

# Wild Edible Plants in Israel Tradition Versus Cultivation

Uri Mayer-Chissick and Efraim Lev

**Abstract** Studying the traditional knowledge of gathering wild edible plants around the world might teach us a great deal about the patterns of domestication and the connections between wild edible plants and “domesticated” cultivated plants. It is even more important and relevant if we consider that until not long ago, gathering of wild edible plants was a core daily practice, alongside the practice of agriculture and that the source if all our cultivated plants are gathered wild plants.

Gathering edible plants is a well-known habit among both the local Arab and the Jewish population and folklore. In the Land of Israel this tradition is in rapid decline due to excessive commercial gathering that almost brought to extinction some of the plants. The continuous urbanization of traditional communities also contributes to the loss of foraging knowledge and traditions. The wild edible plants and the traditions connected to their use can teach us a lot about different issues and raise questions about the co-evolution between humans, agriculture and wild edible plants.

**Keywords** Israel • Traditional knowledge • Gathering • Wild edible plants • Foraging • Cultivated plants • Malva • Marjoram

## Introduction

The study of traditional knowledge concerning the gathering of wild edible plants anywhere in the world, can teach us a great deal about the relationship between wild edible plants and “domesticated” cultivated plants. It is important and relevant if we consider that until not long ago, gathering of wild edible plants was a core daily practice, side by side with the practice of agriculture.

Babai and Molnár (2013) studied the traditional habitat knowledge in Gyimes, Eastern Carpathians, Romania. They found that the locals used a rich and sophisticated vocabulary to name and describe habitat categories. They distinguished altogether at least 142–148 habitat types, and named them by 242 habitat terms, which implies that their traditional ecological knowledge was wide. Their rich

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vocabulary helped to explain the habitat preference of a particular wild plant species. Their diverse knowledge was a fundamental part in the tradition of gathering wild edible plants in their area.

All over the world, the decline in the traditional gathering of wild edible plants caused the loss of the vocabulary used to describe the acts of gathering and the natural habitats of wild edible plants. There are less and less places like Gyimes where this knowledge is preserved. In the Land of Israel this tradition is in rapid decline. However, some attempts are made to recover and preserve the local knowledge of gathering wild edible plants (Dafni 1985; Mayer-Chissick 2010), even though the Land of Israel is one of the best locations for the study of the co-evolution of human and edible plants in general. The land is situated in the center of the Fertile Crescent and there are many archeological sites that shed light over the beginning of agriculture, the inhabitants of the land had been collecting edible plants, along the history, for their nutrition at the diverse regions, as parallel processes.

Plant remains had been found in prehistoric sites with some evidences of being consumed by humans. The plant assemblage of the Acheulian site of Gesher Benot Ya'aqov, for example, includes nuts of Atlantic Pistacio (*Pistacia atlantica*), acorns of Mt. Tabor Oak (*Quercus ithaburensis*), and wild Almonds (*Amygdalus communis*) are thought to have been consumed by humans (Goren-Inbar et al. 2002).

Hence, the large Mousterian carbonized plant assemblage retrieved during the excavations at Kebara cave fills a major gap in our knowledge of Middle Paleolithic gathering. It also provides critical information about subsistence strategies, thus, a fuller picture of Middle Paleolithic foraging as practiced by the Kebara inhabitants is achieved due to the fortuitous preservation of plant remains. The plant remains found in the Kebara cave including few thousands seeds of legumes, half a dozen cereals, few nuts of Atlantic Pistacio, and few parts of acorns of Mt. Tabor Oak seem to indicate that the inhabitants had a sufficient supply of all necessary elements for a healthy diet, available mostly during spring, early summer and fall. Although legumes are potentially suited for starting fires (morphological characteristics such as small leaves, and narrow stems) we believe that most were brought into the cave when ripe or almost ripe, and the presence of thousands of charred seeds strongly suggests that they were used for human consumption (Lev 2008).

In addition to the prehistoric remains indicating wild plants consumption in the area in the far past, vegetal food gathering could be studied from vast historical sources describing the phenomena and from plants remains found in archeological sites all over the country.

The Land of Israel is especially diverse in its nature, mainly due to its geographic location at the meeting point of three continents (Asia, Africa, Europe). Its special climate, influenced by the temperate Mediterranean on the one hand and the arid Arabian and Asian deserts on the other, and its particular topographic structure, including the Rift Valley, have contributed to the area's richness of flora and fauna. Different climatic, phyto-geographic, and zoo-geographic zones – Mediterranean, Irano-Turanian, Saharo-Arabian and Sudanian – converge here, creating enormous biological diversity (Mendelssohn and Yom-Tov 1999). About 2,700 plant species are to be found, of which 150 (5.5 %) are recorded as endemic (Shmida 1982) and more than 185 as edible plants (Dafni 1985).

The ethnic groups which compose this impressive mosaic in the Holy Land retained to varying degrees their languages, religions, clothing, ceremonial customs, traditional medicine and traditional food including the consumption of wild plants (Lev 2006).

In the early spring one can not miss, while driving through the country, many Arab families mostly the women wondering around the roadsides of the fields and gathering many different kinds of wild edible plants. A few studies had proven the health benefits of diet consisting wild plants in preventing some of the health problems of the modern civilization (Abu-Rabia 2005). Gathering edible plants is well known habit both among the local Arab and Jewish population and folklore.

According to Jewish religious the habit of wild plants gathering is one of the ways to deal with the rabbinical law of the “Shmita” (Huchberg 2000a, b), the last year in a 7-year cycle during which lands in Israel must lie fallow and debts are canceled. But this traditional way is also declining in the modern world when vegetables can be grown in special technology not involving ground and bought from the Moslems around the country.

The tradition of gathering wild edible plant is disturbed by the modernization of the Arab village, the invention of the fridge for example, enable the family to pick more than the amount needed for the season and freeze it for the summer. This excessive gathering combined with the growth of the community brought almost to a disappearance of some of the plants, and some of them like the wild (Syrian) marjoram (*Origanum syriacum*) and the tumble thistle (*Gundelia tournefortii*) had to be declared protected by law and their gathering is forbidden.

Among the most important sources in Rabbinical literature we have used the *Mishnah* (the six orders of the *Mishnah* are an assembled legal code arranged by topics most relevant to Jewish life such as agriculture, festivals, civil law, etc.) written by the *tannaim*, namely third-century CE Jewish Sages. Then come the Talmud, the Talmud is a commentary on the *Mishnah* and the *Tosefta* (laws added to the Mishnaic corpus). The final dates for the editing of the *Yerushalmi* (i.e., Palestinian) reflects very little reality after the early to mid-fifth century CE. The Talmud was written by the *amoraim*, namely later Jewish Sages of the late Roman and the Byzantine periods (the latter in the Land of Israel dates from 324 CE to 638 CE, the year of the Muslim conquest).

The plants presented here were selected because they represent different issues and raise questions of the co-evolution between humans, agriculture and wild edible plants. Descriptions, origin and ecology of all plants presented here are mostly taken from the Flora Palaestina (Zohary 1966–1986).

The popular and thus important wild edible plant in the area according to the tradition is *Origanum syriacum* and *Gundelia tournefortii*, two plants that are still picked today and that are in danger of extinction due to commercial gathering. *Asparagus aphyllus* and *Pisum fulvum*, plants that were cultivated through history but are not grown intensively anymore are only picked in the wild nowadays. These are examples of *plants that give us clues to the beginning of cultivation* *Arum palaestinum*, *Malva nicaeensis* and *Quercus ithaburensis* are more examples of common wild edible plants in the area.

Specimen Monographs

Malva

Both in Hebrew and Arabic the names of Malva come from the same lingual root that the word ‘bread’ comes from, the root that represent in the Semitic languages the most important foods: bread or meat. This connection points to the significance of the plant as a central food in the local tradition of gathering wild edible plants.

**Description** Annual or biennial herb with upright and hairy stem (up to 60 cm). The leaves are big (up to 12 cm), wide and have several slight lobes along the edges. Flowers are with pink or purple. The fruits are disc-shaped and has several segments (Table 1).

**Local Gastronomy** The Leaves are eaten raw or cooked and according to the local tradition the seeds were picked when dry, and then grinded and used as flour.

**Local Folklore** The Malva is considered to be the most important wild edible plant in the local gathering tradition. A lot of tales are connected to its ability to help people in nutritional stress, as well as to its high nutritional value (Picture 1).

Syrian Marjoram

The Syrian marjoram (Picture 2) is one of the most popular seasoning plants in Israel and is the main ingredient in the local blend of the za’atar spice that is called after the plant name in Arabic. It has been declared a protected species in Israel as early as 1977, and that protection proved a key factor in its survival as a wild plant.

**Description** Woody based perennial, 30–50 cm tall, with soft-woolly, glandular hairs. Stems erect, rigid paniculately branched on upper part. Leaves short-petiole, ovate, rather thick. Spikes oblong. Corolla white, 4 mm long, tube exerted from calyx (Table 2).

Table 1 Botanical features of Malva

Scientific name	Family	Origin	Ecology	Local folk name	Part(s) used in the local cuisine	Gathering period
Malva nicaeensis	Malvaceae	E. Mediterranean	Batha, garigue and fallow fields	Hebrew: helmit Arabic: hubeza	Leaves and seeds	December–May

Picture 1 *Malva nicaeensis*



Picture 2 Syrian marjoram

Table 2 Botanical features of Syrian marjoram

Scientific name	Family	Origin	Ecology	Local folk name	Part(s) used in the local cuisine	Gathering period
<i>Origanum syriacum</i> (= <i>Majoran syriaca</i> )	Labiatae	E. Mediterranean	Batha and garigue on rocky hills; rarely on walls	Hebrew: 'Ezov Arabic: Za'tar	Leaves	March–May

**Sensorial Botany** Branches and leaves are hairy and scanted when touched, their test is bitter.

**Local Gastronomy** The leaves are dry grounded and blend with salt, olive oil, local sumac (*Rhus coriaria*) fruits and sesame (*Sesamum indicum*) seeds in to a very popular spies called za'atar that is served mostly with pita bread. The fresh leaves are also used in moderation (to much is bitter) as seasoning in different dishes.

**Local Folklore** Wild marjoram or Syrian hyssop are mentioned in the bible (Exodus 12:21–22; I Kings 4:33; Psalms 51:7) and in the New Testimony (John 19:28–30). Zohary (1982) argues it was used to treat leprosy (Leviticus 14:4) and for worship (Number 19:6). The wild marjoram traditionally used by the Samaritans to sprinkle the blood of the Passover sacrifice.

Marjoram was used in the past for heating, and the wild species is a main substance in the famous eastern spice called ‘za’atar.’ Ibn Masawayh (1932–1933) suggested using ‘marzangosh’ oil while staying in the hot bathhouse (hamam). Arab villagers (‘fellahin’) used to pad their shoes with wild marjoram leaves in the winter for warmth and disinfection of the feet. The seeds of the plant consist of ethereal oils used in the food and cosmetic industries (Alon 1982–1990).

Syrian marjoram is one of the typical plants of the Land of Israel. Its use as a traditional spice is very common among all the local inhabitants until the present day. Large quantities of the plant and its products are exported to neighboring Arab countries and for this reason it has been declared a protected species in Israel (Lev 2002).

## ***Tumble Thistle***

This plant that was gathered in the area throughout history has been declared a protected species in Israel due to an excessive commercial gathering in the beginning of the second millennium. After a complicated debate between traditional local gatherers and the authorities and a partial success of its cultivation, the limits on its gathering were reduced and enabled the restoration of its existence in some reserved areas.

**Description** Perennial herb, 30–50 cm tall, cobwebbed to almost hairless. Stem thick, breaking off near base at maturity, than the whole plant is rolled by wind (tumbleweed). Leaves are large, rigid, thick & oblong (Picture 3). Leaf lobes are spiny-toothed. Head compound, ovoid, 4–8 cm across. Head bracts are cobwebbed ending in a strong spine. Florets dull purple outside, yellow inside, anthers yellow (Table 3).



**Picture 3** Thuble thistle

Table 3 Botanical features of tumble thistle

Scientific name	Family	Origin	Ecology	Local folk name	Part(s) used in the local cuisine	Gathering period
<i>Gundelia tournefortii</i>	Asteraceae	W. Irano-Turanian, invading E. Mediterranean	Batha, tragacanth vegetation, open steppe forests, fallow fields and steppes	Hebrew: 'Akavit	Young leaves, shoots, and inflorescence	Early winter (young leaves) Early spring (stems and inflorescence)
				ha-galgal Arabic: 'Akkub <sup>a</sup>		

<sup>a</sup>Bailey and Danin (1981)

**Sensorial Botany** The green soft young leaves in the winter become hard brown spiny towards the end of the spring.

**Local Gastronomy** The leaves of the plant are eaten while they are still green, they are picked and after they had been cleaned they are fried with onion and spices. The stems and inflorescence are made into few different dishes, fried, boiled with meat or grilled with meat (Buchman 1993; Dafni 1985). The seeds are rich in fats and are edible (Lev Yadun and Abbo 1999). In Turkey they use it sometimes as a coffee substitute (Dafni 1984, 1985; Uphof 1968).

**Local Folklore** Most biblical researchers think that this is the plant referred to in the Bible: "... as a wheel, as the stubble before the wind" (Psalms 83:14) The Hebrew name meaning wheel and resembles the way of seed spreading of the plant when the plant rolls in the wind (Buchman 1993).

The Mishna recognizes and categorizes the plant as a special wild plant that is edible for humans (Mishna, Okatzim, 3). During the Byzantine period, the Tumble thistle seeds were an important component in the food of monks in the Judean desert (Herschfeld 1991). According to the Jerusalem geographer, al-Muqaddasi (1906), the plant was one of the plant species with which "Falastin" was favored. The plant has been declared a protected species in Israel due to an excessive gathering.

## ***Pricky Asparagus***

Wild Asparagus is an expensive foodstuff because of its short shelf life. It is still gathered according to local tradition but not for commercial use and mostly for self-consumption. This allows its survival in the wild.

**Description** Climbing perennial herb (to 1 m tall) with a woody base and swollen roots. Stem spreadingly branched, branches angular. Lower scale-like leaves and phylloclades spreading, unequal 5–10 mm (Picture 4). Flowers 1–2, berry 6–7 mm in diameter, blackish (Table 4).

**Sensorial Botany** Phylloclades are spiny.

**Local Gastronomy** The young shoots are eaten fresh, fried with an egg or pickled in brine.

**Local Folklore** The asparagus was an agricultural crop in the Land of Israel that was explicitly mentioned from the early Islamic period (Amar 2000). Various species of asparagus are climbing plants in the woody groves of the Land of Israel, and some of them are used for food until today (Dafni 1985).

The medical use of asparagus was mainly as a diuretic drug, to relieve pain, to increase sperm and also to fatten. These uses have been preserved in the framework of traditional medicine in the region until today (Lev 2002). The Hebrew name of the species is derived from the scientific name that originates from ancient Greek (Lev 2002).



**Picture 4** Prickly Asparagus (Taken by: Ramon Casha and Flicker)

**Table 4** Botanical features of Prickly Asparagus

Scientific name	Family	Origin	Ecology	Local folk name	Part(s) used in the local cuisine	Gathering period
<i>Asparagus aphyllus</i>	Liliaceae	S. and E. Mediterranean	Batha and maquis, among rocks	Hebrew: <i>Asparagus</i> Arabic: <i>Halyñ</i>	Young shoots	Early spring

***Yellow Wild Pea***

Although wild pea and other wild legumes are still spread in the wild in the Levant, they are not widely picked by local gatherers any more. This is due to the high labor needed to pick a quantity that is satisfying nutritionally. Abbo et al. (2008) asked in their research, what guided the cultivation process of wild pea? They got the best yield gathered from the *Pisum fulvum*, 500 g. of dried in an hour of work, which is definitely not a lot. However, this was most probably not the reason for the cultivation of the pea because although *Pisum fulvum* was the best yield it was not the specie that was cultivated.

**Description** Hairless annual (15–30 cm tall) with ascending or creeping stems. Leaves 6–12 cm long, spreading; stipules 2–3.5 cm long, ovate. Flowers to 1 cm long, rusty-yellow or reddish-brown. Pods are short beaked, seeds black, 4 mm across (Table 5).

**Sensorial Botany** Seeds and pods are green, moisture and soft in winter time and become hard and brown towards the end of the spring.

**Table 5** Botanical features of yellow wild pea

Scientific name	Family	Origin	Ecology	Local folk name	Part(s) used in the local cuisine	Gathering period
<i>Pisum fulvum</i>	Fabaceae	E. Mediterranean	Batha, garigue and fallow fields	Hebrew: Afun	Young leaves, seeds and pods	February–May
				Arabic: <i>Bazilla</i>		

**Picture 5** Yellow wild pea



**Local Gastronomy** The legumes are eaten raw or cooked (Dafni 1985). Leaves are eaten raw.

**Local Folklore** Seeds of the plant were found in the Kebara cave (Mt. Carmel, Israel) and were reconstructed as part of the vegetal gathering diet of the Middle Paleolithic Humans that lived in the area (Lev 2008). Seeds were also found in sites from the sixth and seventh millennium BC around Turkey, Iraq and Israel (Ledizinsky 1985–1986) (Picture 5).

***Palestine Arum***

Arum is known today as a poisonous plant, but was known through history as a highly valued edible plant nutritionally and medicinally. We learn from the local traditions to transform it from a poison to a healthy and delicious food.

**Description** Scapose perennial herb with tuber, 4–8 cm in diameter, long leaves, petiole 15–50 cm, longer than blade (Picture 6). Spathe (16–50 cm) with tube (3–6 cm) and 2.5–4.5 cm across, oblong, outer side green, inner side purple in its upper half and greenish in the lower. Appendage of spadix dark purple (Table 6).

Picture 6 Palestine arum



Table 6 Botanical features of yellow Palenstine arum

Scientific name	Family	Origin	Ecology	Local folk name	Part(s) used in the local cuisine	Gathering period
<i>Arum palaestinum</i>	Araceae	E. Mediterranean	Batha, garigue and maquis edges; alluvial soils, rocky places	Hebrew: Luf Arabic: 'uḡn ilFil <sup>a</sup>	Leaf blades	Winter

<sup>a</sup>The Arabic name means “Elephant Ear” and is driven from the shape of the leaf (Dafni 1985)

**Sensorial Botany** Inflorescence mostly strong scented of decaying fruit and fermentation or even dung. In the tissues of the plant there are crystals of sodium acid (Sodium Oxalate) in the form of needle bunches. When the tissues disintegrate, the crystals remain in form of a white powder. There are also poisons in the foliage and the gourds that prevent it from being eaten, but roasting or cooking neutralizes these poisons (Alon 1982–1990; Uphof 1968; Dafni 1985; Crowfoot and Baldensperger 1932; Grieve 1994).

**Local Gastronomy** The stems are cut off from the leaves, leaf blades are cut into thin pieces, then cooked thoroughly with lemon or sorrel leaves (*Rumex* sp.) the acidity of the sorrel and the lemon helps to neutralize the leaf poisons. The cooked leaves are eaten with a flat bread and considered healthy and a delicacy.

**Local Folklore** Various species of arum growing in the Mediterranean Basin have served as food and medicine since early times in spite of their toxicity. In the temple of Thutmose III in Karnak there are engraved drawings of plants that were brought from Canaan in the year 1447 BCE, among which there were various species of arum (Krispil 1983–1989).

The plant is mentioned in Jewish rabbinical literature, and apparently they knew even then how to overcome its toxicity. Palestine arum was a cultivated crop and it

was customary to eat the leaves and the gourds that appeared perennially (for example: Mishna, Kilayim, 2:5). The gourds of the plant are also mentioned in connection with the sabbatical year (Mishna, Shevi’it, 5:3). The seeds of the gourd were not used for human consumption but only for birds (Mishna, Ma’aserot, 5:8) (Lev 2002).

Cooked leaves are considered a delicacy by the local Arabs, and a treatment for many diseases and especially for cancer. It is a commonplace among the Arabs of Israel that the cooked leaves of the plant kill intestinal worms even among animals, and also that they strengthen the bones of the body. Crushed leaves are used to treat infection in open wounds, obstructions in the urinary tract, and kidney stones (Krispil 1983–1989). The Jews of Iraq use the plant to cure skin sores, syphilis, rheumatism, tuberculosis, diarrhea, and stomach worms (Ben-Ya’akov 1992).

Mt. Tabor Oak

Oaks are widely found in the region under research, and are very well known in the landscape. Oak was used in many different ways in local traditions. It was used for medicine, building, dying and more. The reason for it not being cultivated was researched and it was found that unlike the almond that has single dominant gene controlling its bitterness, the oak has many genes controlling its bitterness, which made it impossible to cultivate (Diamond 1997).

**Description** A tree that may reach a height of more than 10 m, and a trunk with a circumference of 6 m. The branches form a spherical crown. The bark of the branches and the trunk is gray-dark brown and it is hard with deep grooves. The leaves are 5–10 cm long. They are stiff, ovate, with dentate-thorny margins. The upper side of the leaf is shiny; its lower side is covered with felt-like hairs (Table 7).

**Local Gastronomy** The oak acorns are roasted and them grinded and used in various cooking technics (Picture 7).

**Local Folklore** Many traditional tales are told about the ability of the oak to provide food at times of scarcity. It is mentioned in the bible and forests of it covered large areas in the Galilee and on Coastal Plain in Israel, but these have been

Table 7 Botanical features of Mt. Tabor Oak

Scientific name	Family	Origin	Ecology	Local folk name	Part(s) used in the local cuisine	Gathering period
<i>Quercus ithaburensis</i>	Fagaceae	Mediterranean	Heavy soils	Hebrew: Alon Arabic: Balut	Acorns	October–December



**Picture 7** Mt. Tabor Oak

greatly reduced in the Othman era. The oldest tree in Israel, near the tomb of Rabbi Abba Halfeta in the Lower Galilee, was dated to a little over 500 years.

### ***Dwarf Chicory***

In the last few years, when the awareness of the traditional cuisine grew and the tradition of gathering wild edible plants has risen, the demand for wild chicory in local restaurants rose. Therefore farmers make an effort to grow wild species of it to meet the demand.

**Description** 5–100 cm tall annual, somewhat waxy, hairless, stems divaricately branched. Leaves oblong (Picture 8), often dry at flowering time, heads stalkless, peduncles thickened at maturity. Florets sky-blue (Picture 9, Table 8).

**Sensorial Botany** Leaves soft and bitter at winter time and get hard, dry and their bitterness is sharpened towards the end of the spring.

**Local Gastronomy** The green leaves are cooked in water in order to neutralize their bitterness and then fried with onion and spices, the sugar that comes out during the cooking of the onion is also neutralizing the bitterness. The young leaves are also eaten fresh in a salad with seasoned with lemon and olive oil. A coffee substitute is made from roasted roots and dry heads of the chicory, the heads are cooked for a long time until it is made bright and the cooking water with some sugar added is used as coffee (Dafni 1985).

**Picture 8** Dward chicory (leaves)



**Picture 9** Dwarf chicory (florets)



**Table 8** Botanical features of dwarf chicory

Scientific name	Family	Origin	Ecology	Local folk name	Part(s) used in the local cuisine	Gathering period
<i>Cichorium pumilum</i> (=endivia)	Asteraceae	Mediterranean and W. Irano-Turanian	Fields, road sides and seasonally wet places	Hebrew: 'Olesh Arabic: 'Tet, Hindibe Barriyye	Mostly the leaves but also the roots and the heads	Winter and spring

**Local Folklore** In the Mishna the ‘olashim’ are mentioned regarding the laws of the sabbatical year and cross-fertilization. The reference is apparently to the common chicory (*Cichorium intybus*) which is one of the varieties which can be used as the bitter herbs required for the Passover meal (Feliks 1987; Low 1924–1934).

Dioscorides distinguished between the wild and the cultivated variety, which was called *endive* and was used as a remedy for the stomach, heart and eyes and for scorpion stings (Gunther 1959). The Talmud also describes the two varieties of chicory. Some of the Jewish medieval commentators identified this plant by its Arabic name ‘hundaba’ (Feliks 1980–1987). The plant ‘hundaba’ was listed among the crops grown in the al-Sham region (the Levant) during the Crusader and Mamluk period (Taqi al-Din al-Badri 1980). According to sixteenth century Jewish Rabbi, Hayim Vital, the juice of the chicory called ‘hindaba’ was a component in a medication to relieve stomach swellings (Benajahu 1952).

Arabs in Israel use the chicory juice to clear the blood, to stimulate the urinary system, to treat constipation, arthritic pains, rash and light injuries, to eliminate intestinal worms and to cure internal diseases such as malaria and jaundice (Dafni 1985). The roots of the cultivated chicory are considered as a strengthening substance and are used to cure diseases of the stomach and the gall bladder (Uphof 1968). In Iraq, the plant is used as a diuretic, a purgative and a cure for stomach problems. The roots are used among other things as a cooling medicine to treat the gall bladder and also as a cathartic drug, a diuretic, a strengthener and to reduce fever (Hooper 1937; Chizik 1952; Al-Rawi and Chaakravarty 1964). The cultivated chicory is widely used as a remedy and a food in Europe as well (Grieve 1994).

### ***Field Eryngo***

The Field eryngo is an example of a plant that remained a wild edible plant, and is known mostly to the traditional gatherers. It is very common in the wild.

**Description** Perennial or biennial herb, hairless, 20–50 cm tall, stems divaricately branched from below, basal leaves 5–10 cm long (Picture 10), herbaceous, bluish. Inflorescences forked repeatedly, heads 7–8 mm across. Flowers overtopped by bracteoles. Fruit scaly-bristly, obscurely ribbed (Picture 11, Table 9).



**Picture 10** Field eryngo  
(leaves)

**Picture 11** Field eryngo (fruits)



**Table 9** Botanical features of field eryngo

Scientific name	Family	Origin	Ecology	Local folk name	Part(s) used in the local cuisine	Gathering period
<i>Eryngium creticum</i>	Umbelliferae	E. Mediterranean, with slight extension into Irano-Turanian territories	Fallow fields, batha and roadsides	Hebrew: Ḥarḥavina makẖila	Young leaves and thick roots	February–March
				Arabic: Qurḑu’anne		

**Sensorial Botany** Soft bluish brunches during winter time become spiny towards the end of the spring.

**Local Gastronomy** The young leaves are eaten fresh in a salad and the thick roots are eaten raw or cooked.

**Local Folklore** The scientific name is derived from the Greek term for one of the varieties of this species, the Hebrew name for this species appears in the Mishna where it is listed with the type of vegetables permitted to be used as bitter herbs eaten at the Passover meal. The name is related to the root h-r-b (dry) (Feliks 1976; Kislev 1997). The Arabic name meaning “sting from me” came from the wide use of the plant for treatment of stings (Dafni 1985).

The plant is recognized as one the varieties which can be used as the bitter herbs required for the Passover meal (Mishna, Pesahim, 2:6). The Arabs of Israel are accustomed to eat various kinds of sea holly (Dafni 1985; Uphof 1968) and use the *Eryngium creticum* in their traditional medicine. They eat the leaves or smear the ground root to cure open wounds and scorpion stings. The seeds serve to cure stomach sores, cataract in the eyes, and to expel worms. The leaves are also eaten to strengthen the gums, and their juice is used to treat diabetes. The juice of the roots is drunk in order to treat kidney stones (Palevitch et al. 1985).

## Discussion and Conclusions

Gathering of wild edible plants was an essential practice in prehistoric times, become common practice after the agricultural revolution mainly as supplement to the usual diet. Today it is a rare tradition among the traditional population and a modern trend among the well fed “Western” populations. Similar to the traditional medicine and the use of medicinal substances, edible plants unify together member of different cultures, such as new Russian Jewish immigrants (gathering wild mushrooms), Jewish immigrants from the Arab country’s and local Arabs (wild plants). It also become a local gastronomical trend to serve traditional dishes from wild plants in fancy restaurants.

The nine edible plants of Israel presented above truly represent consumption traditions, some of them are of thousands of years according to remains found in archeological and pre-historical sites. Most of the plants presented above also bare medicinal qualities that had been known to the local inhabitants and were therefore used as drugs as well, in Israel and neighboring countries such as Lebanon, Syria (northern species) and Jordan, Egypt, Iraq and even Iran (southern and desert species).

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