae	*Frangula alnus* Mill.	ხეჭრელი (khech'reli)	ლეკუხა, ლეკუმხა (lek'ukha, ლეკ'უმკჰა - Laz)	Cultural (Evil eye)	Stem	Forest
Rhododendraceae	*Rhododendron caucasicum* Pall.	დეკა (dek'a)	შგორი (shgori - Svan); ხვამლა (khvamla - Megrelian)	Medicinal, Firewood	Leaves, Branches dry	Forest
Rhododendraceae	*Rhododendron luteum* Sweet	იელი (ieli)	იბლი (ibli - Megrelian)	Human Food (Tea), Ornamental, Poisenous	Leaves,Flowers , Whole plant	Forest
Rhododendraceae	*Rhododendron ponticum* L.	შკერი (shkeri)	ფშკერი (pshk'eri - Megrelian); შკმერი (shk'meri - Svan)	Animal food (Fodder), Human Food (Tea), Medicinal, Utensils	Leaves	Forest

				and Tools (To darken beer)		
Rosaceae	*Agrimonia eupatoria* L.	ბირკავა (birk'ava)	ბაწკარია (bishk'aria - Megrelian)	Medicinal	Seeds	Forest
Rosaceae	*Aruncus vulgaris* Raf.	მეკენძალა (mek'endzala)	აჯორიკა, აჯორიკელა (ajorik'a, ajorik'ela - Laz); (-	Human Food (Phkhali)	Flowers, Leaves	Forest
Rosaceae	*Cerasus* sp.	ბალი (bali)	ბული (buli - Megrelian)	Human Food	Fruit	Garden
Rosaceae	*Crataegus curvisepala* Lindm.	წითელი კუნელი (ts'iteli k'uneli)	ბუცაანცი (butsaantsi - Laz); ჯოლიორიშ კურკანტელა (joliorish k'urk'ant'ela)	Human Food, Medicinal	Fruit	Forest
Rosaceae	*Fragaria vesca* L.	მარწყვი (marts'q'vi)	ტყაშ ცგმუა (t'q'ash tsgmua - Megrelian); ციმუა (tsimua - Svan)	Medicinal (Gastro intestinal system, Tincture); Human Food	Whole plant, Fruit	Forest
Rosaceae	*Fragaria virginiana* Mill	ბაღის მარწყვი (bag'is marts'q'vi)		Human Food	Fruit	Garden
Rosaceae	*Fragaria x ananassana* Duchesne ex Rozier	ბაღის მარწყვი (bag'is marts'q'vi); მარწყვი (marts'q'vi)	ხენდრო (khendro - Svan)	Human Food	Fruit	Garden
Rosaceae	*Geum urbanum* L.	ნიგვზისძირა (nigvzisdzira)	მარიამხელა (mariamkhela)	Medicinal (Children)	Root, Leaves	Forest
Rosaceae	*Malus orientalis* Uglizk.	ვაშლი (vashli); მაჟალო (mazhalo)	VARIETIES: ანტონოვკა (ant'onovk'a); ბანანა (banana); ბანანი (banani);ბერა (bera); გონივრა (gonivra); გორდელი (gordeli); გორის ვაშლი (goris vashli); დემირალა (demirala); დემირმა (demirma); ივერია (iveria); კეხურა (k'ekhura); კიტრა (k'it'ra); კიტრავაშლა (k'it'ravashla); ლიტრივკა (lit'rivk'a); პანტე უშქური (p'ant'e ushkuri); რუსული ვაშლი (rusuli vashli); სენაპი (senap'i); შამპანურა (shamp'anura); შამპანური (shamp'anuri); შაფრანი (shaprani); ჭალია (ch'alia)	Human Food (Raw, Thlapi, Vinegar)	Fruit	Garden

Rosaceae	*Mespilus germanica* L.	ზღმარტლი (zg'mart'li)	ჟუნტუ (zhunt'u - Svan); ცქუმუნტური (tskumunt'uri - Megrelian	Human Food	Fruit	Forest
Rosaceae	*Prunus avium* (L.) L.	ბალი (bali)	VERIETIES: ვინბალი (vinbali); თეთრი ბალი (tetri bali); კახამბალა (k'akhambala); მაისის ბალი (maisis bali); ხარითვალა (kharitvala)	Human Food	Fruit	Garden
Rosaceae	*Prunus cerasus* L.	ალუბალი (alubali)	VARIETIES: თეთრი ბალი (tetri bali); კახამბალი (k'akhambali); შავი ბალი (shavi bali)	Human Food (Raw, Compote)	Fruit	Garden
Rosaceae	*Prunus divaricata* Ledeb.	ტყემალი (t'q'emali); წითელი ტყემალი (ts'iteli t'q'emali)	ყუმური (q'umuri - Megrelian)	Human Food (Alcohol, Compote, Jam, Tkhemali, Thlapi); Medicinal (sore throat)	Fruit	Garden, Forest
Rosaceae	*Prunus insititia* L.	ღოღნოშო (g'og'nosho)		Human Food	Fruit	Garden
Rosaceae	*Prunus laurocerasus* L.	წყავი (ts'q'avi); წყი (ts'qi)	წყილი, წყი (tsq'ili, tsq'I - Megrelian)	Human Food, Medicinal	Fruit	Forest
Rosaceae	*Prunus persica* (L.) Batsch	ატამი (at'ami)		Human Food, Medicinal	Fruit, Leaves	Garden
Rosaceae	*Prunus* sp.	ბალი (bali); ქლიავი (kilavi)	VARIETIES: საქერა (sakera); თეთრი ოტური (tetri ot'uri); თეთრი ქლიავი (tetri kliavi); კორკიმელი (k'ork'imeli); ოტური (ot'uri); სამჭედურა (samch'edura); ღორა ქლიავი (g'ora kliavi); ჭანჭური (ch'anch'uri)	Human Food	Fruit	Garden
Rosaceae	*Prunus spinosa* L.	კვინჩხაი (kvinchkhai)		Human food	Fruit	Garden
Rosaceae	*Prunus vachuschtii* Bregaze	ალუჩა (alucha)		Human Food - Thlapi	Fruit	GArden
Rosaceae	*Prunus vulgaris* Mill.	ალუბალი (alubali)	ქვიშნაბული (q'vishnabuli - Megrelian)	Human Food	Fruit	Garden
Rosaceae	*Prunus x domestica* L.	ქლიავი (kliavi)		Human Food	Fruit	Garden
Rosaceae	*Pyrus caucasica* Fed.	პანტა (p'ant'a)	პანტე სხული (p'ant'e skhuli - Megrelian)	Human Food	Fruit	Garden

Rosaceae	*Pyrus communis* L.	მსხალი (mskhali)	VARIETIES: აზარნაქი (azarnaki); ბარაქა (baraka); ბილა (bila); ბოქშვა (bokshva); გულაბი (gulabi); თავრაჯული (tavrajuli); თაფლამსხალა (taplamskhala); თეთრი მარკოვი (teri mark'ovi); თეთრუა (tetrua); კაცითავა (k'atsitava); ბოქშვა (ბოქშვა); კიფერი (k'iferi); მარკოვი (mark'ovi); მაქერე (makere); მახრჩობელა (makhrchobela); მესარა (mesara); მსხალთეთრა (mskhaltetra); მწარია (mts'aria); ნიკანდრა (nik'andra); რბილა (rbila); საზამთრო (sazamtro); სართულა (sartula); სასელა (sasela); საჭურა (sach'ura); საჭურა (sach'ura); სხალაყირა (skhalaq'ira); უწყვეტა (uts'q'vet'a); ღანჯაში (g'anjashi); ყაბარმუთი (q'abarmuti); შავგულა (shavgula); შავი მარკოვი (shavi mark'ovi); ძუშა (dzusha); ჭილებურა (ch'ilebura); ჭილოფი (ch'ilopi); ხატურა (khat'ura); ხეჭეჭურა (khech'ech'ura); ხეჭეჭური (khech'ech'uri); ჯიხარაჯული (jikharajuli)	Human Food	Fruit	Garden
Rosaceae	*Rosa canina* L.	ასკილი (ask'ili)	ეშმაკიში მართახი (eshmak'ishi martakhi - Megrelian)	Medicinal (Flu, Infusion, Tincture, Urinary - Kidney); Animal food (Fodder); Cultural (Evil eye)	Fruit, Shoots	Forest

Rosaceae	*Rosa* sp.	ასკილი (ask'ili)	ვარდი (vardi - Svan)	Human Food (Tea), Medicinal	Fruit, Flowers	Forest
Rosaceae	*Rubus caesius* L.	ძაღლმაყვალა (dzag'lmaq'vala)	ჯოღორიში მუყია(joghorishi muq'ia) - Megrelian)	Human Food	Fruit	Forest
Rosaceae	*Rubus idaeus* L.	ჟოლო (zholo)	ინღა (ing'a - Svan); იმღვა, ბაღიშ მუყი (img'va, bag'ish muq;i - Megrelian)	Human Food	Fruit	Garden, Forest
Rosaceae	*Rubus* sp.	მაყვალი (maq'vali)	მუია (Muia - Megrelian); მუყი (muq'i - Megrelian)	Human Food (Raw, Wine), Medicinal (Anemia, Cold, Inflammation)	Fruit, Leaves	Forest
Rosaceae	*Sorbus aucuparia* K. Koch	ცირცელი (tameli)	ჭვაჰა (chvaha Svan)	Human Food	Fruit	Forest
Rosaceae	*Sorbus torminalis* C.Crantz.		ამჩვაშა (amchvasha - Laz); Magrelian); მურგუ (murgu - Svan)	Medicinal	Fruit	Forest
Russulaceae	*Lactarius deliciosus* (L. ex Fr.) S.F. Grey	მჭადა (mtchada); ჭადუა (ch'adua); ჭკადუა (ch'k'adua)		Human food	Fruiting body	Forest
Russulaceae	*Lactarius piperatus* L. Pers.	არქისოკო (arq'isokho)	ბერუითავი (beruithavi - Svan)	Human Food	Fruiting body	Forest
Rutaceae	*Citrus limon* (L.) Burm. f.	ლიმონი (limoni)		Human Food	Fruit	Garden
Rutaceae	*Citrus sinensis* Osbeck	ფორთოხალი (portokhali)		Human Food	Fruit	Garden
Rutaceae	*Citrus unshiu* Marcov.	მანდარინი (mandarini)		Human Food	Fruit	Garden
Salicaceae	*Populus tremula* L.	ვერხვი (verkhvi)	ფრიალე (phriale - Megrelian); ვერხვლა (verkhvla - Svan)	Utensils and Tools	Stem	Forest
Salicaceae	*Salix caprea* L.	მდგნალი (mdgnali)	ბაგუნდ (bagund - Svan); კატუჯვარი, კატუშ ჯა (k'at'ujvari, katuS ja - Megrelian)	Utensils and Tools; Medicinal - Goiter	Stem, Bark	Forest
Santalaceae	*Viscum album* L.	ფითრი (pitri)	ლ'ეყვი (leq'vi - Svan)	Medicinal	Leaves	Garden
Sapindaceae	*Acer platanoides* L.	ლეკა (lek'a); ლეკის ხე (lek'is khe)		Utensils and Tools	Stem	Forest
Sapindaceae	*Acer trautvetteri* Medw.	თეკრი (thekri); მაღალმთის ბოკვი (mag'almtis bok'vi)	თეკერი (tek'eri - Svan); ჩამფა (champa - Megrelian); ჩამხვა (chamkhva)	Utensils and Tools (Tool handles)	Stem	Forest
Smilacaceae	*Smilax excelsa* L.	ეკალღიჭი (ek'alg'ich'i); ეკალა (ek'ala)	კალია (kalia - Megrelian)	Human Food (Phkhali)	leaves	Forest
Solanaceae	*Atropa caucasica* Kreyer	შმაგა (shmaga)	ქარწამალა (karts'amala - Megrelian)	Medicinal	Fruit	Forest

Solanaceae	*Capsicum annuum* ssp. *bulgari*	ბულგარული წიწაკა (bulgaruli ts'its'ak'a); ბულგარული (bulgaruli); წიწაკა წითელი (tzitzaka tzitheli)		Human Food	Fruit	Garden
Solanaceae	*Capsicum annuum* L.	წიწაკა (ts'its'ak'a)	ზარფანა, ზაფანა (zarphana, zaphana - Megrelian)	Human Food (Raw, Spice, Ajika, Svan Salt, Dolma, Pickled)	Fruit	Garden
Solanaceae	*Datura stramonium* L.	ლემა (lema)	ჩხოუშ ჭირიში წამალ, ბარწკვენია(chkhoush chirishi tsamal, bartskvenia _Megrelian); მეხმირროლ (mekhmirool - Svan)	Veterinary (Pigs)	Seeds	Forest
Solanaceae	*Lycopersicum esculentum* L.	პომიდორი (p'omidori); პომინდორი (p'omindori)		Human Food	Fruit	Garden
Solanaceae	*Nicotiana tabacum* L.	თამბაქო (tambako)	სამსუნი (samsuni - Laz); თუთუმი (thithumi - Megrelian, Laz); თუთინ (thuthin (Svan))	Cultural - Smoking tobacco	Leaves	Garden
Solanaceae	*Solanum melogena* L.	ბადრიჯანი (badrijani)		Human Food	Fruit	Garden
Solanaceae	*Solanum tuberosum* L.	კარტოფილი (k'art'opili)		Human Food (Cooked; Phkhali)	Tuber, leaves	Garden
Staphyleaceae	*Staphylea colchica* Steven	ჩვეულებრივი ჯონჯოლი (chveulebrivi jonjoli)	ბოტიყვერა (bot'iq'vera - Megrelian); კამპარი (k'amp'ari - Svan); კაფარი (k'apari - Svan)	Human Food	Flowers	Forest
Taxaceae	*Taxus baccata* L.	ურთხელი (urtkheli)	მეგეფი (megepi - Laz)	Utensils and Tools	Stem	Forest
Taxodiaceae	*Cryptomeria japonica* (Thunb. ex L. f.) D. Don	კრიპტომერია (k'rip't'omeria)		Ornamental; Utensils and Tools	Stem	Garden
Thymeleaceae	*Daphne mezereum* L.	მაჯაღვერი (majag'veri)	ჭანჭყაპურა (ch'anch'q'ap'ura - Laz)	Medicinal	leaves	Forest
Ulmaceae	*Ulmus elliptica* C. Koch	თელა (tela); თელადუმა (teladuma)	ცაირა (tsaira - Laz); ჭიჭენდი (ch'ich'endi - Megrelian)	Construction (Stem), Utensils and Tools; Huma Food	Stem, Bark, Flowers, Leaves	Forest
Ulmaceae	*Ulmus* sp.	თელადუმა (teladuma)	ცაირა (tsaira - Svan)	Utensils and Tools	Stem	Forest
Urticaceae	*Urtica dioica* L.	ჭინჭარი (ch'inch'ari);	ჭუჭელია (ch'uch'elia- Megrelian)	Medicinal; Human Food (Phkhali)	Leaves	Forest, Garden
Verbenaceae	*Verbena officinalis* L.	ცოცხანა (tsotskhana); მაქოსალაია (makosalia)	მაქოსალია, მაწკინტია, ჩე ოქოსალე (maq'osalia,	Medicinal	Whole plant	Forest

			matskintia, che oq'osale - Megrelian)			
Vitaceae	*Vitis labrusca* L.	იზაბელა (q'urdzeni)	VARIETIES: იზაბელა (izabela)	Human Food	Fruit	Garden
Vitaceae	*Vitis vinifera* L.	იზაბელა (q'urdzeni)	VARIETIES: ჭეიშვილი (ch'eishvili); ადესა (adesa); ალადასტური (alaghasturi); დამსკიპალეცი (damsk'ip'aletsi); ადესა (adesa); თეთრი ადესა (tetri adesa); თითა (tita); კაჭიჭა (k'ach'ich'a); მოლდავური ადესა (moldavuri adesa); ნოე (noe); ალადასტური (aladast'uri); ჩხავერი (chkhaveri); დირბულა (dirbula); ოჯალეში (ojaleshi); სამეფო ყურძენი (samepo q'urdzeni); ცოლიკაური (tsolik'auri)	Human Food (Khardali, Wine)	Fruit	Garden

Participants were little differentiated by plant species reported. The main factor for species knowledge differences was elevation, but to a limited extent (Fig. 2 A,B; r^2 = 0.116), and the location of the study community (Fig. 2 c; r^2 = 0.325). In case of different plant uses, differences were also small, and elevation had no significant impact (Fig. 2 D,E).

The location of the participant community did however significantly fit the ordination in use-space (F, r^2= 0.215). Overall, the elevation of the study community was much less important as distinctive variable in this region, but the community location was the main separating variable for differences in both plant-space (r^2= 0.7433, P=0.001) (Table 3),and use-space (r^2= 0.8244, P=0.001) (Table 4).

The number of plant species used in the research area, as well as their uses were much lower than reported from other areas of Georgia, with a mean of 44 plants known by participant (versus 58.1 in other areas), and a mean of 45.8 uses (versus 62.7 in other areas) (Figs. 3 and 4). The trend to know fewer species was less evident for cultivated species than for forest plants (Fig. 5). When observing plant uses, the lack of knowledge, as compared to other regions, was significant for forest species, but not for garden species (Fig. 6).

Most species and uses were widely spread across the region. Overall participants showed a high informant consensus in all use-categories (Table 5). The use of plants for herb pies (Phkhali) was rather uncommon in the region.

Table 2. Participants

informant code	gender	age	community	elevation m	district
301	M	70	Merisi	736	Keda
302	M	50	Merisi	736	Keda
303	F	50	Merisi	736	Keda
304	M	36	Uchkhiti	400	Keda
305	F	40	Uchkhiti	400	Keda
306	F	50	Uchkhiti	400	Keda
307	F	40	Uchkhiti	400	Keda
308	M	55	Dologani	160	Keda
309	F	50	Dologani	160	Keda
310	F	53	Dologani	160	Keda
311	M	57	Chvana	549	Shuakhevi
312	M	70	Gogadzeebi	1335	Shuakhevi
313	M	46	Gogadzeebi	1335	Shuakhevi
314	F	63	Gogadzeebi	1335	Shuakhevi
315	F	60	Gogadzeebi	1335	Shuakhevi
316	F	35	Gogadzeebi	1335	Shuakhevi
317	F	76	Center	420	Shuakhevi
318	F	52	Chvana	549	Shuakhevi
319	M	55	Chvana	549	Shuakhevi
320	F	45	Chvana	549	Shuakhevi
321	M	35	Chvana	549	Shuakhevi
322	M	42	Tsivadzeebi	475	Shuakhevi
323	F	95	Tsivadzeebi	475	Shuakhevi
324	M	64	Tsivadzeebi	475	Shuakhevi
325	F	59	Tsivadzeebi	475	Shuakhevi
326	F	49	Gomarduli	11230	Shuakhevi
327	F	78	Gomarduli	11230	Shuakhevi
328	M	72	Gomarduli	11230	Shuakhevi
329	M	82	Gomarduli	11230	Shuakhevi
330	F	69	Fushrukauli	11230	Khulo
331	M	76	Fushrukauli	11230	Khulo

332	F	44	Skhalta	800	Khulo
333	M	83	Fachkha	1172	Khulo
334	M	48	Fachkha	1172	Khulo
335	M	40	Fachkha	1172	Khulo
336	F	59	Samikao	320	Tsalenjikha
337	F	73	Samikao	320	Tsalenjikha
338	M	63	Samikao	320	Tsalenjikha
339	F	53	Napichkhovo	244	Chkhorots'q'u
340	F	50	Napichkhovo	244	Chkhorots'q'u
341	M	72	Napichkhovo	244	Chkhorots'q'u
342	F	66	Napichkhovo	244	Chkhorots'q'u
343	M	80	Napichkhovo	244	Chkhorots'q'u
344	M	55	Napichkhovo	244	Chkhorots'q'u
345	M	91	Mukhuri	260	Chkhorots'q'u
346	M	55	Mukhuri	260	Chkhorots'q'u
347	F	65	Etseri	320	Tsalenjikha
348	M	35	Etseri	320	Tsalenjikha
349	M	42	Muzhava, Sashonio	320	Chkhorots'q'u
350	F	40	Muzhava, Sashonio	320	Chkhorots'q'u
351	F	40	Muzhava, Sashonio	320	Chkhorots'q'u
352	M	67	Samikao	300	Tsalenjikha
353	M	84	Skuri	375	Tsalenjikha
354	M	57	Skuri	375	Tsalenjikha
355	M	55	Skuri	375	Tsalenjikha
356	M	65	Mukhuri	375	Tsalenjikha
357	M	55	Mukhuri	375	Tsalenjikha
358	F	70	Gakhara	400	Tsalenjikha
359	M	80	Salkhino	400	Martvili
360	M	75	Salkhino	400	Martvili
361	F	75	Salkhino	400	Martvili
362	F	45	Jikhashkari	300	Chkhorots'q'u
363	F	70	Jikhashkari	300	Chkhorots'q'u
364	M	70	Jikhashkari	300	Chkhorots'q'u
365	M	45	Jikhashkari	300	Chkhorots'q'u
366	F	66	Lentekhi	755	Lentekhi
367	M	83	Shkedi	1300	Lentekhi
368	F	40	Shkedi	1300	Lentekhi
369	F	70	Shkedi	1300	Lentekhi
370	M	53	Shkedi	1300	Lentekhi
371	F	77	Shkedi	1300	Lentekhi
372	M	53	Tsana	1800	Lentekhi
373	M	55	Tsana	1800	Lentekhi
374	F	80	Leusheri	1300	Lentekhi
375	F	77	Leusheri	1300	Lentekhi
376	M	25	Leusheri	1300	Lentekhi

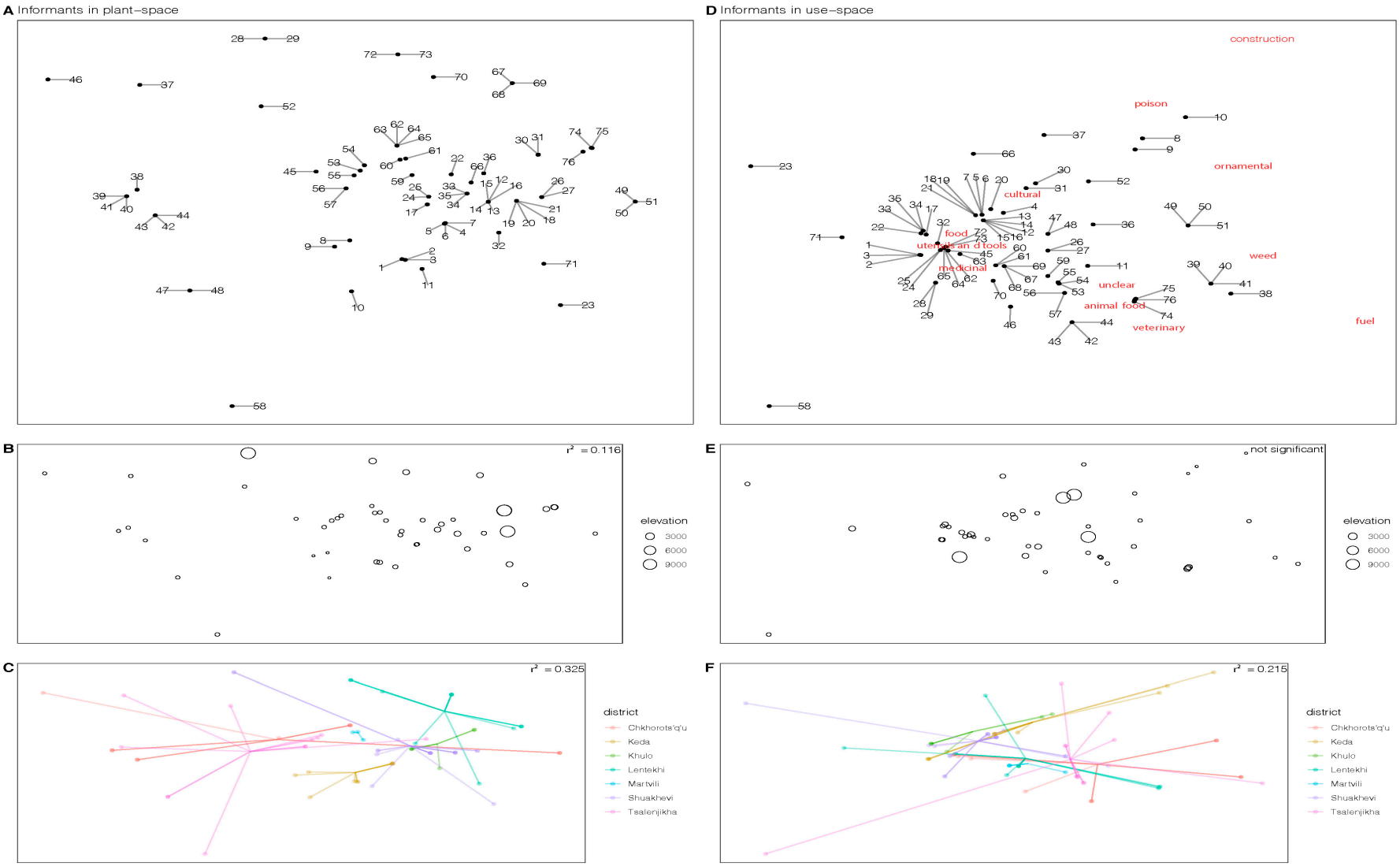

Figure 2. Participants ordered by their distance in plants reported (A,B,C) and in uses reported (D,E,F). Participants are more differentiated by plant species reported (A, participants shown but plant species hidden for visual clarity) than by use reported (D, participants and uses shown).

Table 3. Environmental fit on ordination of individuals in plant-space

	r^2	p-value
Age	0.0160	0.561
Elevation	0.1539	0.003 **
Gender	0.0158	0.306
Community	0.7433	0.001 ***
District	0.2781	0.001 ***

Table 4. Environmental fit on ordination of individuals in use-space

	r^2	p-value
Age	0.0562	0.113
Elevation	0.0071	0.748
Gender	0.0148	0.348
Community	0.8244	0.001 ***
District	0.2148	0.001 ***

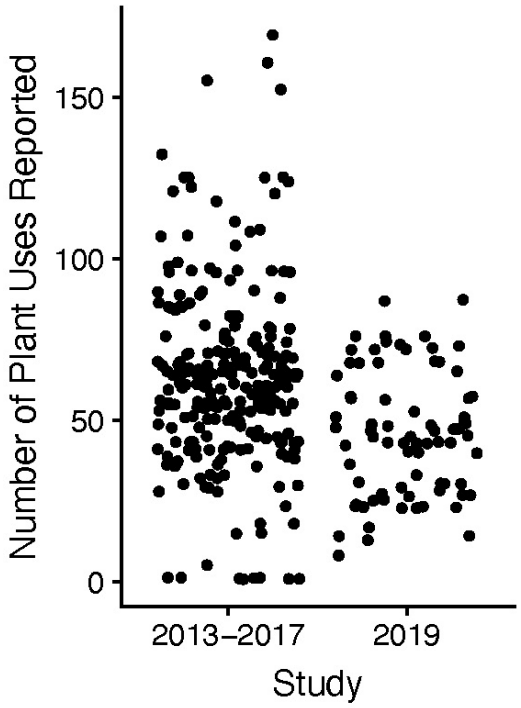

Figure 3. Number of plant uses reported by each participant in this study (2019) in comparison to previous studies in Georgia (2013-2017).

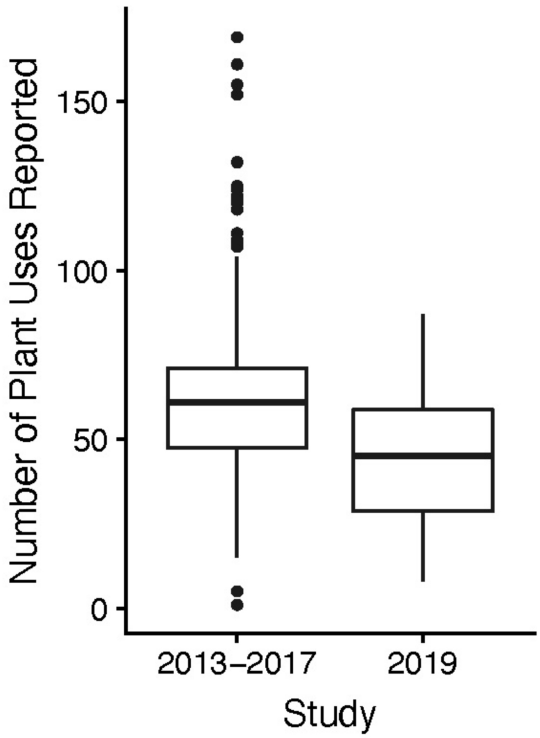

Figure 4 Number of plant uses reported by each participant in this study (2019) in comparison to previous studies in Georgia (2013-2017).

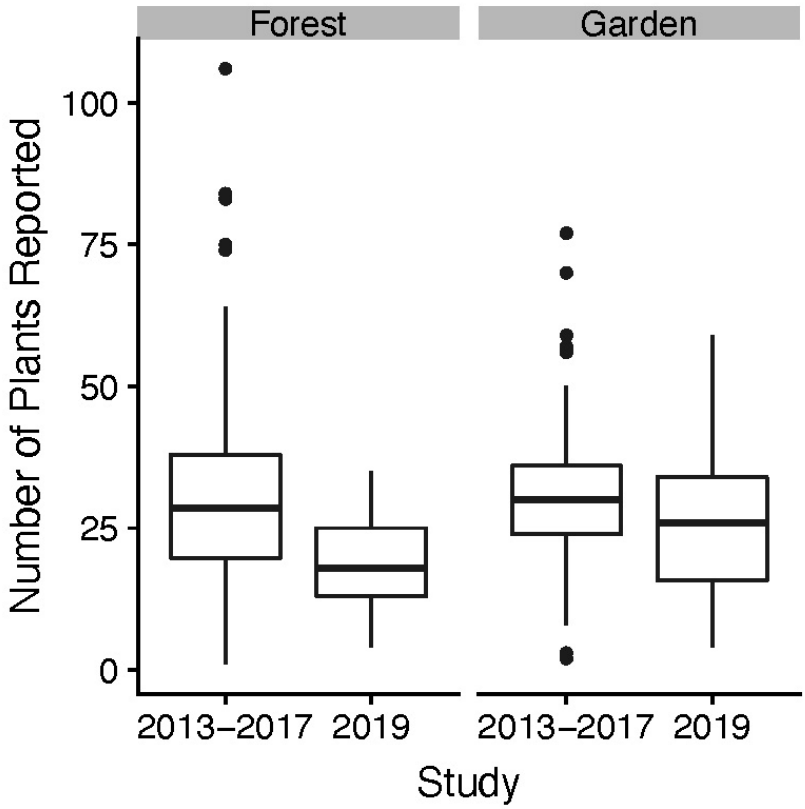

Figure 5. Number of plant species known by each participant for forest and garden species.

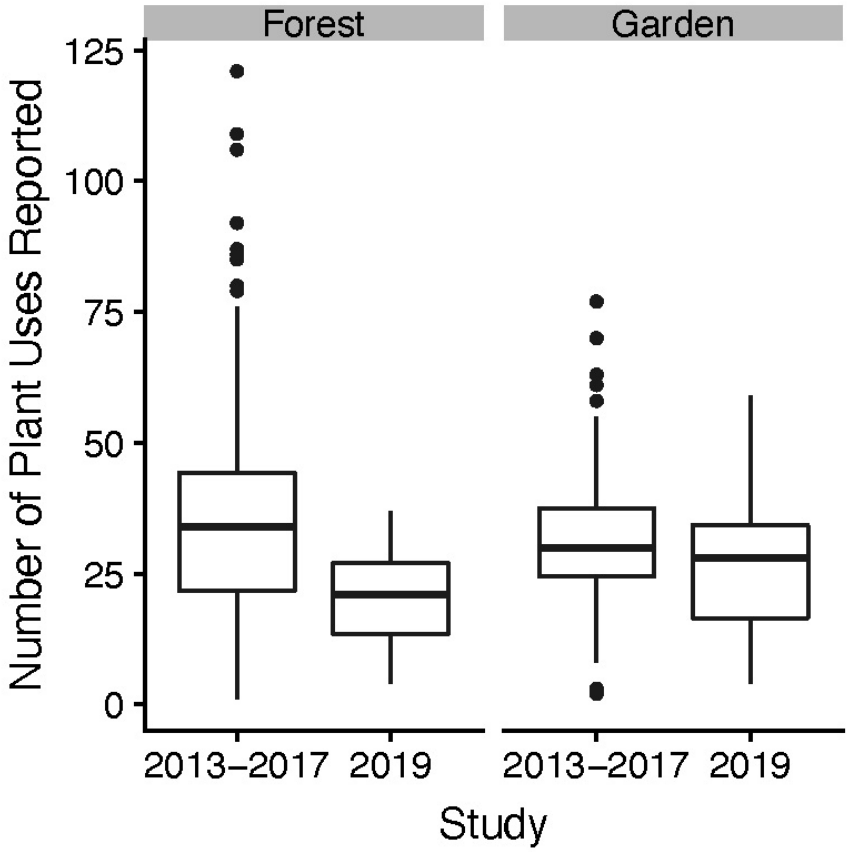

Figure 6. Number of use reports by each participants for forest and garden species

Table 5 Mean informant consensus across use categories among informant districts, with total number of use reports and taxa.

District	N Use Categories	Total Use Reports	Total Taxa	ICF mean	ICF sd
Chkhorots'q'u	11	683	145	0.82	0.11
Keda	8	538	94	0.89	0.10
Khulo	6	413	96	0.83	0.17
Lentekhi	8	584	126	0.78	0.16
Martvili	5	158	54	0.72	0.06
Shuakhevi	7	1375	167	0.77	0.16
Tsalenjikha	9	420	135	0.71	0.21

Discussion

As we hypothesized, the number of plant species used in the research area, as well as their uses were much lower than reported from other areas of Georgia, with a mean of 41.1 plants known by participant (versus 58.1 in other areas), and a mean of 42.4 uses (versus 62.7 in other areas), equally for Svaneti-Lechkhumi-Khevsureti (Bussmann et al. 2014, 2016a), Samtshe-Javakheti (Bussmann et al. 2017a,b), and high altitude Tusheti-Khevsureti (Bussmann et al. 2016b, 2017c), and thus lower than species numbers and use reports than other areas in the wider Georgia (Bussmann et al. 2016c, Bussmann 2017; Zenderland et al. 2019). The prevalence of wild collected species for medicinal applications versus garden species for food, was however very similar in other regions (Bussmann et al. 2017a; Pieroni and Sõukand 2017).

Overall the research region showed a lower species number in comparison to a wide variety of studies published from other parts of Europe. The number of food species was low in comparison to other areas in the wider Mediterranean and Caucasus (Carvalho 2016; Dolina et al. 2017; Hajdari et al. 2018; Kasper-Pakosz et al. 2016; Korkmaz et al. 2016; Łuczaj et al. 2017, 2019; Mattalia et al. 2020; Melián et al. 2017; Mustafa et al. 2020; Nedelcheva et al. 2017; Oztürk et al. 2018; Polat et al. 2017; Pawera et al. 2017; Pieroni and Cattero 2018; Pieroni and Sõukand 2017, 2019; Pieroni 2017; Pieroni et al. 2018, 2019, 2020; Savo et al. 2019; Sõukand et al. 2017, 2019, 2020; Yeşil et al. 2019), and the number of medicinal species also was lower than in comparative studies (Pieroni and Sõukand 2017; Nedelcheva et al. 2017; Melián et al. 2017; Sõukand et al.- 2017; Carvalho 2016; Polat et al. 2017; Kasper-Pakosz et al. 2016; Korkmaz et al. 2016a; Dolina et al. 2017, Korkmaz et al. 2016b; Hajdari et al. 2018; Oztürk et al. 2018; Pawera et al. 2017; Pieroni 2017; Pieroni et al. 2018). The low variety of fungal species used as food was astonishing, especially when compared to other adjacent areas in Georgia, e.g. Racha, where fungal use was found to be very common. (Kupradze et al. 2015; Bussmann et al. 2018).

Our results confirmed our hypothesis that (1) plant use knowledge in general would lower in these regions than in the rest of Georgia, that (2) most plant use would center on home gardens (3) that the consumption of herbs as "*Pkhali*" (herb pie), very prevalent in other regions of Georgia, would be limited.

Conclusions

The lack of forest plant use, and both forest and garden plant-use knowledge in Ajara and Samegrelo might be related to the fact that those regions, with Batumi and Zugdidi, have very large markets, and a large flow of products along the Black Sea. In Ajara, most of the population spends large parts of its time close to the capital, and higher altitude villages are only occupied in summer. In case of Samegrelo, the whole region represents a low altitude area, with easy market access. As such, in none of the two regions foraging is much needed. Although agriculture is made more difficult in Ajara due to steep slopes, much is produced in the lower regions. In contrast, agriculture in Samegrelo is very easy due to its low location and fertile soils. Due to location, and mild, short winters, there is essentially no need for foraging wild species e.g. for Phkhali in early spring. In contrast, the results in Kvemo-Svaneti are somewhat surprising. While the use of wild and garden species is higher than in the other two regions, it is still surprisingly low in comparison to the rest of Georgia. This might be related to its close vicinity to smaller cities with considerable markets, but overall further data are needed to explain this discrepancy.

Declarations

List of abbreviations*:* Not applicable.

Ethics approval and consent to participate*:* Oral informed consent was obtained from all participants before conducting interviews.

Consent for publication: Not applicable. No personal information is disclosed, nor personal images shown.

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