



REPORT

Project

“Assessing the Biodiversity Value of Olive Sites in Mount Hermon KBA and Identifying the Environmental Impacts of Various Agricultural Practices.”.

EFL

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1. Objectives

The Global Objective of the project is to “Identify the Biodiversity value of the site and identify the negative impact of the used agricultural practices on olive orchards and the ways of its minimization, and convey the results to the concerned stakeholder to discuss future plans”.

AS for the components of the project, they are:

Component 1 - Identify Biodiversity value of the site and identifying the negative impact of various agricultural practices

1.1 Conduct a survey and prepare a report to Identify the biodiversity value of the site and its relationship to current agricultural practices (First draft will be presented in May 2019).

Component 3- Organizing a stakeholders workshop to present Assessment results and discuss future plans

3.1 Present the results of the report conducted for component 1, with other project consultants, in a specialized workshop to Inform the Stakeholders about the Biodiversity value of the site and its relationship to agricultural practices and discuss future actions for the olive sector in Mount Hermon KBA ,in cooperation with Jabal Al Sheikh Municipality Federation (JSMF). The workshop is expected to take place in July – August 2019 at JSMF premises in Rashaya.

2. Pre-Project preparations

At the beginning of the project, it was necessary to 1) identify our stakeholders and their interests as this will facilitate the implementation of the activities, 2) have access to the references published and unpublished about the biodiversity of the sites.

2.1 Identifying the potential stakeholders

The project officially started at the beginning of April 2019, even though some activities were undertaken starting February 2019. The following activities were completed:

- Identifying the potential stakeholders. After discussion with experts and brain storming, the stakeholders were identified as shown in the Table1 below:

Table 1: Identification of Stakeholders

Stakeholder Group	Interests
1. Communities, including farmers, agriculture cooperatives, pressing factories	<ul style="list-style-type: none"> • Economic stability • Community enhancement • Environment • Economic opportunities • Responsible KBA site management • Air quality. • Cultural heritage, traditional use, CBD convention rights, farmers rights • Employment opportunities • Efficient delivery of information • Sustainable conservation of biodiversity
2. Environmental Groups	<ul style="list-style-type: none"> • Adequate olive groves management • Protection of species at risk/habitat • Maintenance of biodiversity
3. Post-secondary Institutions	<ul style="list-style-type: none"> • Research, design, advocacy and development
4. Government (local authorities)	<ul style="list-style-type: none"> • Appropriate olive grove management • Research and development • Compliance with laws • Environmental health • Market development

Stakeholder Group	Interests
5. Employees/Volunteers	<ul style="list-style-type: none"> • Safe working conditions • Incentives • Training
6. Certification Organizations/ Public Advisory Committees/ Civil Societies	<ul style="list-style-type: none"> • Certification requirements • Impacts on olive groves from management • Management of local issues • Assistance and support

- Collection of information needed through review of literature, reports, published and non-published papers, conversations with experts of biodiversity and farmers.

The following references were gathered and consulted:

N. Arnold, S. Baydoun, L. Chalak & Th. Raus (2015). A contribution to the flora and ethnobotanical knowledge of Mount Hermon, Lebanon. *Fl. Medit.* 25: 13-55

S. Baydoun, L. Chalak, D. Helena, A. Nelly (2015). Ethnopharmacological survey of medicinal plants used in traditional medicine by the committees of Mount Hermon. *Journal of pharmacology*, 173.

G. Ramadan-Jaradi (2005). Birds of Rashaya and its surroundings. MERCI CORP, USAID, ACS.

MERCI CORP, USAID, ACS (2007). Conservation and benefits of biodiversity in Hasbaya District. Report.

3. Early Project activities

- Identifying the gaps, if any, that need to be filled in order to identify the Biodiversity value of the site and identify the negative impact of the used agricultural practices on olive orchards and the ways of its minimization.

Questioning people from the three areas (Rachaya, Kfarmishki and Kawkaba) about the types of olive grove farming (conventional, organic, semi-organic,..) and listening to their complaints and difficulties they face in their work.



Figure 1: View from Rachaya



Figure 2: View from Kfarmishki



Figure 3:View from Kawkaba

- Participation in a meeting which took place at the Union of the Jabal El Sheikh Municipalities Federation, during which stories about best management of olive groves in the study area took a place on 10th of May 2019 with mayors and president of the Union of municipalities in presence of Dr. Saleem Hamada and Dr. Ghassan Ramadan-Jaradi. In this meeting a MOU was signed between Jabal El Sheikh Municipalities Federation and Environment for Life to conduct a study about the biodiversity in the area of the Federation. The results will be announced in October 2019 and will include the measures to be taken in order to reduce the use of toxic manures. The study paves the way to an advanced step aiming at opening new markets for the natural products in line with the international norms.



Figure 4: Signing MOU with the Union of the Jabal El Sheikh Municipalities Federation

4. THE PROJECT

- **Location**

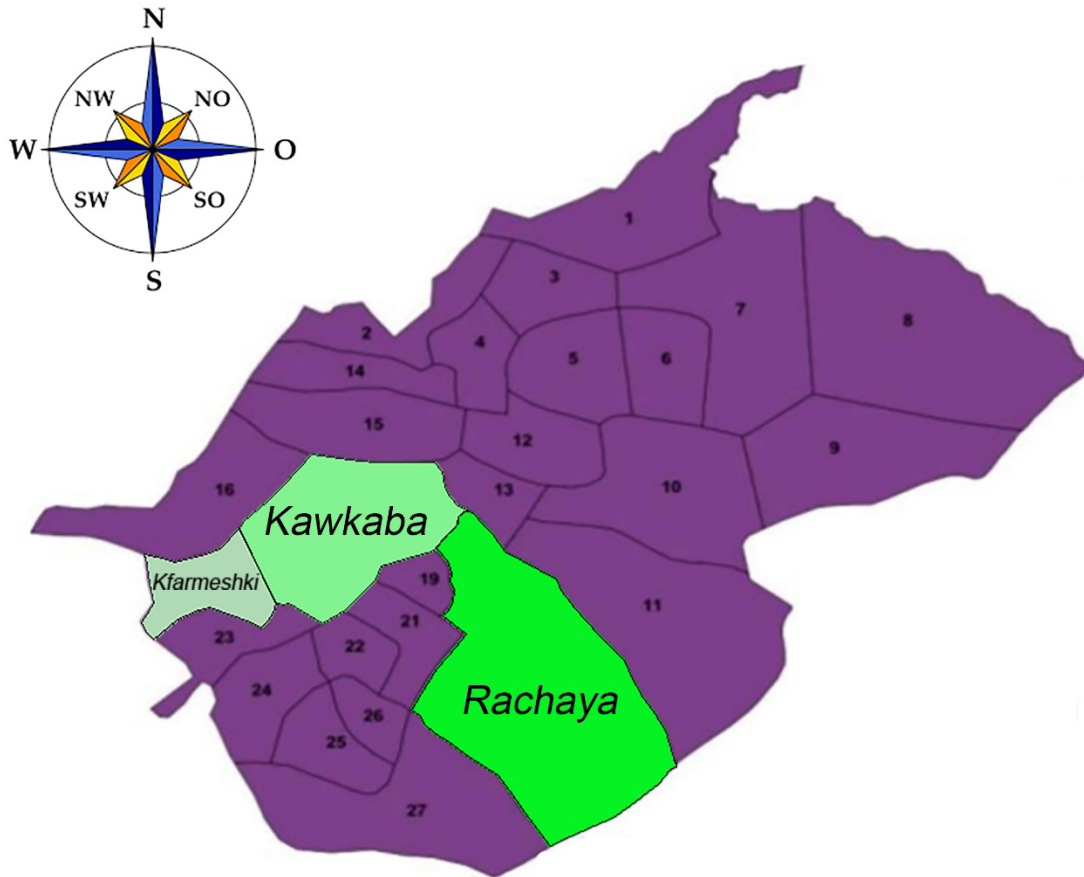
The project is implemented in Caza Rachaya that is located in south east Lebanon as shown in the plate 1.

Rachaya Caza is seated on the western slopes of Mount Hermon. It is located in the South Beqaa at 85 kilometers from Beirut, in the northern side of the Wadi el Taym valley.



- **Plate 1: Location of Rachaya Caza on the map of Lebanon**

The area of the study is limited to the towns Rachaya, Kawkaba and Kfarmeshki as highlighted with green in the map of Rachaya Casa below:



- **Plate 2: The study area (highlighted with green) within the Rachaya Casa.**

Rachaya Town stands at an altitude of 1,215 meters above sea level, Kawkaba at 1070 meters and Kfarmeshki at 1190 meters; all on the western slopes of the famous mountain Mount Hermon; whose summit rises to 2,814 meters above sea level and to be exact to 3,300 meters above the Beqaa-Ghor depression, which makes it the second highest mountain in Lebanon, somewhat lower than Qornet El-Sawda but higher than Sannine.

5. The Biodiversity

5.1 Agro-biodiversity

Following the map elaborated by the national center of scientific research in 2005, ordinarily grown products incorporate fruits, **olives**, apricots and grapes. Some wild cucumbers are additionally developed; however, vegetables are less grown because of low precipitation. Tree species, for example, oak, wild pistachio and sumac are also grown in the area. The locals of Rachaya Caza produce their own agro food, grape molasses, goat milk derivative products, they are also popular in the beekeeping practice for honey extraction in Jabal El Sheikh, especially that the mountainous land around Mount Hermon with its diverse wild plants and flowers contribute to the production of a variety of honey as well as the knowledge of local bee-keepers makes it one of Lebanon's most well-regarded. Rachaya has 5 factories: two olive oil presses and three grape molasses factories. Rachaya owns an important agricultural potential. Animal breeding is also applied, mostly with goats, of which the Labneh assortment is a well-known staple food for local people.

On another hand, there are some pastoralism activities in the region which aren't well organized and currently affect negatively the agricultural lands.

5.2 Flora diversity

Despite the generally recognized role of Mt Hermon as a key area of biodiversity, there is still a lack of sufficient data on the vascular flora of the Lebanese side of the mountain. To fill this gap a list of 221 phanerogams, collected during 2011-2014 at altitudes of 1100 to 2800 m, is presented including information on the eco-geographical traits of the taxa (N. Arnold, S. Baydoun, L. Chalak & Th. Raus. 2015). Ethnobotanical knowledge of identified species was gathered through interviews and focus group meetings with herbalists, folk medicine healers, bee keepers and knowledgeable elderly people of the local Lebanese community. Among the 53 ascertained plant families Asteraceae (32 spp.), Lamiaceae (25 spp.), Apiaceae (17 spp.), Fabaceae (14 spp.) and Rosaceae (14 spp.) form the major shares. Among the observed 221 taxa, 24 endemics (Lebanon and Syria) are recorded and 115 taxa are for the first time detected in the mountain ecosystem. Associated with the valuable wealth of traditional ethnobotanical knowledge gathered, these findings can highlight the importance of Mt Hermon in terms of flora diversity and its valuable potential in enhancing the livelihood of local human communities. Thus, it is of significance to set the necessary approach to

include the mountain among the high priority areas considered for the national and global biodiversity conservation efforts.

5.3 Annotated List of Flora in the Study Area

In the list of 221 collected species presented here, families, genera and species are arranged alphabetically. Accepted names are set in bold-face italics; they are referred to the recent basic floras and checklists concerning the area (Euro+Med 2006-; Greuter & al. 1984, 1986, 1989, 2008; Mouterde 1966, 1970, 1983), and to selected taxonomic literature. Synonyms are limited to names adopted in these reference works. Scientific names are followed by vernacular names in English and Arabic in current regional Lebanese use (Nehmé 2008), life-form, habit and height of growth, flowering time, eco-geographical details both locally (Mt Hermon voucher) and country-wide (Lebanon), habitat traits, and the ethnobotanical usage as recorded during this study. Abbreviations used: Ar: Arabic; En: English; Ft: Flowering time; Hab: Habitat; Lf: Lifeform; Syn: Synonymy.

Acanthaceae

Acanthus syriacus Boiss. – En: Syrian Acanthus, Syrian Bear's Breech. – Ar: Shawk El Jamal, Kaf El Deb. – Lf: Perennial shrub or herb, spiny, 40-80 cm. – Ft: May-July. – Mt Hermon: 1445 m, 33°28'29"N, 35°51'06"E. – Lebanon: Sarafand, Saida, Beirut, Nahr El Kalb, Tripoli, Aabey, Moukhtara, Jamhour, Terbol, Dahr Al Baidar, Sannine, Rachaya. – Hab: Meadows, roadsides, margins of cultivated fields, red clay soil (terra rossa). – Uses: Infusion of fruits and leaves, leaves extract for wound healing, emollient, anti-inflammatory.

Aceraceae (Sapindaceae)

Acer monspessulanum subsp. *microphyllum* (Boiss.) Bornm. – Syn: *A. microphyllum* (Boiss.) Dinsm. non Opiz, *A. hermoneum* (Bornm.) Bornm. & Schwer., *A. syriacum* Boiss. & Gaill. var. *hermoneum* Bornm.; Lectotype: Mt Hermon, Kotschy 240 (Gelderen & al. 1994:185). Confirmation of the Hermon population of this taxon which was queried by Gelderen & al. (l.c.) to still exist. – En: Montpellier Maple. – Ar: Kaykab Haramon, Kaykab Jabal El Sheikh. – Lf: Shrub or small tree, 100-150 cm. – Ft: April-June. – Mt Hermon: 1622 m, 33°26'49"N, 35°50'33"E. – Lebanon: Deir El Ahmar, Ainata, Litani towards Yohmor, Ouadi El Karm, Chebaa and Rachaya. – Hab: Woodlands, limestone rocks, sunny places. – Uses: Decoction of seeds is used for cough.

Amaryllidaceae (Alliaceae, Liliaceae s. l.)

Allium ampeloprasum L. – En: Wild Leek, Broadleaf Wild Leek. – Ar: Koraat Barri Ahmar. – Lf: Perennial herb, bulbous geophyte, 150 cm. – Ft: April-June. – Mt Hermon: 1292 m, 33°28'55"N, 35°51'73"E. – Lebanon: Nahr El Kalb, Aabey, Jamhour, Aintoura, Baskinta, Bcharre, Falougha,

Zahle, Hasbani. – Hab: Limestone fields, damp meadows, roadsides, sunny places. – Uses: Bulbs are used as antiseptic and for intestinal worms as anthelmintic. Plant juice is also an insect repellent.

Allium chloranthum Boiss. – En: Mountain garlic. – Ar: Thum Mukhdarr Al Zahr. – Lf: Perennial herb, bulbous geophyte, 30-100 cm. – Ft: August-September. – Mt Hermon: 1219 m, 33°30'00"N, 35°50'44"E. – Lebanon: Ariz, Ehden. – Hab: Rocky mountain slopes, roadsides, low mountain ranges, sunny places. – Uses: Edible and ornamental plant.

Allium rotundum L. – Syn: *A. cilicium* Boiss. – En: Sand Leek. – Ar: Thoom Ahmar. – Lf: Perennial herb, bulbous geophyte, 30-80 cm. – Ft: April-May. – Mt Hermon: 1191 m, 33°28'55"N, 35°51'73"E. – Lebanon: Aabey, Douma, Jabal El Barouk, Ehmej, Ain Zhalta, Hasroun, Bcharre, Sannine, Mairouba, Dahr Al Baidar, Rachaya, Zahle, Rayak. – Hab: Limestone fields, damp meadows, roadsides, sunny places. – Uses: Crushed fresh bulbs mixed with honey is applied locally as cataplasm to soothe pains and avoid suppuration. Bulbs are used as diuretic, vermifuge and hypoglycemic.

Anacardiaceae

Pistacia terebinthus subsp. *palaestina* (Boiss.) Engl. – Syn: *P. palaestina* Boiss. – En: Terebinth Tree, Turpentine Tree. – Ar: Botom. – Lf: Tree, 7-8 m. – Ft: February-April. – Mt Hermon: 1373 m, 33°27'38"N, 35°50'59"E. – Lebanon: Ras El Biyada, Saida, Beirut, Nahr El Kalb, Ras Chekka, Deir Al Qamar, Beit Meri, Wadi Qannoubine, Ehden. – Hab: Woodlands, rocky areas in high mountain ranges. – Uses: Infusion of leaves is used as diuretic.

Rhus coriaria L. – En: Elm-leaved Sumach, Tanner's Sumach, Sicilian Sumac, Sumac. – Ar: Summaq. – Lf: Shrub, 1-3 m. – Ft: April-June. – Mt Hermon: 1373 m, 33°27'38"N, 35°50'59"E. – Lebanon: Beirut, Tripoli, Jamhour, Ain Zhalta, Douma, Ghazir, Barouk, Aabey, Ijdabra above Batroun. – Hab: Near cultivated areas, dry hillsides. – Uses: Tannins are found in all parts of the plant, particularly bark and roots, are used in tanning leather. Fruits are powdered and used as a spice in Lebanese cooking to add a sour bitter taste to salads, grilled meat or chicken. Seed powder is also used as antidiarrhoeic and astringent.

Apiaceae (Umbelliferae)

Artedia squamata L. – En: Crown Flower, Fennel-leaved Flower. – Ar: Artedeyya Horshofeyya. – Lf: Annual herb, 20-50 cm. – Ft: March-May. – Mt Hermon : 1353 m, 33°27'43"N, 35°51'03"E. – Lebanon: Saida, Beirut, Tripoli, Jamhour, Baabda, Bsarma, Koura. – Hab: Gravel soil, open shrubby places, roadsides, low mountain ranges, dry and sunny places. – Uses: Infusion of seeds is used as stomachic.

Conium maculatum L. – En: Spotted Hemlock. – Ar: Shawkaran Mubaqqa. – Lf: Biennial herb, 12 m. – Ft: April-June. – Mt Hermon: 1197 m, 33°29'47"N, 35°50'35"E. – Lebanon: Beirut, Tripoli, Ehden, Ariz, Taanayel, Zahle, Bekaa, Ouadi el Harir. – Hab: fields, abandoned lands, roadsides, low mountain ranges, sunny places rich in nitrogen. – Uses: Toxic (all parts) and medicinal plant. Used for respiratory system diseases, joint pains and cramps, anxiety, skin and bladder infections.

Daucus carota subsp. *maximus* (Desf.) Ball – Syn: *D. blanchei* Reut. – En: Wild Carrot, Bird's Nest, Bishop's Lace, Queen Anne's Lace. – Ar: Jazar Barri Kabeer. – Lf: Biennial herb, 1-2 m. – Ft: April-July. – Mt Hermon: 1292 m, 33°28'54"N, 35°51'35"E. – Lebanon: Beirut, Nahr El Kalb, Chekka, Aabey, Tripoli, Baabda, Ain Bsaba, Mrouj, Choueir, Roumie, Mar Youhanna Maroun, Qraiye, Bcharre, Falougha, Qornayel, Rachaya. – Hab: Rough grassy grounds, roadsides, hillslopes, stony pastures, cultivated lands, low mountain ranges, sunny places. – Uses: Fruit is diuretic and anti-inflammatory for hemorrhoids in urinary and uterine infections, recommended to disintegrate urinary calculi and kidney stones, whole plant is antispasmodic and laxative.

Dichoropetalum junceum (Boiss.) Pimenov & Kljuykov – Syn: *Peucedanum junceum* (Boiss.) Mouterde, *P. spreitzenhoferi* Dingler, *Johrenia juncea* Boiss. – En: Sulphur-wort. – Ar: Posedian Shabeeh Asal. – Lf: Perennial herb, 100-200 cm. – Ft: June-September. – Mt Hermon: 2305 m, 33°25'39"N, 35°50'31"E. – Lebanon: Qraiye, Feytroun, Berdawni, Kamed El Laouz, Rachaya. – Hab: Calcareous rocky slopes, crevices, dry and sunny places. – Uses: Decoction of fresh roots or crushed roots past with salt is freshly administered as a digestive for cattle and sheep.

Eryngium billardierei F. Delaroché – En: Labillardiere's Eryngo. – Ar: Shindab Labillardiere. – Lf: Perennial herb, 30-100 cm. – Ft: June-September. – Mt Hermon: 1409 m, 33°27'25"N, 35°50'53"E. – Lebanon: Jabal El Knisse, Ariz, Dimane, Yammoune, Jabal Sannine, Faraiya, Mt Hermon. – Hab: hillsides, cultivated fields, roadsides, dry places, red clay soil. – Uses: Medicinal plant used as antiinflammatory, against snake bites, scorpion stings, skin and oral pathogens.

Eryngium creticum Lam. – En: Field Eryngo. – Ar: Kors Anne. – Lf: Perennial herb, spiny, 30-60 cm. – Ft: May-September. – Mt Hermon: 1250 m, 33°28'54"N, 35°51'35"E. – Lebanon: Tyre, Saida, Beirut, Beirut River, Broumana, Deir Karkafe, Aabey, Dimane, Taanayel, Ouadi El Harir. – Hab: Dry and damp soil, several types of soil, hillsides, roadsides, cultivated and abandoned lands, cliff crevices. – Uses: Decoction of stems is taken orally to treat cough, kidney inflammation, and diabetes. Decoction of roots is used as diuretic and to treat kidney stones, uterine ailments, and some skin diseases. The plant juice is also an antidote for scorpion stings.

Eryngium glomeratum Lam. – En: Glomerate Eryngo. – Ar: Shendab Moutajammei. – Lf: Perennial herb, spiny, 30-100 cm. – Ft: June-August. – Mt Hermon: 2345 m, 33°25'35"N, 35°50'40"E. – Lebanon: Saida, Beirut River, Broumana, Bikfayia, Aabey, Douma, Ariz, Ehden, Ksara, Mt Hermon area. – Hab: Dry and stony slopes, grassy grounds, meadows, vineyards, gravel soil, high mountain ranges. – Uses: Decoction of root is used diuretic to treat kidney stones, some skin diseases and for haemorrhoids.

Ferula hermonis Boiss. – En: Hermon Giant Fennel. – Ar: Shirch El Zaloue, Zallouh. – Lf: Perennial tall herb, very aromatic, 1-1.5 m. – Ft: May-August. – Mt Hermon: 2740 m, 33°25'08"N, 35°51'50"E. – Lebanon: occurrence confirmed (queried by Euro+Med 2006- based on Mouterde 1970: 640), confined to Mt Hermon area. Endemic to Lebanon and Syria. – Hab: Among the calcareous rocks, dry and rocky slopes, high mountain ranges, sunny and shady places. – Uses: Decoction of rhizome is widely used as aphrodisiac to enhance potency and sexual activity in traditional medicine, and to relieve the symptoms of treatment of fatigue. Resin of cut stem is also used in cough and asthma. The rhizomes are sold by herbalists in Lebanon and Syria, and exported mainly to Arabic Middle Eastern countries. Traditionally, the hydrolate or powdered rhizome mixed with honey of melliferous flowers is taken orally for these various

purposes and decoction from roots and seeds (50 g /1 liter of water) is boiled and taken orally, 150 ml, 2 times/day until improvement occurs.

Ferulago frigida Boiss. – En: Mountain Ferulago. – Ar: Anijeza Jabali. – Lf: Perennial herb, 60-100 cm. – Ft: June-July. – Mt Hermon: 2300 m, 33°25'36"N, 35°50'28"E. – Lebanon: Ghazir, Ehden, Mar Semaan, Al Danniyeh, Laqlouq, Ariz, Jabal El Knisse, Jabal El Qamouaa, Ammiq forest, Sannine summit above Ainata. Endemic to Lebanon and Syria. – Hab: Calcareous rocks in high mountain ranges. – Uses: Essential oils of aerial parts and seeds have antibacterial properties. Flowers and leaves are used as sedative, aphrodisiac and to treat digestive pains, ulcers, snake bite, intestinal worms and haemorrhoids.

Heracleum humile Sm. – En: Berce Humble. – Ar: Harakliyya Moutawadiaa. – Lf: Perennial herb, 20-60 cm. – Ft: June-August. – Mt Hermon: 1489 m, 33°27'24"N, 35°51'38"E. – Lebanon: Jabal Sannine, Ariz, Ain El Qarn, Mt Hermon. – Hab: Mountain rocks, calcareous plateaus at medium altitudes. – Uses: Grounded root paste is used in snake bites and to treat fever, abdominal cramps caused by intestinal worms. Traditionally, the plant is also used to treat nerve disorders. Plant is also considered as a good feed for goats to increase milk production.

Lagoecia cuminoides L. – En: Bastard Cumin. – Ar: Karawiyah Jabaliyyah. – Lf: Annual herb, 20-50 cm. – Ft: March-May. – Mt Hermon: 1197 m, 33°29'47"N, 35°50'35"E. – Lebanon: Tyr, Saida, Damour, Beirut, Tripoli, Beit Meri, Baalbek, Yaar. – Hab: Cultivated fields, pastures, abandoned land, roadsides, hillsides, low mountain ranges, sunny places. – Uses: Condiment (cumin substitute).

Malabaila secacul (Mill.) Boiss. – Syn: *Tordylium secacul* Mill., *Pastinaca secacul* (Mill.) Sol. – En: Arabian Hart-wort. – Ar: Secacoul, Hachkal, Shakakel. – Lf: Perennial herb, 30-80 cm. – Ft: April-June. – Mt Hermon: 1292 m, 33°28'55"N, 35°51'73"E. – Lebanon: Ehden forests, Qozhaiya, Mdeyrej, Beit Mounzer, Towmat Jezzine, Hasroun, Jezzine, Afqa, Chtaura (Khan Mourad), Zahle, Wadi El Harir, Mt Hermon area. – Hab: Dry shrubby areas, scrubs, cultivated and abandoned lands, grassy grounds, sunny places, low mountain ranges. – Uses: Leaves and flowers are externally used in the form of poultice as analgesic to treat pains.

Pimpinella corymbosa Boiss. – En: Corymbed burnet-saxifrage. – Ar: Bembenella Aazkeyia. – Lf: perennial herb, 30-60 cm. – Ft: May-July. – Mt Hermon: 1275 m, 33°28'13"N, 35°51'19"E. – Lebanon: Zahle, Ksara, Baalbek, Ras Baalbek, Hermel, Rachaya, Aiha, Ouadi El Harir. – Hab: dry and stony hillslopes, orchards, low mountain ranges. – Uses: Medicinal plant used as carminative, diuretic, antipoison and sedative. Animal feed to increase milk secretion.

Pimpinella tragium Vill. – En: Tragium Burnet Saxifrage. – Ar: Yansoon Barri. – Lf: Perennial herb, 30-50 cm. – Ft: June-July. – Mt Hermon: 2306 m, 33°25'37"N, 35°50'32"E. – Lebanon: Bikfayia, Jabal El Barouk, Hasroun, Ainata, Ariz, Knisse, Jabal Sannine, Makmel, Yammoune, Deir El Ahmar. Intraspecific allocation of Lebanese populations unsettled so far but subsp. *lithophila* (Schischk.) Tutin seems most likely. – Hab: Calcareous rocky slopes, crevices, clayey doline bottoms, sometimes growing through spiny and dwarf shrubs, high mountain ranges. – Uses: Infusion of seeds is taken as carminative, diuretic and stomachic.

Prangos asperula Boiss. – En: Rough Prangos. – Ar: Farsh Al Dabee. – Lf: Perennial herb, 80-100 cm. – Ft: May-June. – Mt Hermon: 1197 m, altitude, 33°29'47"N, 35°50'35"E. – Lebanon: Mdeyrej, Dahr Al Baidar, Khan Sannine, Jabal El Knisse, Tannourine, Ehden, Taanayel,

Kaoukaba. Endemic to Lebanon and Syria. – Hab: Sunny slopes, low mountain ranges. – Uses: Medicinal used for dysmenorrhea and amenorrhoea.

Tordylium aegyptiacum (L.) Lam. – Syn: *Hasselquistia aegyptiaca* L. – En: Egyptian Hart-wort. – Ar: Masriyya. – Lf: Annual herb, 30-40 cm. – Ft: February-April. – Mt Hermon: 1292 m, 33°28'55"N, 35°51'37"E. – Lebanon: Saida, Tripoli, Aabey, Tyre, Aintoura, Hasbaya (Mt Hermon region). – Hab: Dry shrubby areas, scrubs, cultivated and abandoned lands, grassy grounds, sunny places, low mountain ranges. – Uses: Plant (flowers and seeds) are used as diuretic in kidney diseases. Infusion of seeds is antifungal, anthelmintic, expectorant, and used in the treatment of pruritis (itching and scabies). Roots juice is used in the treatment of indigestion and high stomach acidity.

Torilis leptophylla (L.) Rchb. f. – Syn: *Caucalis leptophylla* L. – En: Fine Leaved Hedge Parsley. – Ar: Bakdounes Barri. – Lf: Annual herb, 20-40 cm. – Ft: March-June. – Mt Hermon: 1250 m, 33°28'55"N, 35°51'37"E. – Lebanon: Beirut, Tripoli, Aintoura, Hasroun, Jabal Terbol, Bzemmar, Baskinta, Jabal El Knisse, Ain Zhalta, Baalbek, Ammiq, Dbaiye, Taanayel. – Hab: Cultivated and abandoned lands, meadows, roadsides, low mountain ranges. – Uses: Infusion of plants and fruits is used as intestinal antiseptic and antibacterial in gastro-intestinal illness.

Apocynaceae

Nerium oleander L. – En: Oleander. – Ar: Sam Al Himar. – Lf: Evergreen shrub, 1-4 m. – Ft: April-October. – Mt Hermon: 855 m, 33°29'04"N, 35°46'32"E. – Lebanon: Beirut, Nahr El Kalb, Tripoli, Damour, Baalbek. – Hab: Damp soil, river sides, roadsides, low mountain ranges. – Uses: Poisonous plant. Fresh leaves are locally applied in the treatment of skin diseases and given animals to heal ulcers.

Vinca herbacea Waldst. &Kit. – Syn: *V. libanotica* Zucc. – En: Herbaceous Periwinkle. – Ar: Kodab Oushbi. – Lf: Evergreen, spreading subshrub, 30-40 cm. – Ft: March-April. – Mt Hermon: 1168 m, 33°30'02"N, 35°49'51"E. – Lebanon: Marjayoun. – Hab: Open shrubby areas, hedges, rocky red clay soil. – Uses: None documented.

Araceae

Arum palaestinum Boiss. – En: Palestine Arum. – Ar: Louf Falastini. – Lf: Perennial herb, tuberous geophyte, 20-40 cm. – Ft: March-May. – Mount Hermon: 1157 m, 33°30'05"N, 35°49'49"E. – Lebanon: Damour, Tripoli, Ain Trez, Rechmaiya, Maifouq, Kfar Hilda, Ehmej, Jabal Terbol, Marjayoun, Hazerta, Hasbaya. – Hab: Rocky slopes in the hills and mountains, shady places. – Uses: Raw plant is toxic and very irritant. Decoction of leaves is externally used for rheumatism.

Biarum bovei Blume – Syn: *Homaida bovei* (Blume) Kuntze, *Ischarum bovei* (Blume) Schott – En: Bové's Biarum. – Ar: Moaanaka. – Lf: Tuberous geophyte, 30-40 cm. – Ft: October-December. – Mt Hermon: 2057 m, 33°26'10"N, 35°50'21"E. – Lebanon: Btater, Bhamdoun, Knisse, Kefraiya, Ablah, Ksara, Yahfoufa, Rachaya, Mt Hermon. – Hab: Among rocks in shady places, low and high mountain ranges. – Uses: Ornamental plant.

Asparagaceae (Hyacinthaceae, Liliaceae s. l.)

Asparagus acutifolius L. – En: Wild Asparagus. – Ar: Halyoun Barri. – Lf: Perennial evergreen rhizomatous shrub, 30-70 cm. – Ft: August-September. – Mt Hermon: 1292 m, 33°28'55"N, 35°51'73"E. – Lebanon: Naher El Damour, Beirut River, Nahr El Kalb, Tripoli, Araya, Kahale, Bleybel, Aabey, Bikfayia, Zahle, Broumana. – Hab: Dry places, hedges, rocky and grassy grounds. – Uses: Young tender shoots in appetizers make the joy of gourmets. Decoction of pounded roots is used for headache and to treat jaundice and liver disorder.

Drimia maritima (L.) Stearn – Syn: *Urginea maritima* (L.) Baker, *U. scilla* Steinh., *Scilla maritima* L. – En: Maritime Squill. – Ar: Bassal El Far. – Lf: Perennial herb, bulbous geophyte, 40-160 cm. – Ft: July-October. – Mt Hermon: 1422 m, 33°28'47"N, 35°50'39"E. – Lebanon: Beirut, Nahr El Kalb, Ras Chekka, Tripoli, Kahale, Akkar, Et Tlaile. – Hab: Rocky slopes, medium mountain ranges, damp and dry places. – Uses: All plant parts cause skin irritation and allergy. Bulb is toxic to man and rodents. Fresh bulbs are used in the treatment of rheumatism, edema and gout.

Leopoldia comosa (L.) Parl. – Syn: *Muscari comosum* (L.) Mill. – En: Purple Grape Hyacinth. – Ar: Holhol Ankoudi. – Lf: Perennial herb, bulbous geophyte, 30-70 cm. – Ft: January-March. – Mt Hermon: 1290 m, 33°28'53"N, 35°51'47"E. – Lebanon: Saida, Hazmiye, Beirut, Nahr Brahim, Tripoli, Aabey, Aintoura, Bikfayia, Beit Meri, Raifoun, Feytroun, Jamhour, Falougha, Hasroun, Hadath, Ehden, Bcharre, Qoub Elias, Zahle, Chtaura, Rachaya (Mt Hermon region). – Hab: Among the rocks, red moist soil, sunny and shady places. – Uses: The sliced and crushed fresh bulb scales are locally applied for toothache and headache.

Ornithogalum lanceolatum Labill. – Syn : *O. billardieri* Mouterde – En: Labillardière's star-of-Bethlehem. – Ar: Salsal Labiardyer. – Lf: Perennial herb, bulbous geophyte, 3-4 cm. – Ft: January-February. – Mt Hermon: 1290 m, 33°28'40"N, 35°51'41"E. – Lebanon: Jabal El Barouk, Dahr Al Baidar, Jabal El Knisse, Jabal Sannine, Yammoune, Aaquora, Hasroun, Ainata, Zahle, Mt Hermon. – Hab: Humid soil among rocks. – Uses: Leaves and blossoms are boiled as depurative.

Ornithogalum libanoticum Boiss. – Syn: *Honorius libanoticus* (Boiss.) Holub – En: Lebanon star of Bethlehem. – Ar: Sasal Lubnani. – Lf: Perennial, bulbous geophyte, c.15 cm. – Ft: April-May. – Mt Hermon: 1481 m, 33°28'41"N, 35°50'27"E. – Lebanon: Ehden, Hasroun, Faraiya. – Hab: Rocky, sunny slopes, red clay soil (terra rossa), medium mountain ranges. – Uses: Poisonous plant.

Asteraceae (Compositae)

Achillea falcata L. – En: Falcate milfoil. – Ar: Habbouk, Qaysum jabali. – Lf: Perennial herb, 1545 cm. – Ft: April-July. – Mt Hermon: 2074 m, 33°25'58"N, 35°50'20"E. – Lebanon: Afqa, Mdeyrej, Sawfar, Bcharre, Ariz, Hasroun, Ehden, Dimane, Jabal El Knisse, Ain Bourdai, Baalbek, Rachaya. – Hab: Rocky slopes, high mountain ranges, sunny places. – Uses: Medicinal plant used in the treatment of diabetes.

Anthemis rascheyana Boiss. – Syn: *A. antilibanotica* Eig – En: Rachaya Chamomile. – Ar: Okhowan Rachaya. – Lf: Annual herb, 5-15 cm. – Ft: March-May. – Mt Hermon: 1140 m, 33°30'07"N, 35°49'1"E. – Lebanon: Baalbek, Rachaya (MtHermon region). Endemic to Lebanon

and Syria. – Hab: Cultivated and abandoned lands, roadsides, pathways, olive groves, orchards, sunny places. – Uses: Decoction of flower heads is used as antiseptic and antidiabetic.

Carduus argentatus L. – En: Silvery Plumed Thistle. – Ar: Horshouf Foddi. – Lf: Annual herb, spiny, 30-50 cm. – Ft: April-May. – Mt Hermon: 1147 m, 33°30'07"N, 35°49'41"E. – Lebanon: Tyr, Beirut, Hazmiyeh, Qalamoun, Nahr El Kalb, Aabey, Ghazir, Aintoura, Bhamdoun, Terbol, Arayia, Hadchit, Bcharre, Feytroun, Maghdouche, Akkar, Ksara. – Hab: Woodlands, open shrubby areas, meadows, roadsides, low mountain ranges, dry and damp places. – Uses: None documented.

Carlina libanotica Boiss. – Syn: *C. involucrata* subsp. *libanotica* (Boiss.) Meusel & Kästner, *C. corymbosa* L. var. *libanotica* (Boiss.) Boiss., *C. libanotica* subsp. *microcephala* (Post) Meusel & Dittrich – En: Involucrate Carline-thistle. – Ar: Zend Al Abd Al Lebnani. – Lf: Biennial herb, spiny, 10-80 cm. – Ft: June-September. – Mt Hermon 1325 m, 33°28'27"N, 35°50'39"E. – Lebanon: Ras Beirut, Ain Zhalta, Jabal Sannine, Jabal El Knisse, Ainata, Ammiq. – Hab: Dry stony mountainous regions, roadsides, pastures. – Uses: Decoction of roots is used as diuretic and in the treatment of skin rashes. The young stems are cleaned of spines and eaten boiled with legumes or fried in olive oil with lemon seasoning.

Carthamus tenuis (Boiss. & C. I. Blanche) Bornm. subsp. *tenuis* – Syn: *C. glaucus* M. Bieb. var. *tenuis* (Boiss. & C. I. Blanche) Boiss., *Kentrophyllum tenue* Boiss. & C. I. Blanche – En: Thin Safflower. – Ar: Kortum Nahil. – Lf: Annual herb, spiny, 30-80 cm. – Ft: July-August. – Mt Hermon: 1322 m, 33°27'52"N, 35°51'25"E. – Lebanon: Saida, Beirut, Tripoli, between Bikfayia and Antilias, Sin El Fil, Broumana, Bhamdoun, Souq El Gharb, Dimane, Qornayel, Bcharre. – Hab: Dry stony mountainous regions, roadsides, pastures, olive groves. – Uses: Roots extract is used to cure piles while seeds are believed to prevent cancer.

Centaurea drabifolia Sm. – Syn: *Phaeopappus drabifolius* (Sm.) Boiss. – En: Nailwort-leaved knapweed. – Ar: Qanturyun Libnan. – Lf: Perennial plant, 20 cm. – Ft: June-August. – Mt Hermon: 2100 m, 33°25'55"N, 35°50'15"E. – Lebanon: Jabal El Knisse, Hasroun, Dimane, Yammoune, Jabal Sannine, Qalaat Arrouba, Ariz, Makmel, Mt Hermon. – Hab: Stony slopes, among rocks, high mountain ranges, sunny and dry places. – Uses: Medicinal plant, decoction of aerial parts is used in the treatment of diabetes and wound healing.

Centaurea hyalolepis Boiss. – Syn: *C. pallescens* Delile var. *hyalolepis* (Boiss.) Boiss., *C. pallescens* subsp. *hyalolepis* (Boiss.) Holmboe – En: Transparent-bracted Knapweed. – Ar: Kantaryoun Shaffaf. – Lf: Annual herb, spiny, 60-100 cm. – Ft: April-July. – Mt Hermon: 1250 m, 33°28'54"N, 35°51'35"E. – Lebanon: Saida, Beirut, Nahr Ibrahim, Mkalles, Zahle, Baalbek. – Hab: Dry and grassy grounds, roadsides, cultivated and abandoned lands. – Uses: Decoction of flowering parts is used as febrifuge.

Centaurea iberica subsp. *hermonis* (Boiss.) Bornm. – Syn: *C. hermonis* Boiss. – En: Iberian Knapweed, Star Thistle. – Ar: Chaoukat Al Dardar. – Lf: Annual herb, spiny, 20-80 cm. – Ft: May-July. – Mt Hermon: 1346 m, 33°28'54"N, 35°51'47"E. – Lebanon: Rachaya, Hammara. – Hab: Dry and grassy habitats, roadsides, cultivated and abandoned lands. – Uses: The bitter astringent decoction of whole plant is used antidiabetic while the decoction of roots and fruits is used as diuretic for renal stones.

Cichorium intybus L. – Syn: *C. intybus* subsp. *glabratum* (C. Presl) Arcang. – En: Common Chicory. – Ar: Hendbe Barryye. – Lf: Perennial herb, 30-100 cm. – Ft: May-July. – Mt Hermon: 1300 m, 33°26'10"N, 35°50'21"E. – Lebanon: Dimane, Taanayel, Ksara. – Hab: Grassy grounds, fields, cultivated and abandoned lands, roadsides. – Uses: Decoction of leaves and roots is used as depurative, cholagogue, and for digestive troubles.

Cirsium leucocephalum subsp. *hermonis* (Boiss.) Greuter – Syn: *C. lappaceum* subsp. *hermonis* (Boiss.) Petr., *C. hermonis* Boiss. – En: Bur Thistle. – Ar: Kaswan Haramoun. – Lf: Perennial herb, spiny, 30-60 cm. – Ft: June-August. – Mt Hermon: 2417 m, 33°25'28"N, 35°50'57"E. – Lebanon: Ariz, Jabal Sannine, Yammoune, Dimane, Ehden, Bcharre, Ainata, Marjhine, Rachaya. Endemic to Lebanon and Syria. – Hab: Barren pasturelands, roadsides, mountainous regions. – Uses: edible (stalks are peeled and eaten raw) and melliferous plant. Cota palaestina Kotschy – Syn:

Anthemis palaestina (Kotschy) Boiss. – En: Black-scaled Chamomile. – Ar: Okhouwan Aswad El Harashef. – Lf: Annual plant, 20-40 cm. – Ft: March-August. – Mt Hermon: 1252 m, 33°30'01"N, 35°51'03"E. – Lebanon: Maghdouche, Aintoura, Ksara, Marjaayoun, Rachayia, Mt Hermon. – Hab: Meadows, pastures, damp places at low mountain ranges. – Uses: Medicinal plant, flower is used as antidiabetic, bacteriostatic and antibiotic.

Cousinia libanotica DC. – Syn: *C. hermonis* Boiss. – En: Hermon Cousinia. – Ar: Cousinia Haramon. – Lf: Spiny perennial herb, 20-80 cm. – Ft: June-August. – Mt Hermon: 1471 m, 33°27'19"N, 35°51'43"E. – Lebanon: Ainata, Deir El Ahmar, Baalbek, Ain Bourday, Ras Baalbek. – Hab: Dry and rocky slopes, high mountain ranges, sunny places. – Uses: Extracts of aerial has properties against bacteria and fungi and is used in the treatment of anemia and bile. Dried whole plant is used as fuel.

Crepis libanotica J. Thiébaud – Syn: *C. reuteriana* subsp. *eigiana* Bab., *C. reuteriana* Boiss. var. *alpina* Boiss. – En: Reuter's Hawkweed. – Ar: Sraghet Lebnan. – Lf: Perennial herb, 30-100 cm. – Ft: March-August. – Mt Hermon: 1250 m, 33°28'54"N, 35°51'35"E. – Lebanon: Saida, Beirut, Chekka, Al Qalamoun, Tripoli, Broumana, Chouit, Bikfayia, Tourza, Bzemmar, Beit Meri, Harissa, Raifoun, Jamhour, Aabey, Baabda, Mdeyrej, Jisr Al Hajar, Ariz, Dimane, Hasroun, Ain Halakim Rachaya. – Hab: Grassy grounds, meadows, roadsides, low mountain ranges. – Uses: The infusion of flowers is recommended for the treatment of eye diseases and raw flowers are used in livestock feed.

Crepis robertioides Boiss. – En: Robertia Hawkweed. – Ar: Sraghet Robertiyya. – Lf: Perennial dwarf herb, 5-10 cm. – Ft: June-August. – Mt Hermon: 2306 m, 33°25'37"N, 35°50'32"E. – Lebanon: Hasroun, Dimane, Yammoune, Dahr El Kadib, Makmel, Sannine, Qurnat as Sawda, Jabal El knisse, Rachaya. Endemic to Lebanon and Syria. – Hab: Among rocks, old walls cracks, calcareous cliffs, roadsides among rubble, and barren, dry and sunny places. – Uses: The infusion of flowers is recommended for the treatment of eye diseases and raw flowers are used in livestock feed.

Crupina crupinastrum (Moris) Vis. – Syn: *Centaurea crupinastrum* Moris – En: False Sawwort. – Ar: Zahafa Hamraa. – Lf: Annual herb, 20-70 cm. – Ft: April-June. – Mt Hermon: 1250 m, 33°28'54"N, 35°51'35"E. – Lebanon: Aadloun, Saida, Beirut River, Ras Chekka, Al Qalamoun, Nahr Abou Ali, Baabda, Broumana, Bikfayia, Aabey, Terbol, Achkout, Jamhour, Hasroun, Bechnata, Akkar, Yammoune, Zahle. – Hab: Dry and stony hillslopes, abandoned lands,

pastures, low mountain ranges, sunny places. – Uses: Decoction of aerial parts is potentially antiseptic and highly antimicrobial.

Echinops spinosissimus subsp. *macrolepis* (Boiss.) Greuter – Syn: *E. viscosus* subsp. *macrolepis* (Boiss.) Feinbrun, *E. viscosus* DC. var. *macrolepis* Boiss., *E. syriacus* Boiss. – En: Viscous Globe Thistle. – Ar: Chaouk Al Jamal. – Lf: Perennial herb, spiny, 80-100 cm. – Ft: May-August. – Mt Hermon: 1292 m, 33°28'55"N, 35°51'73"E. – Lebanon: Saida, Beirut, Aabey, Zahle, Jabal Sannine, Saadnayel, Taanayel, Beit Meri, Broumana, Souq El Gharb. – Hab: Dry and rocky slopes, scrub, roadsides, fields, abandoned lands, sunny places. – Uses: Decoction of root mixed with olive oil is used as hemostatic. Decoction of stems, leaves and roots is used as diuretic and for liver diseases.

Gundelia tournefortii L. – En: Tournefort's Gundelia, Tumbleweed, Tumble Thistle. – Ar: Akkub, Akoub. – Lf: Perennial, spiny herb, 20-50 cm. – Ft: April-May. – Mt Hermon: 1250 m, 33°26'10 N, 35°50'21"E; *ibid.*: 1848 m, 33°26'24"N, 35°50'43"E. – Lebanon: Beirut River, Nahr El Kalb, Mar Roukoz, Aabey, Tripoli, Bhamdoun, Ariz, Ehden, Akkar, Hasroun, Dahr Al Baidar, Ouadi El Harir. – Hab: Dry and rocky slopes, among mountain rocks, abandoned lands, sunny places. – Uses: Young stems and heads are cooked as a stew or egg-vegetable dish. Decoction of seeds, roots and stems is taken orally for colds, catarrh, diabetes, kidney pains. Latex is applied externally to treat vitiligo, edema and toothache.

Klasea pusilla (Labill.) Greuter & Wagenitz – Syn: *Serratula pusilla* (Labill.) Dittrich, *Cynara pusilla* Labill., *Rhaponticum pusillum* (Labill.) Boiss., *Rh. pygmaeum* DC. – En: Dwarf Saw-wort. – Ar: Warkha Kazama. – Lf: Perennial herb, 50-80 cm. – Ft: April-June. – Mt Hermon: 1282 m, 33°28'26"N, 35°50'42"E. – Lebanon: Qraiye, Bhamdoun, Sawfar, Ehden, Bcharre, Wadi Qannoubine, Hasroun, Ain Zhalta, Saghbine, Sannine, Barrouk, Wadi El Harrir, Yammoune, Hazerta, Baalbek, Rachaya. – Hab: Dry and rocky slopes, roadsides among rubble. – Uses: Extract of flowers is used as a repellent and an insecticide.

Matricaria recutita L. – Syn: *Matricaria chamomilla* L., *nom. illeg.* – En: Wild Chamomile. – Ar: Babunaj. – Lf: Annual herb, 10-40 cm. – Ft: March-April. – Mt Hermon: 1197 m, 33°29'47"N, 35°50'35"E. – Lebanon: Beirut, Tripoli, Jamhour, Hasbani. – Hab: fields, abandoned lands, low mountain ranges, sunny places. – Uses: Medicinal plant, decoction of aerial parts is orally used in the treatment of intestinal gasdiarrhea and other digestive system disorders.

Notobasis syriaca (L.) Cass. – Syn: *Carduus syriacus* L., *Cirsium syriacum* (L.) Gaertn. – En: Syrian Thistle. – Ar: Kharfeesh Kabeer. – Lf: Annual, spiny herb, 80-150 cm. – Ft: April-June. – Mt Hermon: 1185 m, 33°29'17"N, 31°51'17"E. – Lebanon: Saida, Damour, Beirut, Tripoli, Aabey, Jamhour, Mazraat Beit Ech Chaar, Antoura, Zahle, Jabal El Barouk, Marjayoun, Rachaya. – Hab: Cultivated and abandoned lands, stony hillsides, roadsides, low mountain ranges. – Uses: None documented.

Onopordum heteracanthum C. A. Mey. – Syn: *O. anisacanthum* Boiss., *O. heteracanthum* var. *anisacanthum* (Boiss.) Boiss., *O. albolanatum* Arènes, *O. lanceolatum* Eig, *O. nudipes* Arènes – En: Cotton thistle. – Ar: Aksoun Chaek. – Lf: Biennial herb, spiny, 100 cm. – Ft: April-July. – Mt Hermon: 1292 m, 33°28'54"N, 35°51'35"E. – Lebanon: Baalbek, Zahle, Saadnayel, Nahr El Aassi. – Hab: Rocky and stony grounds, abandoned lands, field boundaries, roadsides. – Uses: Young stems are striped of spines and mostly cooked or boiled with others vegetables and fruits.

Picnomon acarna (L.) Cass. – Syn: *Carduus acarna* L., *Cirsium acarna* (L.) Moench – En: Yellow Cnicus. – Ar: Kaswan Al Jamal. – Lf: Annual herb, spiny, 50-100 cm. – Ft: July-August. – Mt Hermon: 1191 m, 33°28'55 N, 35°51'73 E. – Lebanon: Beirut, Broumana, Qraiaa, Aabey, Bhamdoun, Dimane, Khan Sannine, Mreijat, Taanayel, Ksara. – Hab: Dry and rocky slopes, cultivated and abandoned lands, roadsides. – Uses: Decoction of aerial parts is used as treatment of gastric pain and rheumatism. When young, this thorny plant can be eaten by animals. The large hard branches are used as fuel for ovens and hearths.

Podospermum canum C. A. Mey. – Syn: *Scorzonera cana* (C. A. Mey.) Griseb., *S. euphratica* Gomb. & Arènes; the genus *Podospermum*, as different from *Scorzonera*, is well supported by molecular phylogenetic analyses (Mavrodiev & al. 2004). – En: White Viper's Grass. – Ar: Dabeh Jabali. – Lf: Perennial herb, 5-50 cm. – Ft: April-August. – Mt Hermon: 1250 m, 33°28'54"N, 35°51'35"E. – Lebanon: Jabal El Knisse, Jabal Sannine, Baskinta, Ain Zhalta, Hasroun, Tannourine, Yammoune, Chtaura, Taanayel, Rayak, Sir Al Danniyeh, Baalbek, Jabal Makmel, Qurnat as Sawda. – Hab: Rocky and grassy grounds, old walls cracks, cliffs and roadsides among rubble. – Uses: Decoction of aerial parts is used orally to treat headaches, raw young shoots and leaves are edible.

Podospermum phaeopappum Boiss. – Syn: *Scorzonera phaeopappa* (Boiss.) Boiss. – En: Greypappused viper's grass. – Ar: El Meshe. – Lf: Perennial herb, 20-40 cm. – Ft: April-May. – Mt Hermon: 1147 m, 33°30'07"N, 35°49'41"E. – Lebanon: Baalbek, Machghara, Aita El Foukhar, Yanta, Hasbaya. – Hab: Rocky slopes, roadsides, pastures at low mountain ranges. – Uses: Raw aerial parts are edible and used to relief headaches.

Rhagadiolus stellatus (L.) Gaertn. – Syn: *Rh. stellatus* var. *hebelaenus* DC., *Rh. stellatus* var. *edulis* (Gaertn.) DC., *Rh. edulis* Gaertn. – En: Edible Hawkbit. – Ar: Raghad Youlous. – Lf: Annual herb, 20-60 cm. – Ft: March-June. – Mt Hermon: 1252 m, 33°30'01"N, 35°51'03"E. – Lebanon: Saida, Beirut, Ras Chekka, Faraiya, Mrouj, Ras El Harf, Ehden, Knisse. – Hab: Cultivated and abandoned lands, hillslopes, stony ground, low mountain ranges, dry and sunny places. – Uses: None documented.

Scolymus hispanicus L. – En: Golden Thistle, Spanish Oyster Plant. – Ar: Shawkat Al Far. – Lf: Herbaceous biennial or perennial plant, spiny, 50-100 cm. – Ft: May-September. – Mt Hermon: 1250 m, 33°28'54"N, 35°51'35"E. – Lebanon: Tyre, Hadath, Beirut, Dbaiye, Tripoli, Kadisha, Ghazir. – Hab: Cultivated and abandoned lands, roadsides, sunny places. – Uses: The midribs are boiled and eaten as artichokes.

Scorzonera libanotica Boiss. – En: Lebanon Viper's Grass. – Ar: Dabh Lebani. – Lf: Perennial herb, 15-80 cm. – Ft: June-July. – Mt Hermon: 1197 m, 33°29'47"N, 35°50'35"E. – Lebanon: Bcharre, Ariz, Ehden Makmel, Falougha, Marjhine. Endemic to Lebanon and Syria. – Hab: Rocky and grassy grounds, meadows, old wall cracks, cliffs, rubble by roadsides. – Uses: Decoction of aerial parts is used orally to treat headaches, raw young shoots and leaves are edible.

Tanacetum densum (Labill.) Sch. Bip. subsp. *densum* – Syn: *Pyrethrum densum* Labill., *Chrysanthemum densum* (Labill.) Steud. – En: Dense Tansy. – Ar: Tanastom Kaseef. – Lf: Perennial herb, 50 cm. – Ft: June-August. – Mt Hermon: 2301 m, 33°35'38"N, 35°50'30"E. – Lebanon: confined to Mt Hermon area. – Hab: Stony red clay soil (terra rossa), high mountain ranges among rocks. – Uses: Infusion of aerial parts is locally used for skin diseases, hygiene and vulnerary forwounds.

Taraxacum assemanii Boiss. – Syn: *T. primigenium* Hand.-Mazz. – En: Assemani's Dandelion. – Ar: Tarkhachkoon Al Samaiina. – Lf: Perennial herb. – Ft: July-August. – Mt Hermon: 1475 m, 33°28'46"N, 35°50'21"E. – Lebanon: Amioun, Dimane, Hasroun, Qurnat as Sawda, Jabal Sannine, Jabal El Knisse, Jabal Makmel. – Hab: Calcareous cliffs, among rocks, grassy grounds, rubble by roadsides. – Uses: Raw leaves and roots are edible as a salad with olives, onions and bread.

Taraxacum phaleratum G. E. Haglund – En: Shiny Dandelion. – Ar: Tarkhachoun Lamee. – Lf: Perennial herb. – Ft: April-May. – Mt Hermon: 1140 m, 33°30'07"N, 35°49'41"E. – Lebanon: Hermel, Halba, Ain Aata (Mt Hermon region). – Hab: Cultivated and abandoned lands, among rocks, grassy grounds, rubble by roadsides. – Uses: Leaves and roots are edible raw or cooked, and used raw in salads dressed with olive oil, lemon juice or vinegar.

Tragopogon buphthalmoides var. *latifolius* Boiss. – Syn: *T. brevifolius* K. Koch, *T. plantagineus* Boiss. & A. Huet – En: Oxeye Goat's Beard. – Ar: Ain El Thaour. – Lf: Perennial herb, 20-50 cm. – Ft: April-July. – Mt Hermon: 1250 m, 33°28'54"N, 35°51'35"E. – Lebanon: Barouk, Bhamdoun, Raifoun, Zahle, Sannine, Laqlouq, Tannourine, Hasroun, Dimane, Hadath, Makmel, Ariz, Taanayal, Ksara, Rachaya. – Hab: Dry and rocky slopes, grassy grounds, rubble by roadsides. – Uses: Infusion of aerial parts is used orally to treat gastro-intestinal disorders as vermifuge and for heart diseases. Young leaves, root and stems are edible raw or boiled.

Tragopogon porrifolius subsp. *longirostris* (Sch. Bip.) Greuter – Syn: *T. longirostris* Sch. Bip. – En: Long Beaked Goat's Beard. – Ar: Lehyat El Tays. – Lf: Biennial herb, 30-50 cm. – Ft: April-July. – Mt Hermon: 1292 m, 33°28'55"N, 35°51'37"E. – Lebanon: Saida, Beirut, Nahr El Kalb, Tripoli, Broumana, Douma, Bikfayia, Bcharre, Ksara, Barouk, Chtaura. – Hab: Dry and rocky slopes, grassy grounds, rubble by roadsides. – Uses: Infusion of aerial parts is used orally to treat gastrointestinal disorders, heart disease and as vermifuge. Young leaves, root and stems are edible raw or boiled.

Berberidaceae

Bongardia chrysogonum (L.) Spach – Syn: *B. rauwolfii* C. A. Mey., *Leontice chrysogonum* L. – En: Golden Rod. – Ar: Orf El Deek. – Lf: Perennial herb, 20-80cm. – Ft: February-April. – Mt Hermon: 1140 m, 33°30'07"N, 35°49'41"E. – Lebanon: Tyre, Fayadiye, Bhamdoun, Kartaba, Daher el Baydar, Qana near Tyre, Jabal El Knisse, Bar Elias, Taanayel, Mreijat to Chtaura and Taalabaya, Rachaya. – Hab: Meadows, red gravel soil, vineyards, rock-crevices, old walls, dry and sunny places. – Uses: Rhizomes and leaves are edible (taste of lemon). The extract of plant and roots is used as anti-inflammatory, anticancer, and in the treatment of haematopoietic neoplasms. Extract of tubers is used in epilepsy. Chilled decoction of tubers (2-3°C) is believed to treat urinary tract, prostate disorders and haemorrhoids.

Boraginaceae

Alkanna orientalis (L.) Boiss. – Syn: *A. hellenica* (Boiss.) Rech. f., *A. leucantha* Bornm., *Anchusa orientalis* L., *Lithospermum orientale* (L.) L. – En: Oriental Alkanet, Yellow Alkanet. – Ar: Shenjar Sharki. – Lf: Perennial herb, 20-50 cm. – Ft: March-June. – Mt Hermon: 2338 m, 33°25'36"N, 35°50'37"E. – Lebanon: Ariz, Bcharre, Hadath, Baalbek, Rachaya. – Hab:

Abandoned lands, limestone gravel soil, high mountain ranges, dry and sunny places. – Uses: Stem bark is used as astringent and taken orally in the treatment of ulcers and other intestinal diseases.

Anchusa hybrida Ten. – Syn: *Anchusa undulata* subsp. *hybrida* (Ten.) Bég. – En: Hybrid Bugloss. – Ar: Lisan Al Thaour. – Lf: Perennial herb, 20-50 cm. – Ft: Feb-June. – Mt Hermon: 1292 m, 33°28'54"N, 35°51'35"E. – Lebanon: Saida, Tripoli, Beirut, Bir Hassan, Ouzai, Beirut River, Machgara, Terbol, Sannine, Dahr Al Baidar, Ain Zhalta, Hasroun, Qannoubine, Ehmej, Hadath, Akkar, Ebel Es Saqi. – Hab: Cultivated lands, fallow grounds, open shrubby areas, dry hillslopes, low mountain ranges. – Uses: Edible, medicinal, odoriferous and melliferous plant. Used as diuretic and in the relief of cough, muscular pains, rheumatism and stomachache.

Brunnera orientalis (Schenk) I. M. Johnst. – Syn: *Myosotis orientalis* Schenk, *Anchusa neglecta* A. DC. – En: Oriental Brunnera. – Ar: Brunera Sharkiyia. – Lf: Perennial herb, 30-60 cm. – Ft: March-May. – Mt Hermon: 1843 m, 33°26'24"N, 35°50'48"E. – Lebanon: Maaser, Jabal Kneise, Zahle, Faraya, Ehden, Qannoubine, Hasroun, Ariz, Jabal Sannine, Sir Al Danniye, Afqa, Ouadi El Harir, Baalbek, Dimane, Bkaa Kafra, Bcharre, Akkar, Ainata, Rachaya. – Hab: Rocky slopes, high mountain ranges, dry and shady places. – Use: Ornamental plant.

Onosma sericea Willd. – En: Silky Golden-drop. – Ar: Onosma Naaima. – Lf: Perennial herb, 40-60 cm. – Ft: May-June. – Mt Hermon: 1137 m, 33°30'05"N, 35°19'16"E. – Lebanon: Hasroun, Qannoubine, Dimane, Ehden, Jabal Niha, Qoub Elias, Ksara, Bcharre, Bqaa Kafra, Deir El Aachayer, Zahle, Kfar Zabad, Baalbek, Rachaya. – Hab: Grassy grounds, shady places, mountain rocks, low mountain ranges. – Uses: Medicinal plant used as a laxative and to treat bronchitis, wounds, snake bites, burns and urinary calculi.

Brassicaceae (Cruciferae)

Alyssum condensatum subsp. *flexibile* (Nyár.) T. R. Dudley – Syn: *A. flexible* Nyár., *A. venustum* Nyár. – En: Condensed Mad-wort. – Ar: El Wasan El Mondamej. – Lf: Annual herb, 5-15 cm. – Ft: May-August. – Mt Hermon: 1575 m, 33°27'21"N, 35°52'42"E. – Lebanon: Jabal El Knisse, Qozhaiya, Hasroun, Tannourine, Barouk, Jabal Sannine, Dahr El Kadib, Makmel, Markaa Ej Jamal, Qurnat as Sawda. – Hab: Quercus woodlands, dry and rocky slopes, roadsides. – Uses: None documented.

Arabis alpina L. – Syn: *A. alpina* subsp. *caucasica* (Willd.) Briq., *A. caucasica* Willd. – En: Caucasian Rockcress. – Ar: Arabi Kofkas. – Lf: Perennial plant, 15-35 cm. – Ft: April-July. – Mt Hermon: 1808 m, 33°26'41"N, 35°50'32"E. – Lebanon: Mdeyrej, Jabal El Knisse, Laqlouq, Maasser Al Chouf, Hasroun, Hadchit, Jabal Sannine, Tannourine, Aaqoura, Faraiya, Ariz, Yammoune, Ainata, Deir El Aachayer, Rachaya. – Hab: Calcareous rocks, high mountain ranges, dry and sunny places. – Uses: Edible plant (flowers and leaves).

Fibigia clypeata (L.) Medik. – Syn: *Fibigia rostrata* (Schenk) Boiss., *Fibigia obovata* Boiss., *Farsetia clypeata* (L.) W. T. Aiton – En: Shield Fibigia. – Ar: Hasheeshat El Kouna. – Lf: Perennial herb, 30-75 cm. – Ft: March-May. – Mt Hermon: 1182 m, 33°29'59"N, 35°49'52"E. – Lebanon: Qraiaa, Hasroun, Hadchit, Sannine, Hazerta, Baalbek, Rachaya. – Hab: Scrub, rocky slopes, gravelly non-calcareous soils, low mountain ranges. – Uses: Medicinal plant administered as a diuretic.

Sisymbrium officinale (L.) Scop. – Syn: *Chamaeplium officinale* (L.) Wallr. – En: Hedged mustard. – Ar: Sumara Tobeyia. – Lf: Annual plant, 5-90 cm. – Ft: Spring. – Mt Hermon: 1197 m, 33°29'47"N, 35°50'35"E. – Lebanon: Beirut, Batroun, Tripoli, Aabey, Harissa, Qannoubine, Akkar, Chtaura, Zahle, Hasbani. – Hab: fields, meadows, roadsides. – Uses: Medicinal plant used to soothe sore throat, laxative, diuretic and antiseptic.

Campanulaceae

Campanula rapunculus L. – En: Rampion. – Ar: Jays Sanabli. – Lf: Perennial herb, 40-80 cm. – Ft: April-May. – Mt Hermon: 1410 m, 33°29'14"N, 35°51'10"E. – Lebanon: Saida, Naher El Damour, Choueifat, Beirut, Beirut River, Nahr El Kalb, Ras Chekka, Tripoli, Raifoun, Harissa, Beit Meri, Mairouba, Hammana, Hadath, Hadchit, Zahle, Qalaat El Chekif, Rachaya. – Hab: Dry and sunny meadows, medium mountain ranges. – Uses: Raw or cooked fresh leaves and roots are edible. Plant distilled in water is useful as digestive stimulant, in diabetes, facial treatment and skin whitening.

Legousia falcata (Ten.) Janch. – Syn: *Prismatocarpus falcatus* Ten., *Specularia falcata* (Ten.) A. DC. – En: Legousie falciforme. – Ar: Lighuzyah Minjaliyyah. – Lf: Annual plant, about 30 cm. – Ft: April-May. – Mt Hermon: 1224 m, 33°29'08"N, 35°51'29"E. – Lebanon: Ras Damour, Baabda, Beirut, Antilias, Nahr El Kalb, Khalde, Beirut River, Ras Chekka, Tripoli, Ghazir, Aabey, Faitroun, Qrayye, Bikfayia, Qannoubine, Ehmej, Dahr Al Baidar, Afqa, Zahle, Rachaya. – Hab: Stony pastures, hill slopes, roadsides, low mountain ranges, sunny places. – Uses: Ornamental plant.

Legousia pentagonia (L.) Druce – Syn: *Campanula pentagonia* L., *Specularia pentagonia* (L.) A. DC. – En: Pentagonal legousia. – Ar: Lighouziya Khomasia. – Lf: Perennial herb, 30 cm. – Ft: April-June. – Mt Hermon: 2338 m, 33°25'36"N, 35°50'37"E. – Lebanon: Qadisha, Aabey, Maasser El Chouf, Tourzaiya, Ehden, Bcharre, Akoura, Sannine, Ain Zhalta, Niha, Marjayoun, Qoub Elias, Ammiq, Haouch Al Oumara, Bazoun, Hasroun, Yammoune, Chlifa, Zahle, Meksi, Baalbek, Rachaya. – Hab: Cultivated and abandoned lands, occasionally on open limestone hillsides at high altitudes. – Uses: None documented.

Capparaceae

Capparis sicula Veill. subsp. *sicula* – Syn: *C. spinosa* L. var. *canescens* Coss. – En: Common Caper, Caper Berries. – Ar: Kobar. – Lf: Shrub, 50-150 cm. – Ft: May-August. – Mt Hermon: 1197 m, 33°29'47"N, 35°50'35"E. – Lebanon: Saida, Beirut, Nahr El Kalb, Tripoli, Zahle, Hasbay; highly abundant at lower altitudes starting from 800 m but dispersed individuals observed at higher altitudes with 1197 m reported here being the uppermost occurrence in Lebanon so far. – Hab: Rocky places, cliffs and walls. – Uses: The flower buds are pickled in oil or vinegar and used as flavouring in sauces, salads. Decoction of barks and roots is taken orally as diuretic, astringent and to treat gout and rheumatism. Infusion of fruits and leaves is carminative and aphrodisiac. Decoction of flower buds is also taken for rheumatism while the infusion of fruits is used for sciatica and rheumatism.

Caprifoliaceae

Lonicera nummulariifolia Jaub. & Spach – En: Nummular-leaved honeysuckle. – Ar: Lunisirah naqdiyyah al waraq. – Lf: Shrub, 60-120 cm. – Ft: June-July. – Mt Hermon: 1508 m, 33°27'10"N, 35°50'28"E. – Lebanon: Ariz El Maasser, Jabal El Barouk, Ariz Ain Zhalta, Tannourine, Rahoue, Ariz, Qadisha, Ehden, Ainata, Yammoune, Rachaya, Hasbaya, Kfar Zabad. – Hab: rocky slopes, among rubble, sunny places. – Uses: Ornamental plant.

Caryophyllaceae

Dianthus strictus subsp. *multipunctatus* (Ser.) Greuter & Burdet – Syn: *D. multipunctatus* Ser., *D. polycladus* Boiss., *D. strictus* subsp. *polycladus* (Boiss.) Kollmann – En: Wild Pink. – Ar: Koronfol Moutaadid Al Boukaa. – Lf: Perennial herb, 15-80 cm. – Ft: May-July. – Mt Hermon: 1250 m, 33°28'54"N, 35°51'35"E. – Lebanon: Saida, Al Awali River, Beirut, Beirut River, Antilias, Mkalles, Nahr El Kalb, Jounieh, Tripoli, Broumana, Bikfayia, Qraiye, Hammana, Aabey, Mairouba, Ain Zhalta, Sawfar, Knisse, Ehmej, Ariz, Ehden, Dimane, Hasroun, Taanayel, Ksara, Kefraiya, Baalbek, Ouadi El Harir. – Hab: Grazing fields, dry and rocky slopes, sunny places. – Uses: Plant is used traditionally to treat teeth inflammations.

Minuartia juniperina (L.) Maire & Petitm. – Syn: *Alsine juniperina* (L.) Wahlenb. – En: Juniper Sanwort. – Ar: Minurieta Arareyya. – Lf: Annual plant, 3-12 cm. – Ft: May-July. – Mt Hermon: 2102 m, 33°25'34"N, 35°50'25"E. – Lebanon: Sannine, Hasroun, Bcharre, Ariz, Fom El Mizhab, Qurnat as Sawda, Sir Al Danniye, Rachaya. – Hab: Calcareous rocks, cervices, high mountain ranges. – Uses: Ornamental plant.

Silene aegyptiaca (L.) L. – Syn: *S. atocion* Jacq., *S. atocioides* Boiss., *Cucubalus aegyptiacus* L. – En: Enatchfly. – Ar: Shentan El Noreyyi. – Lf: Annual herb, 15-20 cm. – Ft: January-April. – Mt Hermon: 1140 m, 33°30'07"N, 35°49'41"E. – Lebanon: Faiyadiyah, Aley, Bcheale, Hasroun, Ebel Es Saqi, Rachaya. – Hab: Fields, roadsides, waste places. – Uses: Fumigation with seeds is used to cure sore throat.

Silene vulgaris (Moench) Garcke – Syn: *S. cucubalus* Wibel, *S. inflata* Sm., *S. latifolia* Poir., *Silene venosa* Asch. En: Common Campion. – Ar: Silinah Mabdhulah. – Lf: Perennial herb, 30-60 cm. – Ft: February-June. – Mt Hermon: 1220 m, 33°28'31"N, 35°51'10"E. – Lebanon: Saida, Beirut, Nahr El Kalb, Tripoli, Jounieh, Bikfaya, Aabey, Beit Meri, Asfouriyeh, Dahr Al Baidar, Berkacha, Ariz, Hasroun, Dimane, Sarada, Jisr El Khardali. – Hab: fields, pastures, low mountain ranges, sunny places. – Uses: Young shoots and leaves are edible raw or cooked.

Chenopodiaceae (Amaranthaceae s. l.)

Blitum virgatum L. – Syn: *Chenopodium virgatum* (L.) Ambrosi non Thunb., *Ch. foliosum* Asch., *Morocarpus foliosus* Moench; for generic concept see Fuentes-Bazan & al. (2012). – En: Leafy Goosefoot. – Ar: Rejl El Waz. – Lf: Annual herb, 50 cm. – Ft: May-July. – Mt Hermon: 2075 m, 33°25'58"N, 35°50'02"E. – Lebanon: Niha, Jabal El Barouk, Jabal El Knisse, Faraiya, Aayoun Al Simane, Bcharre, Ariz, Jabal Sannine, Jroud Hasroun, Qurnat as Sawda. – Hab: High mountain ranges, rocky slopes, sunny places. – Uses: Fruits are used fresh for dyspnoea.

Chenopodium vulvaria L. – En: Stinking Goosefoot. – Ar: Sarmak Krayye. – Lf: Annual plant, 1560 cm. – Ft: July-Sept. – Mt Hermon: 1213 m, 33°29'10"N, 35°51'26"E. – Lebanon: Saadiyat, Beirut, Tripoli, Qraiaa, Broumana, Aabey, Douma, Bcharre, Dimane, Zahle, Marjayoun, Baalbek. – Hab: Walls, roadsides, on plant debris and animal waste, grazed land, dry and bare soil. – Uses: Medicinal plant, aerial parts are used as analgesic, vermicide and in the treatment of abdominal pains, flatulence and diarrhea.

Noaea mucronata subsp. *humilis* (Boiss.) Danin & Raus – Syn: *Noaea spinosissima* (L. f.) Moq. var. *humilis* Boiss., *Noaea mucronata* (L. f.) Moq. var. *humilis* (Boiss.) Dinsm. –En: Dwarf Mucronate Noaea. – Ar: Shawk El Hanash Sagheer. – Lf: Dwarfshrub, 20-30cm. – Ft: July-August. – Mt Hermon: 2417 m, 33°25'57"N, 35°50'30"E. – Lebanon: Ariz, Bcharre, Jabal Sannine, Yammoune, Qurnat as Sawda, Ehden, Mt Hermon. – Hab: Rocky slopes, dry and sunny sites of high mountain ranges (for ecological and chorological details see Greuter & Raus 2012: 289). – Uses: None documented.

Clusiaceae (Guttiferae)

Hypericum libanoticum N. Robson – Syn: *H. helianthemoides* auct. non (Spach) Boiss., *H. hyssopifolium* auct. non Chaix, *Drosanthe helianthemoides* auct. non Spach – En: Lebanon Saint John'swort. – Ar: Dazii Lebnani. – Lf: Perennial herb, up to 60 cm. – Ft: May-August. – Mt Hermon: 1925 m, 33°26'17"N, 35°50'37"E. – Lebanon: Chouf, Jabal El Barouk, 1800 m above Ain Zhalta, Ariz, Jabal Sannine, Yammoune, Zahle, Ouadi El Arayech, Ouadi El Harir. Endemic to Lebanon and Syria. – Hab: Dry and gravel soil, among mountain rocks, high mountain ranges, sunny places. – Uses: Infusion of flowering parts is used as diuretic, vermifuge, astringent and vulnerary.

Hypericum triquetrifolium Turra – Syn: *Hypericum crispum* L., nom. illeg. – En: Tumble St. John's Wort. – Ar: Dazi Mosallas El Warak. – Lf: Perennial herb or subshrub, 20-30 cm. – Ft: May-Sept. – Mt Hermon: 1364 m, 33°28'29"N, 35°51'06"E. – Lebanon: Saida, Beirut, Antilias, Madfoun, Tripoli, Kahale, Ghosta, Zahle, Mt Hermon. – Hab: Dry scrub, rocky cliffs, roadsides, mountain pastures, open shrubby areas, low mountain ranges, sunny places. – Uses: Medicinal plant, flower infusion is orally used as a sedative, depurative, astringent and to relieve headache. Plant is recognized as toxic for livestock.

Convolvulaceae (incl. Cuscutaceae)

Convolvulus libanoticus Boiss. – En: Lebanon bindweed. – Ar: Lablab lubnani. – Lf: Perennial herb, 5-30 cm. – Ft: July-August. – Mt Hermon: 1321 m, 33°27'49"N, 35°51'12"E. – Lebanon: Knisse, Jabal El Barouk, Jabal Sannine, Hasroun, Dimane, Yammoune, Ariz, Tannourine, Hermon summit. Endemic to Lebanon and Syria. – Hab: roadsides, meadows, sunny places. – Uses: None documented.

Cuscuta balansae Yunck. – Syn: *C. globulosa* Boiss. & Reut. non Benth., *C. palaestina* subsp. *balansae* (Yunck.) Plitmann – En: Balansa's Dodder. – Ar: Kachout Balansa. – Lf: Parasitic herb. – Ft: June-August. – Mt Hermon: 1364 m, 33°28'29"N, 35°51'06"E. – Lebanon: Hasroun, Bcharre, Mar Semaane, Jabal Sannine, Jabal El Barouk, Dimane, Yammoune, Bouarij, Hazerta,

Jabal El Knisse, Baskinta, Afqa. – Hab: Parasitic on a great variety of herbaceous plants of fields and grassy grounds. – Uses: Decoction of plant is used as laxative and for jaundice.

Crassulaceae

Rosularia libanotica (Labill.) Muirhead – Syn: *Cotyledon libanotica* Labill., *Umbilicus libanoticus* (Labill.) DC. – En: Lebanon Navel-wort. – Ar: Wardeyyet Lebnan. – Lf: Perennial herb, 30-50 cm. – Ft: May-July. – Mt Hermon: 1432 m, 33°28'46"N, 35°50'36"E. – Lebanon: Ariz, Ouadi El Arayech, Jezzine, Ghazir, Jabal El Barouk, Ain Zhalta, Jabal El Knisse, Ehden, Hasroun, Arbet Qozhaiya, Makmel, Yanta. – Hab: Chasmophyte of calcareous cliffs, crevices and hedges, usually in shade, at medium and high altitudes. – Uses: decoction of aerial parts is used as diuretic and applied locally in the treatment of suppurative skin inflammation and carbuncles.

Sedum amplexicaule subsp. *tenuifolium* (Sm.) Greuter – Syn: *Sedum tenuifolium* (Sm.) Strobl, *Sempervivum tenuifolium* Sm. – En: Slender-leaved stonecrop. – Ar: Hayyoun Aasfar. – Lf: Perennial herb, 7-20 cm. – Ft: April-June. – Mt Hermon: 1200 m, 33°29'16"N, 35°51'08"E. – Lebanon: Bikfaya, Douma, Qraye, Machghara, Ain Hasroun, Hadath, Dimane, Ain Dahab, Ainata, Zahle, Hazerta, Zahle, Baalbek. – Hab: Rocky slopes, among debris and rocks, old walls. – Uses: None documented.

Umbilicus intermedius Boiss. – En: Common Penny-wort. – Ar: Asa El Raai. – Lf: Perennial herb, 20-60 cm. – Ft: March-June. – Mt Hermon: 1243 m, 33°28'40"N, 35°51'41"E. – Lebanon: Dammour, Beirut, Tripoli, Ghazir, Bikfayia, Jabal Terbol, Broumana, Kahale, Ehden. – Hab: Rockcrevices, cliffs and old walls, mountains, sunny and shady places. Uses: Fresh crushed leaves are used in the treatment of suppurative skin inflammation and carbuncles.

Cucurbitaceae

Bryonia multiflora Boiss. & Heldr. – Syn: *B. macrophylla* Boiss., *B. lasiocarpa* Mouterde – En: Many Flowered Bryony. – Ar: Inab Al Hayya. – Lf: Perennial herbaceous climber, tuberous geophyte, up to 4 m. – Ft: February-May. – Mt Hermon: 1290 m, 33°23'06"N, 35°51'18"E. – Lebanon: Saida, Beirut, Nahr El Kalb, Tripoli, Bikfayia, Aabey, Broumana, El Barouk, Raifoun, Chtaura, Taalabaya, Qoub Elias, Aitanit, Qraiaa, Beit Meri, Maalaaqa, Rachaya. – Hab: Scrubs, hedges, woodland margins, generally on calcareous soil. – Uses: Decoction of fresh roots is purgative and externally used in rheumatism and itching.

Ecballium elaterium (L.) A. Rich. – Syn: *Momordica elaterium* L. – En: Squirting Cucumber. – Ar: Faaous Al Himar, Khiyar Al Himar. – Lf: Perennial herb, tuberous, 15-60 cm. – Ft: April-December. – Mt Hermon: 1197 m, 33°29'47"N, 35°50'35"E. – Lebanon: Beirut, Tripoli, Broumana, Qraiye, Ksara. – Hab: Dry areas with rubble and stones, roadsides, abandoned lands, field margins. – Uses: The plant is toxic at very low doses. The fruit juice used as nose drops by nasal instillation for jaundice (once a day for one week). The root and fruit juice is locally used against rheumatism and edema.

Cupressaceae

Cupressus sempervirens L. – En: Graveyard Cypress, Pencil Pine. – Ar: Sharbeen, Sarow. – Lf: Evergreen tree, 12-22 m. – Ft: March-May. – Mt Hermon: 1200 m, 33°29'19"N, 35°51'04"E, naturalized. – Lebanon: Maghdouche, Deir Al Qamar, Aabey, Maamelteine, Ghazir, Jbail, Bcharre, Ehden. – Hab: Rocky slopes, gardens, several habitats, several mountain ranges. – Uses: Cones and wood are used as sedatives and cough expectorant. Essential oil is deodorant and antiseptic and in the treatment of acne and to relief footache and piles.

Dennstaedtiaceae

Pteridium aquilinum (L.) Kuhn – Syn: *Pteris aquilina* L. – En: Bracken, Eagle Fern, Northern Bracken Fern. – Ar: Khenshar El Okab. – Lf: Tall perennial herb, 30-300 cm. – Mt Hermon: 2057 m, 33°26'10"N, 35°50'21"E. – Lebanon: Dekwaneh, Arayia, Aabey, Bikfayia, Mrouj, Mairouba, Maghdouche, Faraiya, Qamouaa, Kobayat. – Hab: Mountain rocks, crevices, red clay soil, roadsides, forests, dry and warm places at medium and high altitudes. – Uses: The rhizomes of this fern are externally used as analgesic, but may cause dermatitis in sensitive individuals. The fronds and fiddle-necks can be toxic to cattle and horses.

Dipsacaceae

Cephalaria setosa Boiss. & Hohen. – En: Bristly Cephalaria. – Ar: Zwan Shaouki. – Lf: Annual herb, 30-60 cm. – Ft: June-July. – Mt Hermon: 1620 m, 33°26'49"N, 35°50'33"E. – Lebanon: Falougha, Saadnayel, Ammiq, Wadi Fouara-Jezzine, Ouadi El Harir. – Hab: Meadows, rockcrevices, roadsides, cultivated and abandoned lands, dry and sunny places. – Uses: Juice of fresh stems is applied locally as antihemorrhage and for wound healing.

Cephalaria stellipilis Boiss. – En: Starhaired Cephalaria. – Ar: Zwan Najme El Wabar. – Lf: Perennial herb, 20-80 cm. – Ft: July-October. – Mt Hermon: 1474 m, 33°25'45"N, 35°50'25"E. – Lebanon: Deir Al Qamar, Ain Zhalta, Jabal El Barouk, Yammoune, Ainata, Hammara. – Hab: Rocky slopes, gravel soil, dry and sunny places at medium altitudes. – Uses: None documented.

Lomelosia argentea (L.) Greuter & Burdet – Syn: *Scabiosa argentea* L., *S. ucranica* L. – En: Silvery Scabious. – Ar: Jarbeyya Fodeyya. – Lf: Biennial or perennial herb, 50-80 cm. – Ft: May-September. – Mt Hermon: 1300 m, 33°28'40"N, 35°51'41"E. – Lebanon: Tripoli, Beit Meri, Broumana, Bikfayia, Qraiye, Moukhtara, Laqlouq, Dimane, Hasroun, Ehmej, Bcharre, Jabal El Barouk, Qamouaa. – Hab: Rocky slopes, mountain pastures, fields, dry and sunny places. – Uses: None documented.

Lomelosia divaricata (Jacq.) Greuter & Burdet – Syn: *Scabiosa sicula* L. – En: Sicilian Scabious. – Ar: Jarbeyyet Sikleyia. – Lf: Annual plant, 10-30 cm. – Ft: March-April. – Mt Hermon: 1486 m, 33°27'29"N, 35°52'22"E. – Lebanon: Mar Roukoz, Ksara. – Hab: Dry and rocky slopes, mountain pastures, fields, medium mountain ranges, dry and sunny places. – Uses: Medicinal plant, aerial part is used as a diuretic and in the treatment of scabies and wounds healing.

Lomelosia palaestina (L.) Raf. – Syn: *Scabiosa palaestina* Boiss. – En: Palestine Scabious. – Ar: Jarbeyya Falastinyie. – Lf: Annual herb, 20-100 cm. – Ft: March-April. – Mt Hermon: 1250

m, 33°28'54"N, 35°51'35"E. – Lebanon: Tannourine, Bhamdoun, Deir El Harf, Ouadi El Harir, Deir El Ahmar, Qoubaiyat. – Hab: Open woodlands and scrub, dry and sunny places. – Uses: None documented.

Elaeagnaceae

Elaeagnus angustifolia L. – Syn: *E. hortensis* M. Bieb. – En: Narrow-leaved Oleaster. – Ar: Zayzafoun. – Lf: Tree, 3-5 m. – Ft: April-June. – Mt Hermon: 1197 m, 33°29'47"N, 35°50'35"E. – Lebanon: Beirut, Tripoli, Bekaa. – Hab: Hedges, old walls, humid soil, low mountain ranges, sunny places. – Uses: Medicinal plant used as antiinflammatory, antipyretic and in kidney disorder. Used also as insect repellent.

Euphorbiaceae

Chrozophora obliqua (Vahl) Spreng. – Syn: *Ch. hierosolymitana* Spreng., *Ch. verbascifolia* (Willd.) Spreng., *Croton verbascifolium* Willd., *C. obliquum* Vahl – En: Dyer's Croton Giradol, Turnsole. – Ar: Abad El Shams Lmakdasi. – Lf: Spreading herb, 15-20 cm. – Ft: May-October. – Mt Hermon: 1197 m, 33°29'47"N, 35°50'35"E. – Lebanon: Baalbek, Laboue. – Hab: Dry and rocky slopes, gravel soil, roadsides, sunny and ruderal places. – Uses: The juice of fresh leaves and the mixture of the fine powder of dried leaves and oil is used in the treatment of wounds and pimples.

Euphorbia chamaepeplus Boiss. & Gaill. – Syn: *Tithymalus chamaepeplus* (Boiss. & Gaill.) Soják – En: Dwarf Petty Spurge. – Ar: Forfoukh El Ard. – Lf: Semi-shrub, 10-50 cm. – Ft: March-April. – Mt Hermon: 1250 m, 33°28'54"N, 35°51'35"E. – Lebanon: Qaa. – Hab: Rocky slopes, mountain pastures, fields in low mountain ranges, dry and sunny places. – Uses: Medicinal plant, fruit is used as antiseptic and anthelmintic. Stem latex is applied on affected area with warts, herpes and dermatitis.

Euphorbia gaillardotii Boiss. & C. I. Blanche – Syn: *Tithymalus gaillardotii* (Boiss. & C. I. Blanche) Klotzsch & Garcke – En: Gaillardot's spurge. – Ar: Oum El Hobra. – Lf: Semi-shrub, glabrous, up to 60 cm. – Ft: June-Sept. – Mt Hermon: 1553 m, 33°27'21"N, 35°52'40"E. – Lebanon: Majdel Anjar, Baalbek, Ouadi El Harir, Rachaya. – Hab: Rocky slopes, mountain pastures, fields, dry and sunny places. – Uses: Medicinal plant, fruit is used as anthelmintic.

Euphorbia hierosolymitana Boiss. – Syn: *E. thamnoides* Boiss. – En: Woody Spurge. – Ar: Halabloub. – Lf: Perennial subshrub, 30-50 cm. – Ft: March-June. – Mt Hermon: 1292 m, 33°28'54"N, 35°51'35"E. – Lebanon: Khalde, Jounieh, Nahr El Kalb, Tripoli, Ghazir, Aintoura, Ghosta, Mkalles, Kahale, Raifoun, Taanayel, Yammoune. – Hab: Dry scrubs, rocky cliffs at medium altitudes, cultivated and abandoned lands, roadsides, sunny places. – Uses: Latex is externally used to stop bleeding.

Euphorbia macroclada Boiss. – Syn: *E. damascena* Boiss., *E. tinctoria* Boiss. & A. Huet – En: Largebranched Spurge. – Ar: Farbyoun Mashkouk. – Lf: Perennial herb, 30-60 cm. – Ft: April-August. – Mt Hermon: 1191 m, 33°28'55"N, 35°51'37"E. – Lebanon: Hasroun, Ariz, Ehden, Dimane, Jabal Sannine, Qurnat as Sawda, Zahle, Mreijat, Baalbek, Rachaya. – Hab: Scrubs, open shrubby places, roadsides, cultivated and abandoned lands, dry and sunny places. –

Uses: The stem sap (latex) is applied locally against warts. It is also used as ichthyotoxic and anaesthetic by fishermen.

Fabaceae (Leguminosae)

Astragalus angustifolius Lam. subsp. *angustifolius* – Syn: *Astragalus hermoneus* Boiss.; for taxonomy see Podlech & Zarre 2013: 2358). – En: Hermon Milk-vetch. – Ar: Kotad Haramon. – Lf: Shrub, 5-15 cm. – Ft: April-August. – Mt Hermon: 2306 m, 33°25'37"N, 35°50'32"E. – Lebanon: Jabal El Barouk, Sannine, Ariz, Marjhine, Jabal El Qamouaa, Marj, Mt Hermon. Endemic to Lebanon and Syria. – Hab: Rocks, crevices, roadsides, high mountain ranges, dry and warm places. – Uses: Ornamental and medicinal plant used as astringent.

Astragalus coluteoides Willd. – Syn: *A. damascenus* DC. non Boiss. & Gaill. (see Podlech & Zarre 2013) – En: Bladder Senna Milk Vetch. – Ar: Kitad Kansouri. – Lf: Dwarf shrub, 10-30 cm. – Ft: May-August. – Mt Hermon: 2060 m, 33°25'57"N, 35°50'30"E. – Lebanon: Maasser El Chouf Cedar Forest, Barouk, Hasroun, Berkacha, Ehden, Qurnat as Sawda, Makmel, Yammoune. Endemic to Lebanon and Syria. – Hab: Open and dry places, calcareous rocky slopes, high mountain ranges. – Uses: Decoction of roots taken orally to treat diabetes and jaundice.

Astragalus cruentiflorus Boiss. – Syn: *Astracantha cruentiflora* (Boiss.) Podlech – En: Redflowered Milk-vetch. – Ar: Kotad Ahmar. – Lf: Shrub, 10-30 cm. – Ft: June-August. – Mt Hermon: 1243 m, 33°28'40"N, 35°51'41"E. – Lebanon: Qamouaa, Ehden, Mt Hermon. Endemic to Lebanon and Syria. – Hab: Dry scrubs, among mountain rocks forming large colonies, open shrubby places, low mountain ranges, sunny places. – Uses: Medicinal plant, decoction of roots is orally used to treat diabetes and jaundice. Ornamental.

Astragalus oleaefolius DC. – Syn: *Astragalus deinacanthus* Boiss., *Astracantha deinacantha* (Boiss.) Podlech; for taxonomy see Podlech & Zarre 2013: 1388). – En: Dangerous-spined Milk-vetch. – Ar: Kotad Jareh. – Lf: Shrub, 30-50 cm. – Ft: June-Oct. – Mt Hermon: 2307 m, 33°25'39"N, 35°50'31"E. – Lebanon: Sawfar, Dahr Al Baidar, Chtaura, Ksara, Zahle, Hammara, Ouadi El Harir, Baalbek, Rachaya. – Hab: Rocky calcareous slopes, scrubs, hedges, woodland, field margins, roadsides, dry and sunny places. – Uses: Medicinal and ornamental plant, decoction of roots is orally used as emollient and to treat diabetes and jaundice.

Bituminaria bituminosa (L.) C. H. Stirt. – Syn: *Psoralea bituminosa* L., *Ps. palaestina* Gouan, *Asphaltium bituminosum* (L.) Medik. – En: Bitumen Pea, Pitch Trefoil. – Ar: Homan Homri. – Lf: Perennial herb, 30-60 cm. – Ft: April-July. – Mt Hermon: 1147 m, 33°30'07"N, 35°49'41"E. – Lebanon: Beirut, Hazmiyeh, Antilias, Tripoli, Aley, Moukhtara, Bcharre, Ksara, Taanayel, Zahle, Sarada. – Hab: Open shrubby areas, vineyards, pastures, meadows, sunny places. – Uses: Medicinal plant, leaves and fruits are used in the treatment of intestinal ailments and gastric ulcers.

Coronilla scorpioides (L.) W. D. J. Koch – En: Annual Scorpion-vetch. – Ar: Ekleel El Akrab. – Lf: Annual plant, 10-40 cm. – Ft: Feb-April. – Mt Hermon: 1201 m, 33°29'14"N, 35°51'10"E. – Lebanon: Beirut, Beirut River, Nahr El Kalb, Tripoli, Broumana, Aabey, Aintoura, Sarada, Sannine, Hasroun, Rayak, Zahle, Maalaqa, Rachaya. – Hab: Cultivated and abandoned lands, roadsides, open shrubby areas, dry and sunny places. – Uses: None documented.

Medicago sativa L. – En: Lucerne, Alfalfa. – Ar: Fossa Molawana. – Lf: Perennial herb, 30-80 cm. – Ft: All year. – Mt Hermon: 1426 m, 33°37'20"N, 35°50'37"E. – Lebanon: Tripoli, Bikfayia, Ariz, Hadath, Dimane, Zahle, Baalbek, Jabal El Knisse. – Hab: Roadsides, fields, clay soils, sunny places. – Uses: Medicinal plant, flowering aerial part is used as diuretic, anti-inflammatory, anti-hemorrhagic, anticholesteremic, and as a good source of phytoestrogen.

Ononis spinosa subsp. *leiosperma* (Boiss.) Širj. – Syn: *O. leiosperma* Boiss., *O. repens* subsp. *leiosperma* (Boiss.) Greuter – En: Spiny Restharrow. – Ar: Shobrok Shaaek. – Lf: Dwarf shrub, 30-50 cm. – Ft: April-August. – Mt Hermon: 1250 m, 33°28'54"N, 35°51'35"E. – Lebanon: Saida, Beirut, Bikfayia, Ghazir, Moukhtara, Dimane, Hasroun, Ariz, Zahle, Taanayel, Ouadi El Harir. – Hab: Dry and rocky slopes, roadsides, fields, sunny places. – Uses: Medicinal plant, decoction of flowering aerial parts is used as antiseptic in eczema and the treatment of kidney stones and other urinary tract disorders.

Ononis talaverae Devesa & G. López – Syn: *O. natrix* subsp. *natrix* sensu Förther & Podlech non L.; *O. natrix*, as given for Lebanon by Förther & Podlech (1991: 269), is in fact a W Mediterranean element confined to SW Europe (Devesa & López 1997). – En: Shrubby Rest Harrow. – Ar: Lezzayk, Shobrok Thobani. – Lf: Perennial subshrub, 50-100 cm. – Ft: March-December. – Mt Hermon: 1230 m, 33°29'42"N, 35°50'34"E. – Lebanon: Beirut, Tripoli, Aabey, Jamhour, Bikfayia, Ghazir, Sarada, Ehden, Qannoubine, Hadath, Ain Zhalta, Bcharre, Ksara, Masnaa. – Hab: Open and dry places, cultivated and abandoned lands. – Uses: or Decoction or infusion of flowering stems is externally applied as antiseptic for eczema and is orally used for kidney stones and disorders of the urinary tract. Root decoction used orally as diuretic.

Scorpiurus muricatus L. – Syn: *S. sulcatus* L., *S. subvillosus* L. – En: Furrowed Caterpillar. – Ar: Akrabeyyi. – Lf: Annual herb, 10-40 cm. – Ft: April-May. – Mt Hermon: 1140 m, 33°30'07"N, 35°49'41"E. – Lebanon: Saida, Beirut, Jamhour, Mkalles, Qoub Elias, Rayak, Ebel Es Saqi. – Hab: Meadows, fields, roadsides, abandoned lands, dry and sunny places. – Uses: Edible plant (raw in salads) and medicinally used for scorpion stings.

Trifolium pilulare Boiss. – En: Ball Cotton Clover. – Ar: Nefl Hebani. – Lf: Annual herb, 6-25 cm. – Ft: March-May. – Mt Hermon: 1191 m, 33°28'55"N, 35°51'37"E. – Lebanon: Beirut, Tripoli, Ehmej, Beit Meri, Bikfayia, Terbol, Broumana, Aabey, Raifoun, Mdeyrej, Dahr Al Baidar, Niha, Zahle, Wadi El Harir, Rachaya. – Hab: Grassy grounds, scrubs, cultivated and abandoned lands, dry open woodlands, roadsides. – Uses: Decoction of leaves is locally applied as vulnerary.

Trifolium purpureum Loisel. – Syn: *T. desvauxii* Boiss. & C. I. Blanche, *T. purpureum* var. *desvauxii* (Boiss. & C. I. Blanche) Post, *T. purpureum* var. *roussaeum* Holmboe non *T. roussaeum* Boiss. – En: Purple Clover. – Ar: Nefl Orjouani. – Lf: Annual herb, 20-50 cm. – Ft: March-June. – Mt Hermon: 1191 m, 33°28'55"N, 35°51'73"E. – Lebanon: Ras El Biyada, Tyr, Saida, Ras Jedra, Bir Hassan, Damour, Beirut, Antilias, Nahr El Kalb, Tripoli, Broumana, Baabda, Baskinta, Sfire, Mdeyrej, Baalbek, Ain Aata. – Hab: Grassy grounds, scrubs, cultivated and abandoned lands, dry open woodlands, roadsides. – Uses: Decoction of plant is locally used to treat rheumatism.

Trifolium tomentosum L. – Syn: *Trifolium curvisepalum* Täckh. – En: Tomentose Clover. – Ar: Nfel Mshaar. – Lf: Perennial herb, 10-40 cm. – Ft: Feb-May. – Mt Hermon: 1140 m, 33°30'07"N, 35°49'41"E. – Lebanon: Beirut, Beit Meri, Qartaba, Hasbaya, Aabey, Nahr El Damour, Bikfayia, Kfar Matta, Zahle, Tripoli, Rachaya. – Hab: Dry grassy habitats, abandoned lands, roadsides,

sunny places. – Uses: Medicinal plant, root decoction is diuretic and used against vomiting, fever and cough.

Vicia tenuifolia Roth – Syn: *Vicia cracca* subsp. *tenuifolia* (Roth) Bonnier & Layens, *Vicia boissieri* Freyn – En: Bramble vetch, Tare. – Ar: Baykeyya Dayyekat El Warak. – Lf: Perennial climbing herb, 1-2 m. – Ft: May-July. – Mt Hermon: 1220 m, 33°28'31"N, 35°51'10"E. – Lebanon: Ehden, Faraiya, Akkar, Ariz, Bcharre, Jabal Barouk, Sannine, Bhamdoun, Jabal El Knisse, Mt Hermon. – Hab: Cultivated lands, damp meadows, hedges, fields. – Uses: Melliferous, forage plant.

Fagaceae

Quercus coccifera L. – Syn: *Q. calliprinos* Webb, *Q. coccifera* var. *calliprinos* (Webb) Boiss. – En: Palestine Oak, Kermes Oak. – Ar: Ballout Sendian. – Lf: Evergreen tree, 2-20 m, trunk diameter up to 1 m. The habit whether shrubby ("coccifera"-type) or tree-like ("calliprinos"- type) is of no taxonomic value. – Ft: February-April. – Mt Hermon: 1766 m, 33°26'35"N, 35°50'44"E. – Lebanon: Beirut, Nahr Ibrahim, Madfoun, Nahr Abou Ali, Ain Trass, Jezzine, Aabey, Jamhour, Beit Meri, Bikfayia, Baabda, Qraiaa, Salima, Douma, above Maasser El Chouf Cedar Forest, Ghazir, Ehden, Wadi Qannoubine, Dimane, Hasroun, Hadchit, Ouadi El Harir, Ammiq, Deir El Ahmar. – Hab: Open rocky slopes in high mountain ranges, forming large colonies. – Uses: Decoction of bark is astringent and used to treat wounds and sores.

Geraniaceae

Geranium libanoticum Schenk – En: Lebanese Geranium. – Ar: Ghurnuqi Lubnani. – Lf: Perennial herb, tuberous geophyte, 20 cm. – Ft: April-May. – Mt Hermon: 1255 m, 33°29'08"N, 35°51'29"E. – Lebanon: Ariz, Faraiya, Maasser. – Hab: Rocky slopes, fields, red clay soil (terra rossa), sunny places. – Uses: None documented.

Geranium tuberosum L. – En: Bulbous crane's-bill, Tuberous Geranium. – Ar: Gharnook Askouli. – Lf : Perennial herb, tuberous geophyte, 10-40 cm. – Ft: March-June. – Mt Hermon: 1140 m, 33°30'07"N, 35°49'41"E. – Lebanon: Saida, Beirut, Nahr El Kaleb, Nahr Ibrahim, Tripoli, Asfouriyeh, Aabey, Chemlan, Jounieh, Hasroun, Ariz, Ehden, Ainata, Tanaayel, Zahle, Rayak, Akkar, Sarada. – Hab: Cultivated lands, roadsides, rocky slopes in the mountains. – Uses: Decoction of plant is externally used in the treatment of hemorrhoids.

Grossulariaceae

Ribes orientale Desf. – En: Oriental Currant. – Ar: Kishmish Sharqi. – Lf: Shrub, 50-100 cm. – Ft: May-June. – Mt Hermon: 1802 m, 33°26'31"N, 35°50'49"E. – Lebanon: Aaqoura, Yammoune, Ariz, Ariz El Hadath, Danniyeh, Mt Hermon. – Hab: Rocky slopes, high mountain ranges. – Uses: Edible plant, fruit is eaten raw or cooked and used as a purgative.

Iridaceae

Crocus aleppicus Baker – Syn: *C. hyemalis* var. *gaillardotii* Boiss. & C. I. Blanche, *C. gaillardotii* (Boiss. & C. I. Blanche) Maw – En: Aleppo Crocus. – Ar: Hanin, Zaafaran Halab. – Lf: Herbaceous geophyte, 4-8 cm. – Ft: November-January. – Mt Hermon: 1201m, 33°29'20"N, 35°51'00"E. – Lebanon: Bourj El Brajne, Beirut, Chekka, Zgharta, Tripoli, Ammiq, Kefraiya, Baalbek, Ouadi El Harir, Joub Jannine, Yanta and Rachaya. – Hab: Damp stony lands, among rocks, open shrubby areas, scrubs, roadsides. – Uses: Corms and soft seeds are edible raw or roasted. Flower stigmas are narcotic for asthma and cough.

Gladiolus atrovioleaceus Boiss. – Syn : *Gladiolus aleppicus* Boiss. – En: Aleppo Gladiolus. – Ar: Dalbouth Halab. – Lf: Perennial plant, bulbous, 30-100 cm. – Ft: March-May. – Mt Hermon: 1228 m, 33°28'44"N, 35°51'12"E. – Lebanon: Chtaura, Zahle, Masnaa, Sultane Yaaqoub, Hasbaya, Rachaya. – Hab: Cultivated land (particularly wheat fields), roadsides, hill slopes, dry and sunny places. – Uses: Medicinal and ornamental plant, decoction of roots is used to relieve stomachache. Ornamental.

Iris histrio Rchb. f. – Syn: *I. libani* Baker – En: Histrio Iris. – Ar: Sawsan Mowachah. – Lf: Herbaceous geophyte, 15-25 cm. – Ft: February-March. – Mt Hermon: 1677 m, 33°26'41"N, 35°50'32"E. – Lebanon: Saida, Ghazir, Sawfar, Bhamdoun, Mdeyrej, Dahr Al Baidar, Jounieh, Qadisha valley, Marjayoun, Ain Lejgi towards Ariz El Barouk, Jezzine, Zahle. – Hab: Among mountain rocks, damp places at medium altitudes. – Uses: Decoction of rhizomes is used as diuretic in hydropsy. Ornamental.

Ixioliriaceae

Ixiolirion tataricum (Pall.) Schult. & Schult. f. – Syn: *I. montanum* (Labill.) Schult. & Schult. f., *I. pallasii* Ledeb., *Amaryllis tatarica* Pall., *A. montana* Labill. – En: Siberian Lily, Lavender Mountain Lily. – Ar: Khouzama Al Jabal, Sawsan Al Jabal. – Lf: Perennial herb, 40-50 cm. – Ft: April-May. – Mt Hermon: 2040 m, 33°28'58"N, 35°50'35"E. – Lebanon: Bhamdoun, Maasser El Chouf, Jouar Bakich, Jezzine, Machgara, Akkar, Ehden, Tannourine, Hasroun, Ariz, Dahr Al Baidar, Jabal El Barouk, Zahle, Sannine, Rachaya. – Hab: Steep rocky slopes and cliffs in hills and mountains, sunny places. – Uses: Ornamental.

Lamiaceae (Labiatae)

Ajuga chamaepitys subsp. *palaestina* (Boiss.) Bornm. – Syn: *A. palaestina* Boiss., *A. chia* var. *suffrutescens* Boiss., *A. chia* var. *tridactylites* Boiss. non *A. tridactylites* Benth. – En: Three-fingered Bugle. – Ar: Messayki Falastinie. – Lf: Annual herb. – Ft: May-November. – Mt Hermon: 1267 m, 33°28'53"N, 35°51'47"E. – Lebanon: Akkar, Bhamdoun, Raifoun, Faraiya, Dahr Al Baidar, Berkacha, Qannoubine, Bekacha, Ariz, Hasroun, Jabal El Knisse, Ehden, Machghara, Hermel, Baalbek, Joub Jannine, Mt Hermon. – Hab: Rock-crevices, gravel soil, rubble by roadsides, woodlands, barren, sunny places. – Uses: Dried powdered plant or its infusion is taken after meals in diabetes and infusion of aerial parts is used as antidiarrheic.

Ajuga orientalis L. – En: Oriental Bugle. – Ar: Orsof Sharki. – Lf: Perennial plant, non-woody, 3050 cm. – Ft: April-June. – Mt Hermon: 1201 m, 33°28'40"N, 35°51'12"E. – Lebanon: Batroun,

Ras Chekka, Tripoli, Saida, Deir Al Qamar, Ghazir, Aramoun, Jezzine, Ghosta, Ras El Metn, Machgara, Mdeyrej, Chtaura, Qoub Elias, Zahle, Taanayel, Rachaya, Ramiye, Baalbek. – Hab: Roadsides, growing through cracks in concrete, gardens, fields. – Uses: Medicinal plant, decoction of aerial parts is used in the treatment of diabetes, gastritis, diarrhea, ulcer, and stomachache.

Ballota saxatilis C. Presl – Syn: *B. rugosa* (Desf.) Benth., *B. rugosa* (Banks & Solander) Dinsm. – En: Rock Horehound. – Ar: Asfan. – Lf: Perennial herb, 20-60 cm. – Ft: May-September. – Mt Hermon: 2072 m, 33°25'58"N, 35°50'20"E. – Lebanon: Saida, Beirut, Antilias, Chekka, Tripoli, Terbol, Douma, Ghazir, Machghara, Hasroun, Barouk, Zahle, Rachaya and Hasbaya. – Hab: Open shrubby areas, rocky slopes, low and middle mountain ranges, roadsides, dry and sunny places. – Uses: Infusion of flowering top is used as antispasmodic and vermifuge.

Lamium amplexicaule L. – En: Henbit Deadnettle, Greater Henbit. – Ar: Ras El Her. – Lf: Annual herb, 10-30 cm. – Ft: Nearly all year. – Mt Hermon: 1159 m, 33°30'06"N, 35°49'52"E. – Lebanon: Saida, Beirut, Tripoli, Qraiaa, Qoubaiyat, Hasroun, Zahle, Ain Zhalta, Barouk, Sarada. – Hab: Cultivated and abandoned lands, vineyards, olive groves, meadows, low mountain ranges, sunny places. – Uses: Melliferous.

Marrubium globosum subsp. *libanoticum* (Boiss.) P. H. Davis – Syn: *M. hermonis* Boiss., *M. libanoticum* Boiss. var. *hermonis* (Boiss.) Boiss. – En: Lebanon White Horehound. – Ar: Al Ghabra, Frasyoun Lebnan. – Lf: Perennial subshrub, 15-40 cm. – Ft: June-October. – Mt Hermon: 2345 m, 33°25'35"N, 35°50'40"E. – Lebanon: Jabal Sannine, Ehmej, Ariz, Qornat as Sawda. – Hab: Rocky slopes, stony and grassy grounds, calcareous soil, roadsides, medium and high mountain ranges. – Uses: Infusion of leaves is orally used in the treatment of jaundices, fever and stomachache.

Mentha spicata subsp. *condensata* (Briq.) Greuter & Burdet – Syn: *M. sylvestris* L. var. *stenostachya* Boiss., *M. canescens* Sieber non Roth, *M. sieberi* K. Koch, *M. microphylla* K. Koch – En: Spearmint, Spear Mint. – Ar: Naanaa Barri. – Lf: Perennial herb, aromatic, 50-100 cm. – Ft: June-December. – Mt Hermon: 2417 m, 33°25'35"N, 35°50'40"E. – Lebanon: Tyre, Beirut, Antelias, Nahr El Kalb, Nahr Ibrahim, Tripoli, Aabey, Raifoun, Kahale, Hasroun, Knisse, Qamoua, Akoura, Tannourine, Ehden, Ariz, Niha, Zahle, Chtaura, Taanayel, Nabee El Asal, Yammoune, Mt Hermon. – Hab: Rocky slopes, damp habitats, streams, ditches, cultivated lands, high mountain ranges, sunny places. – Uses: Infusion of leaves and flowering summits is used as carminative, stomachic and for abdominal pains. Leaves infusion is taken as tea against headache and colds.

Micromeria myrtifolia Boiss. & Hohen. – Syn: *M. juliana* var. *myrtifolia* (Boiss. & Hohen.) Nyman, *Satureja myrtifolia* (Boiss. & Hohen.) Greuter & Burdet – En: Myrtle-leaved Savory. – Ar: Zoufa. – Lf: Dwarf perennial subshrub, 20-60 cm. – Ft: April-September. – Mt Hermon: 1191 m, 33°28'55"N, 35°51'37"E. – Lebanon: Saida, Beirut, Tripoli, Nahr El Kalb, Kahale, Aabey, Douma, Deir Al Qamar, Bzemmar, Bhamdoun, Aachqout, Raifoun, Broumana, Rachaya, Deir El Ahmar, Jdita, Yammoune. – Hab: Rocky hillslopes, scrubs, open pine forests, calcareous plateaus, low mountain ranges, sunny places. – Uses: Infusion of aerial parts is used as febrifuge and to relieve colds and coughs.

Moluccella laevis L. – En: Bells of Ireland. – Ar: Ajras Bayt Lahm. – Lf: Annual plant, 50-100 cm. – Ft: June-July. – Mt Hermon: 1195 m, 33°29'54"N, 35°49'49"E. – Lebanon: Bhamdoun, Sawfar,

Hermel, Mchaitie, Taanayel, Haouch Al Oumara, Joub Jannine, Zahle, Ouadi El Harir, Rachaya. – Hab: Fields, sunny places. – Uses: Ornamental plant.

Nepeta cilicica Benth. – En: Cilician Catmint. – Ar: Kotrum kilikia. – Lf: Annual herb, aromatic, 30-80 cm. – Ft: June-September. – Mt Hermon: 2033 m, 33°25'58"N, 35°50'35"E. – Lebanon: Ain Zhalta, Maasser El Chouf, Arz El Barouk, Knisse, Sannine, Yammoune, Bcharre, Ehden, Qurnat as Sawda, Rachaya. – Hab: Dry gravel soil, among rocks in high mountain ranges, sunny places. – Uses: Infusion of the aerial part is traditionally used as carminative and in the treatment of nervous disorders. Oils of aerial parts and seeds are used in the treatment of rheumatism. Flowers and seeds are used as antiseptic and antispasmodic and in the treatment of cold, toothache and dysentery.

Nepeta curviflora Boiss. – En: Syrian catmint. – Ar: Qatram muqawwas al zahr. – Lf: Perennial herb. – Ft: April-July. – Mt Hermon: 1195 m, 33°29'54"N, 35°49'49"E. – Lebanon: Saida, Rmeile, Antilias, Qalmoun, Tripoli, Araya, Annaya, Ghazir, Ghosta, Ghine, Tourzaya, Mairouba, Majdel Balhis, Deir El Qamar, Mdeyrej, Ehden, Ain Zhalta, Chtaura, Ksara. – Hab: Dry rocky places, calcareous screes, roadside banks. – Uses: Condiment and medicinal plant used to cure digestive disorders and respiratory diseases.

Nepeta glomerata Benth. – En: Glomerate Catmint. – Ar: Kotrum Moutajamme. – Lf: Perennial herb, 10-50 cm. – Ft: June-September. – Mt Hermon: 2400 m, 33°25'33"N, 35°50'48"E. – Lebanon: Sannine, Makmel, Ariz, Qurnat as Sawda, Ainata, Mt Hermon. – Hab: Dry gravel soil, among rocks in high mountain ranges, sunny places. – Uses: Infusion of the aerial part is traditionally used as carminative and in the treatment of nervous disorders. Seed oils is locally applied in the treatment of rheumatism and infusion of aerial parts is orally taken against dysentery.

Nepeta italica L. subsp. *italica* – Syn: *Glechoma italica* (L.) Kuntze – En: White-covered Catmint. – Ar: Kotrom Abyad. – Lf: Perennial herb, 10-40 cm. – Ft: May-August. – Mt Hermon: 1243 m, 33°28'40"N, 35°51'41"E., 1481 m, 33°28'41"N, 35°50'27"E. – Lebanon: Jebaa, Laqlouq, Maasser El Chouf, Aaqoura, Bhamdoun, Jezzine, Ain Zhalta, Mairouba, Tartij, Faraiya, Barouk, Ouadi El Harir, Mdeyrej, Jabal El Knisse, Afqa, Sannine, Ariz, Ehden, Bcharre, Hadath, Hadchit, Jabal El Qamouaa, Yammoune, Deir El Ahmar, Ain Hazir, Ainata, Baalbek, Nabi Chite, Yanta, Rachaya. – Hab: Rocky slopes, red soil, medium mountain ranges, limestone gravel soil, sunny places. – Uses: Infusion of the aerial part is orally used as carminative and in the treatment of nervous disorders. Oils of aerial parts and seeds are used for treatment of rheumatism. Flowers are edible and melliferous.

Phlomis brevilabris Boiss. – En: Short-lipped Phlomis. – Ar: Odaynat Meeza. – Lf: Perennial subshrub, 20-60 cm. – Ft: May-August. – Mt Hermon: 1843 m, 33°26'24"N, 35°55'44"E. – Lebanon: Jabal El Barouk, Ariz, Ain Zhalta, Jabal El Knisse, Sannine, Jisr Al Hajar, Akoura, Dimane, Saghbine, Ehden, Hermel, Hasroun, Chebaa. Endemic to Lebanon and Syria. – Hab: Calcareous rocky plateaus, medium and high mountain ranges. – Uses: None documented.

Phlomis chrysophylla Boiss. – En: Golden-leaved Phlomis. – Ar: Odaina Dahabiyya. – Lf: Perennial subshrub, 30-100 cm. – Ft: May-August. – Mt Hermon: 1325 m, 33°28'27"N, 35°50'3'9"E. – Lebanon: Ain Zhalta, Mdeyrej, Jabal El Knisse, Faraiya, Afqa, Jabal Qamoua, Douma, Ehden, Hasroun, Bcharre, Ariz, Ainata, Qalaat El Chekif, Hasbaya. – Hab: Calcareous rocky plateaus, medium and high mountain ranges. – Uses: Infusion of flowering parts is orally taken to treat cough.

Salvia indica L. – Syn: *S. brachycalyx* Boiss. – En: Blue Sage. – Ar: Kaseen Hindi, Mayramyie Zarkaa. – Lf: Annual herb, 80-150 cm. – Ft: April-July. – Mt Hermon: 1283 m, 33°28'26"N, 35°50'49"E. – Lebanon: Dahr Al Baidar, Jabal El Knisse, Zahle, Kefraiya. – Hab: Dry gravel soil, among mountain rocks, low mountain ranges, sunny places. – Uses: Infusion of leaves is used in the treatment of rheumatic pains, and colds.

Salvia microstegia Boiss. & Balansa – Syn: *S. verbascifolia* M. Bieb. var. *cana* Boiss. – En: Fleecy Sage. – Ar: Kouaisa Saghira. – Lf: Perennial herb or subshrub, 40-100 cm. – Ft: June-September. – Mt Hermon: 1602 m, 33°27'20"N, 35°52'45"E. – Lebanon: Jabal El Barouk, Sawfar, Knisse, Sannine, Hasroun, Bcharre, Ariz, Ehden, Mt Hermon. – Hab: Dry gravel soil, among mountain rocks, medium mountain ranges, sunny places. – Uses: Infusion of leaves and summits is used as antiseptic, sudorific, antispasmodic and to relieve cold.

Salvia multicaulis Vahl – En: Pinard's Sage. – Ar: Saq Al Arus. – Lf: Perennial herb, 30-50 cm. – Ft: April-June. – Mt Hermon: 1224 m, 33°29'08"N, 35°51'29"E. – Lebanon: Zahle, Ouadi El Harir. – Hab: fields, roadsides. – Uses: Medicinal plant used as anti inflammatory, analgesic and treatment of stomach disturbances. Used also as condiment for tea.

Salvia rubifolia Boiss. – En: Bramble-leaved Sage. – Ar: Kouaisa Olaykiat Al Warak. – Lf: Herbaceous herb, viscid. – Ft: May. – Mt Hermon: 1405 m, 33°27'42"N, 35°50'35"E. – Lebanon: Ainata, Kefraiya, Aitanit, Ouadi El Harir, Masnaa, Ouadi Yahfoufa, Rachaya. Endemic to Lebanon and Syria. – Hab: Dry gravel soil, among mountain rocks, medium mountain ranges, sunny places. – Uses: Infusion of leaves and young shoots is orally used for cough, influenza, cold and locally as vulnerary.

Scutellaria utriculata Labill. – En: Bladder Skullcap. – Ar: Harboon Korbi. – Lf: Perennial herb, 15-30 cm. – Ft: June-Nov. – Mt Hermon: 1357 m, 33°27'44"N, 35°51'03"E. – Lebanon: Nahr Ibrahim, Amchit, Bhamdoun, Ain Zhalta, Ehden, Danniyeh, Hadath, Tannourine, Jabal El Barouk, Jabal El Knisse, Ain Hazir, Ariz, Ouadi El Arayech, Ainata, Mreijat, Zahle, Yanta, Baalbek, Mt Hermon area. Endemic to Lebanon and Syria. – Hab: Scrubs, open shrubby areas, calcareous cliffs, crevices, hedges, medium mountain ranges, rocky and sunny places. – Uses: Medicinal plant, infusion of aerial parts is used as diuretic and sedative for neurological disorders and the treatment of digestion problems. Ornamental.

Sideritis libanotica Labill. – En: Lebanon Iron-wort. – Ar: Fokkah Lebani. – Lf: Perennial herb. – Ft: July-August. – Mt Hermon 1843 m, 33°26'24"N, 35°55'44"E. – Lebanon: Jabal El Barouk, Sawfar, Jabal El Knisse, Hadath, Akoura, Jabal Sannine, Dimene, Yammoune, Hasroun, Ariz. – Hab: Stony and rocky slopes, scrubs, cultivated and abandoned lands, dry and sunny places. – Uses: None documented.

Stachys libanotica Benth. – En: Lebanon Wound-wort. – Ar: Kartoum Lebani. – Lf: Perennial herb, 50-100 cm. – Ft: May-July. – Mt Hermon: 1292 m, 33°28'54"N, 35°51'35"E. – Lebanon: Jabal Niha, Jabal El Knisse, Jabal Sannine, Tannourine, Hazerta, Ouadi El Harir, Rachaya. – Hab: Scrubs, red gravel soil, low and medium mountain ranges, dry and sunny places. – Uses: Infusion of entire plant is used as anticatarrhal while roots are purgative.

Teucrium capitatum L. subsp. *capitatum* – Syn: *T. polium* auct. non L., *T. virescens* auct. non Pomel, *T. polium* subsp. *album* (Garsault) Breistr. – En: Felty Germander, Poley. – Ar: Jaade Tobeyeh. – Lf: Perennial subshrub, 50-80 cm. – Ft: May-September. – Mt Hermon: 1447 m, 33°27'21"N, 35°51'46"E. – Lebanon: Beirut, Maameltein, Saida, Jamhour, Kahale, Ghemlan,

Zahrani, Saidit El Mantara, Bikfayia, Akoura, Jabal El Knisse, Jabal El Barouk, Zahle, Ain Zhalta, Dahr Al Baidar, Mar Semaane, Qaraoun, North of Qaa, Rachaya. – Hab: Scrubs, mountain slopes, from sealevel to the high summits of Lebanon. – Uses: Widely used as sedative and antidiabetic.

Teucrium orientale L. subsp. *orientale* – Syn: *T. nivale* Boiss. – En: Oriental Germander, Greatflowered Germander. – Ar: Jaada Sharkiyya. – Lf: Perennial subshrub, 20-150 cm. – Ft: May-July. – Mt Hermon: 1843 m, 33°26'24"N, 35°55'44"E. – Lebanon: Ehden, Hasroun, Laqlouq, Jabal El Knisse, Ariz, Douma, Aaqoura, Qaa El Rim, Mt Hermon. – Hab: Dry rocky slopes, abandoned lands, high mountain ranges. – Uses: Infusion of aerial parts is used as astringent, vulnerary and febrifuge.

Teucrium pruinosum Boiss. – En: Pruinose Germander. – Ar: Maleeh. – Lf: Perennial subshrub, 3050 cm. – Ft: May-July. – Mt Hermon: 2150 m, 33°25'42"N, 35°50'17"E. – Lebanon: Baalbek, Hermel. – Hab: Rocky slopes at high altitudes in sub-arid regions, roadsides. – Uses: Hot infusion is used as vulnerary and for stomach and intestinal disorders. Plant is used in a steam bath to relieve colds and fevers.

Ziziphora clinopodioides Lam. subsp. *clinopodioides* – Syn: *Z. canescens* Benth., *Z. clinopodioides* var. *canescens* (Benth.) Boiss. – En: Hoary Ziziphora. – Ar: Innabiya Baydaa. – Lf: Annual herb, 1040 cm. – Ft: June-August. – Mt Hermon: 1843 m, 33°26'24"N, 35°50'48"E. – Lebanon: Jabal El Barouk, Jabal El Knisse, Jabal Sannine, Dimane, Bcharre, Ariz, Makmel, Qurnat as Sawda. – Hab: Mountain rocks, calcareous plateaus, rocky hillslopes at high altitudes, sunny places. – Uses: Infusion of aerial parts is internally used to treat colds, coughs, stomachache and relieve pains.

Liliaceae (s. str.)

Gagea fragifera Ehr. Bayer & G. López – Syn: *G. anisanthos* K. Koch, *G. liotardii* (Sternb.) Schult. & Schult. f. – En: Unequal Flowered Gagea. – Ar: Ghajjiya Moutabaynat Al Zahr. – Lf: Perennial herb, bulbous geophyte, 10-20 cm. – Ft: April-June. – Mt Hermon: 1157 m, 33°30'05"N, 35°49'49"E. – Lebanon: Jabal El Barouk, Jabal El Knisse, Laqlouq, Jabal Sannine, Tannourine, Hasroun, Ariz. – Hab: Dry hillslopes and stony places, scrub, grassy grounds. – Uses: None documented.

Linaceae

Linum pubescens Banks & Sol. – En: Downy Flax, Pink Flax. – Ar: Kottan Aazghab. – Lf: Annual herb, 30-80 cm. – Ft: March-May. – Mt Hermon: 1147 m, 33°30'07"N, 35°49'41"E. – Lebanon: Tyre, Aadloun, Saida, Beirut, Ras Chekka, Tripoli, Akkar, Maghdouche, Aabey, Maasser, Jamhour, Bsous, Choueifat, Terbol, Deir Al Qamar, Raifoun, Mreijat, Akkar, Zahle, Mt Hermon area. – Hab: Rocky slopes, calcareous cliffs, roadsides, forest margins. – Uses: Medicinal plant, decoction of aerial parts and flowers are used in the treatment of diabetes, cancer, for weight loss and to relieve headache.

Loranthaceae

Viscum album L. subsp. *album* – En: White Mistletoe. – Ar: Hadal Aabyad. – Lf: Shrub, woody at the base, 20-60 cm. – Ft: March-April. – Mt Hermon: 1481 m, 33°28'41"N, 35°50'27"E. – Lebanon: Yammoune, Marj, Ammiq, Baalbeck, abundant in Rachaya. – Hab: Parasitic on fruit trees of Rosaceae. – Uses: Medicinal plant used for respiratory disorders.

Malvaceae

Alcea acaulis (Cav.) Alef. subsp. *acaulis* – Syn: *Althaea acaulis* Cav. – En: Stemless Hollyhock. – Ar: Khtmyia Doun Sak. – Lf: Perennial herb, 5-10 cm. – Ft: April-May. – Mt Hermon: 1200 m, 33°29'16"N, 35°51'08"E. – Lebanon: Tripoli, Jabal Terbol, Ehden, Ariz, Decline of Makmel, Saadnayel, Baalbek, Chlifa, Hasbaya. – Hab: Sub-mountain and lowland zones on arable land, roadsides and hedges. – Uses: Infusion or decoction of flowers is used as emollient to treat chronic cough, bronchial and throat catarrh.

Alcea damascena (Mouterde) Mouterde – Syn: *Althaea damascena* Mouterde – En: Damascus Hollyhock. – Ar: Khtmyia Demashk. – Lf: Perennial herb, up to above 3 m. – Ft: May-Sept. – Mt Hermon: 1142 m, 33°30'07"N, 35°49'41"E. – Lebanon: Fouara, Baalbek, Ras Baalbek, Baalbek. Endemic to Lebanon and Syria. – Hab: Dry scrubs, roadsides, rocky cliffs, sunny places. – Uses: Medicinal plant, decoction of flowers is used as emollient (mucilage), diuretic, analgesic, antitussive, anti-inflammatory and in the treatment of cold and flu.

Oleaceae

Jasminum fruticans L. – Syn: *J. syriacum* Boiss. & Gaill. – En: Bush Jasmine. – Ar: Yasmeen Barri. – Lf: Evergreen shrub, 50-150 cm. – Ft: March-May. – Mt Hermon: 1191 m, 33°28'55"N, 35°51'37"E. – Lebanon: Beirut, Antilias, Douma, Deir El Ahmar, Qraiaa, Nabi Chit, Saraain, Hazerta, Ouadi El Harir, Rachaya. – Hab: Rocky soil. – Uses: Decoction of stems is traditionally used as anthelmintic. Infusion of flowers is used in the form of inhalations for 10 min 3 times a day against allergy and asthenia.

Onagraceae

Epilobium hirsutum L. – En: Hirsute Willow-herb. – Ar: Okays. – Lf: Annual plant, 1 m. – Ft: June-August. – Mt Hermon: 853 m, 35°28'50"N, 35°47'38"E. – Lebanon: Saida, Nahr El Kalb, Qraiaa, Salima, Ghazir, Bikfayia, Broumana, Moukhtara, Tannourine, Mazraat Kfar Dibian, Dimane, Hasroun, Bcharre, Jabal Qamouaa, Taanayel, Zahle, Ksara, Bar Elias. – Hab: Banks of streams, fields, open shrubby areas, roadsides, low mountain ranges, damp and sunny places. – Uses: Edible plant and medicinal plant. Decoction of leaves is administered in gastritis, stomach disease, ulceration, inflammation, prostate tumors, rectal bleeding, constipation, menstrual and gastrointestinal disorders.

Orchidaceae

Himantoglossum affine (Boiss.) Schltr. – Syn: *Aceras affine* Boiss., *Himantoglossum hircinum* subsp. *affine* (Boiss.) H. Sund., *Himantoglossum hircinum* var. *affine* (Boiss.) J. J. Wood, *Loroglossum affine* (Boiss.) E. G. Camus & Bergon – En: Related Lizard Orchid. – Ar: *Himantoglossom* Al Tays. – Lf: Geophytic herb, 40 cm. – Ft: May-June. – Mt Hermon: 1163 m, 33°29'20"N, 35°51'03"E. – Lebanon: Maasser El Chouf, Khraibe, Beirut. – Hab: Dry and stony hillslopes, half-shady places in sparse deciduous or pine woodland. – Uses: Ornamental plant.

Orchis anatolica Boiss. – En: Anatolian Orchid. – Ar: Orkid Al Anadol. – Lf: Perennial herb, tuberous geophyte 15-40 cm. – Ft: March-April. – Mt Hermon: 1168 m, 33°30'06"N, 35°49'52"E. – Lebanon: Beirut, Nahr El Kalb, Aabey, Beit Meri, Ghazir, Bikfayia, Souk El Ghareb, Broumana, Jezzine, Machghara, Ehden, Hasroun, Hadath, Ehden, Zahle, Rachaya. – Hab: Grassy and rocky grounds, scrubs, hillslopes. – Uses: Powdered tuber "Salep" (Sahlab) mixed with hot milk is taken to increase potency.

Papaveraceae (incl. Fumariaceae)

Fumaria asepalata Boiss. – En: White Fumitory. – Ar: Shahatrej Abyad. – Lf: Annual, spreading herb, 10-60 cm. – Ft: March-June. – Mt Hermon: 1140 m, 33°30'07"N, 35°49'41"E. – Lebanon: Hadath, Bcharre, Hasroun, Ariz, Yammoune, Baalbek, Rachaya. – Hab: Stony and rocky slopes, cultivated and abandoned lands, low mountain ranges, sunny places. – Uses: Decoction of flowering tops is orally used as laxative and externally applied as antipruriginous and astringent to cure dermatitis, eczema and scabies.

Glaucium oxyleobum Boiss. & Buhse – Syn: *G. leiocarpum* Boiss. – En: Mountain Horned-poppy. – Ar: Mamita Malsaa Al Thamar. – Lf: Annual herb, 30-40 cm. – Ft: April-August. – Mt Hermon: 2222 m, 33°25'44"N, 35°50'25"E. – Lebanon: Jabal El Barouk, Jabal El Knisse, Faraiya, Ariz, Baalbek, Zahle, Foum El Mizhab, Ouadi El Arayech. – Hab: Calcareous rocky soil mainly in high mountain ranges, sunny places. – Uses: Decoction of aerial parts is used to treat menstrual problems.

Papaver libanoticum Boiss. – En: Red Poppy, Field Poppy. – Ar: Khoshkhash Lebnan. – Lf: Annual herb, 15-30 cm. – Ft: May-July. – Mt Hermon: 1232 m, 33°18'40"N, 35°51'12"E. – Lebanon: Jabal Sannine, Makmel, Ariz, Dahr Al Baidar, Qurnat as Sawda. Endemic to Lebanon and Syria. – Hab: Pastures, red gravel soil, low mountain ranges, sunny places. – Uses: Infusion of petals is used as emollient, expectorant, sudorific and sedative, for coughs, and the infusion of fruit capsules is given to babies as soporific.

Papaver minus (Bél.) Meikle – Syn: *P. belangeri* Boiss., *P. argemone* subsp. *belangeri* Takht., *P. argemone* subsp. *minus* (Bél.) Kadereit – En: Long Pricklyhead Melic Poppy, Pale Poppy. – Ar: Khoshkhash Arghemon. – Lf: Annual herb, 10-30 cm. – Ft: March-May. – Mt Hermon: 1250 m, 33°28'54"N, 35°51'35"E. – Lebanon: Bikfayia, Ain Zhalta, Afqa, Yammoune, Rayak, Ouadi El Harir. – Hab: Fields, woodlands, roadsides, gravel soil, sunny places. – Uses: None documented.

Papaver umbonatum Boiss. – Syn: *Papaver syriacum* Boiss. & C. I. Blanche – En: Long-headed Poppy, Blindeyes. – Ar: Khoshkhash Mhayyar Aamlas. – Lf: Annual plant, 20-80 cm. – Ft: March-July. – Mt Hermon: 1292 m, 33°28'54"N, 35°51'35"E. Lebanon: Tyre, Beirut, Nahr El Kalb,

Hammana, Tannourine, Ariz, Ehmej, Jabal El Barouk. – Hab: Meadows, fields, open shrubby areas, cultivated areas, roadsides, sunny places. – Uses: Medicinal plant, decoction of fruits is used to treat measles in children.

Pinaceae

Cedrus libani A. Rich. – Syn: *C. libanensis* Juss., *C. libanotica* Link, *Pinus cedrus* L. – En: Cedar of Lebanon. – Ar: Ariz Lebnani. – Lf: Evergreen coniferous tree, up to 40 m. – Ft: September-November. – Mt Hermon: 1243 m, 33°28'40"N, 35°51'41"E, naturalized. – Lebanon: Jabal Niha, Above Maaser El Shouf, Barouk, Ain Zhalta, Jabal El Jaj, Tannourine, Hadath, Bcharre, Ehden. – Hab: Mountain rocks, calcareous plateaus. – Uses: Powdered bark is externally applied to wounds as astringent.

Plumbaginaceae

Acantholimon antilibanoticum Mouterde – En: Anti-Lebanon Prickly-thrift. – Ar: Ghamloul Al Sharkya. – Lf: Dwarf shrub, thorny cushion, 10-15 cm. – Ft: August-September. – Mt Hermon: 1843 m, 33°26'24"N, 35°50'48"E. – Lebanon: Raifoun, Wadi Ibriza, Jabal El Homr, Marjhine, Tannourine. Endemic to Lebanon and Syria. – Hab: Mountain rocks, calcareous plateaus, red clay soil (Terra rossa) at medium and high altitudes. – Uses: Dried powdered roots are used for skin infections and wounds.

Poaceae (Gramineae)

Aegilops columnaris Zhuk. – En: Columnar Goat-grass. – Ar: Shaeer Amoudi. – Lf : Annual herb, 30-50 cm. – Ft: April-May. – Mt Hermon: 1191 m, 33°28'55"N, 35°51'37"E. – Lebanon: Jabal El Hadid, Qaa El Rim, Rachaya. – Hab: Grassy grounds, pastures, scrubs, open shrubby places, roadsides, sunny areas. – Uses: None documented.

Aegilops neglecta Bertol. – Syn: *A. ovata* auct., *A. triaristata* Willd. – En: Ovate Goat-grass. – Ar: Shaeer Bles. – Lf: Annual herb, 10-60 cm. – Ft: March-June. – Mt Hermon: 1243 m, 33°28'40"N, 35°51'41"E. – Lebanon: Beirut, Hazmiyeh, Tripoli, Mkalles, Barouk, Bhamdoun, Mrouj, Terbol, Niha, Jabal El Knisse, Zahle, Rouissat, Hasroun, Tannayel, Ainata, Baalbek. – Hab: Dry and rocky slopes, scrubs, roadsides, fields, abandoned lands, sunny places. – Uses: Seeds are edible and used in the treatment of gout. The plant is recognized as a forage grass and fodder for goats and sheep.

Avena sterilis L. – En: Animated Oat, Sterile Oat, Wild Oat. – Ar: Shufan Barri, Ziwan. – Lf : Annual herb, up to 1 m. – Ft: March-May. – Mt Hermon: 1250 m, 33°28'54"N, 35°51'35"E. – Lebanon: Saida, Kahale, Beirut, Qalamoun, Jamhour, Aachqout, Damour, Bikfayia, Douma, Ras El Metn, Aabey, Dimane, Qannoubine, Hasbaya, Zahle, Chtaura. – Hab: Scrubs, meadows, cultivated lands, roadsides, dry and sunny places. – Uses: Decoction of flowering plant is used as diuretic and to treat arthritis, rheumatism, and skin diseases.

Elytrigia libanotica (Hack.) Holub – Syn: *Agropyron libanoticum* Hack., *Elymus libanoticus* (Hack.) Melderis – En: Lebanon Couch-grass. – Ar: Sifon Lebnani. – Lf: Perennial herb, 30-100

cm. – Ft: May-July. – Mt Hermon: 1243 m, 33°28'40"N, 35°51'41"E. – Lebanon: Jabal El Barouk, Akoura, Dahr Al Baidar, Ariz Bcharre, Ehmej, Ariz, Jabal Sannine, Qurnat as Sawda, Makmel, Yanta (Mt Hermon region). Endemic to Lebanon and Syria. – Hab: Scrubs, grazing pastures, red soil (Terra rossa), low mountain ranges. – Uses: Decoction of rhizomes is used as diuretic and to treat urinary disorders.

Melica cretica Boiss. & Heldr. – Syn: *M. ciliata* var. *laxiflora* (Boiss. & C. I. Blanche) Papp, *M. ciliata* var. *villigera* Bornm. – En: Hairy or Silky Melic. – Ar: Malika. – Lf: Perennial herb, 25-60 cm. – Ft: April-June. – Mt Hermon: 1250 m, 33°28'54"N, 35°51'35"E. – Lebanon: Maasser El Chouf, Jabal El Barouk, Dahr Al Baidar, Knisse, Sannine, Ariz, Yammoune, Ain El Karn, Chtaura. – Hab: Calcareous plateaus, rocky slopes, scrubs, low mountain ranges, dry and sunny places. – Uses: None documented.

Melica persica Kunth – Syn: *M. cupani* var. *inaequiglumis* Boiss. – En: Unequal-glumed Melic. – Ar: Melika Motabayenat El Aasfat. – Lf: Perennial herb, 30-60 cm. – Ft: April-July. – Mt Hermon: 1181 m, 35°28'41"N, 35°50'27"E. – Lebanon: Jabal El Barouk, Zahle, Baalbek, Jezzine, Ain Zhalta, Bchamoun, Douma, Hasroun, Tartij, Hasroun, Bcharre, Sannine, Qaa Er Rim, Ammiq, Ouadi El Harir, Yanta. – Hab: Among rubble and cracks in concrete, roadsides. – Uses: None documented.

Phalaris minor Retz. – En: Little Seed Canary Grass. – Ar: Shaer El Far. – Lf: Annual herb. – Ft: March-June. – Mt Hermon: 1147 m, 33°30'07"N, 35°49'41"E. – Lebanon: Tyre, Beirut, Bouchrieh, Tripoli, Qaa. – Hab: Meadows, forests, pastures, roadsides, sunny places. – Uses: The plant is indicated as a hallucinogen and as a fodder for animals and birds. It may be toxic.

Triticum turgidum subsp. *dicoccoides* (Körn.) Thell. – Syn: *T. dicoccoides* (Körn.) Schweinf., *T. sativum* subsp. *dicoccoides* (Körn.) Asch. & Graebn., *T. vulgare* var. *dicoccoides* Körn. – En: Emmer Wheat. – Ar: Kamh Tounaai Al Habba. – Lf: Annual herb, 1 m. – Ft: May-July. – Mt Hermon: 1250 m, 33°28'54"N, 35°51'35"E. – Lebanon: Bouarij, Wadi Al Aarayech, Ouadi El Harir, Kfar Qouq, Rachaya. – Hab: Cultivated lands, meadows, low mountain ranges, dry and sunny places. – Uses: Traditional food plant, seeds are edible.

Polygonaceae

Polygonum cedrorum Boiss. & Kotschy – En: Cedar Knotweed. – Ar: Asa El Arz. – Lf: Perennial plant, up to 50 cm. – Ft: July-Nov. – Mt Hermon: 1213 m, 33°29'10"N, 35°51'26"E. – Lebanon: Machghara, Jabal El Barouk, Jabal El Knisse, Dahr Al Baidar, Sannine, Hasroun, Laqlouq, Tannourine, Qamouaa, Yammoune, Zahle, Taanayel, Baalbek, Rachaya. Endemic to Lebanon and Syria. – Hab: Mountain rocks, crevices, roadsides, dry and warm places. – Uses: Fresh leaves are edible. Decoction of aerial parts is used as a diuretic against kidney stones disease and in the treatment of diabetes and stomach diseases.

Rumex bucephalophorus L. subsp. *bucephalophorus* – Syn: *R. bucephalophorus* subsp. *hipporegii* (Steinh.) Rech. f. – En: Horned Dock. – Ar: Hommaid Ras El Tawr. – Lf: Annual herb, 30 cm. – Ft: February-May. – Mt Hermon: 1252 m, 33°30'01"N, 35°51'03"E. – Lebanon: Saida, Khalde, Bir Hassan, Beirut, Antilias, Nahr El Kalb, Mairouba, Raifoun, Bikfayia, Rachaya. – Hab: Moist fields, among mountain rocks, woodlands, low mountain ranges, sunny places. – Uses:

Fresh plant is edible. Decoction of aerial parts is orally used in treatment of jaundice and constipation.

Primulaceae

Cyclamen coum Mill. subsp. *coum* – En: Round-leaved Cyclamen. – Ar: Bakhour Mariam Jabali. – Lf: Perennial herb, tuberous geophyte, 10-20 cm. – Ft: February-April. – Mt Hermon: 1677 m, 33°26'41"N, 35°50'32"E. – Lebanon: Ghazir, El Kherbe, Qartaba, Faraiya, Chahtoul, Ariz El Barouk, Maasser El Chouf, Ariz, Dahr Al Baidar, Zahle, Ehden, Qamouaa forests, Jabal Foghri. – Hab: Among the mountain rocks, on plant debris, red soil (Terra rossa), rock fissures, damp and sunny places. – Uses: Fresh plant is locally applied against ecchymosis and plant extract is believed to have antitumor properties. Pounded tubers mixed with powdered storax is used as ichthyotoxic.

Ranunculaceae

Adonis flammula L. – En: Scarlet Pheasant's-eye. – Ar: Adonees Ahmar. – Lf: Annual herb, 20-50 cm. – Ft: March-June. – Mt Hermon: 1239 m, 33°28'38"N, 35°51'12"E. – Lebanon: Ehden, Ammiq, Deir Zenoun, Ouadi El Arayech, Ouadi El Harir. – Hab: Fields, pastures, roadsides, red gravel soil, sunny places. – Uses: Entire plant is used as emmenagogue, diuretic and in the treatment of gout and hydropsy. Also an ornamental plant.

Adonis microcarpa DC. – Syn: *A. dentata* subsp. *microcarpa* (DC.) Riedl, *A. intermedia* Webb & Berthel., *A. dentata* subsp. *intermedia* (Webb & Berthel.) Riedl, *A. microcarpa* subsp. *intermedia* (Webb & Berthel.) Nyman, *A. cupaniana* auct. non Guss. – En: Small-fruit Pheasant's Eye; Red Chamomile. – Ar: Adonees Saghir Al Thamar. – Lf: Annual herb, 20-30 cm. – Ft: March-June. – Mt Hermon: 1182 m, 33°29'59"N, 35°49'52"E. – Lebanon: Bir Hassan, Jezzine, Jabal Terbol, Nabatieh, Kalaat Chkif, Chtaura, Baalbek, Rachaya. – Hab: Grassy and stony grounds, meadows, cultivated and abandoned lands, sunny places. – Uses: Decoction of whole plant is used as tonicardiac and diuretic in the treatment of hydropsy and gout.

Anemone coronaria L. – En: Poppy Anemone, Spanish Marigold. – Ar: Shakaek Numan. – Lf: Perennial herbaceous geophyte, 7-35 cm. – Ft: February-April. – Hab: Grassy grounds, vineyards, cultivated and abandoned lands, roadsides, sunny places. var. *alba* (Goaty & Pons) Burnat – Mt Hermon: 1168 m, 33°30'02"N, 35°49'51"E. var. *phoenicea* Ard. – Mt Hermon: 1140 m, 33°30'07"N, 35°49'41"E. – Lebanon: Saida, Kahale, Beirut, Nahr El Kalb, Tripoli, Aley, Mansouriyeh, Hasroun, Zahle, Deir Tamich, Taanayel, Bkirke. – Uses: Ornamental. var. *cyanea* (Risso) Ardoino – Mt Hermon: 1140 m, 33°30'07"N, 35°49'41"E. – Lebanon: Saida, Khalde, Ras Jedra, Kahale, Beirut, Nahr El Kalb, Tripoli, Beit Meri, Bsalim, Bhannes, Maamelteine, Harissa, Qartaba. var. *rosea* (Segond) Batt. – Mt Hermon: 1140m, 33°30'07"N, 35°49'41"E. – Lebanon: Kesrouane, Jounieh, Zouq Mkyayel, Ghosta, Ghazir. – Uses: Medicinal, decoction of aerial parts is plant used to reduce hyperactivity, treatment of insomnia and irritability, cough, asthma and as a wash of skin ulcers and cleansing eye drop. Ornamental.

Clematis flammula L. – Syn: *C. maritima* L., *C. flammula* var. *maritima* (L.) DC. – En: Fragrant Virgin's Bower. – Ar: Zayyan. – Lf: Woody climber, up to 10 m. – Ft: April-August. – Mt Hermon: 1300 m, 33°28'55"N, 35°51'37"E. – Lebanon: Beirut, Nahr El Mout, Tripoli, Aabey, Jamhour,

Deir El Qamar, Aamchit, Raifoun, Ehden, Wadi Qannoubine. – Hab: Woodlands, scrubs, hedges, sunny and shady places. – Uses: Plant decoction is internally used as hydragogue, diuretic, strong purgative for scabies and skin itching. The plant is also believed to be a cancer cure.

Delphinium peregrinum L. – Syn: *D. junceum* DC. – En: Violet Larkspur. – Ar: Rejl El Qonboura. – Lf: Perennial herb, 30-100 cm. – Ft: May-August. – Mt Hermon: 1290 m, 33°23'06"N, 35°51'18"E. – Lebanon: Beirut, Nahr El Kalb, Tripoli, Aabey, Kfar Aaqab, Sawfar, Hrajel, Akoura, Faraiya, Hasroun, Ain Dara, Zahle, Ain Aata. – Hab: Scrubs, hedges, woodland and cultivated fields margins, generally on calcareous soil, roadsides. – Uses: Whole plant, particularly the young parts, is considered toxic to humans. Symptoms include skin irritation and severe digestive discomfort if ingested. It can cause cattle poisoning. Death may occur in a few hours of ingestion by cardiotoxic and neuromuscular block effects. The alcoholic solution of seeds is locally applied to the heads of children as a pediculicide. Ornamental.

Ficaria verna subsp. *ficariiformis* (F. W. Schultz) B. Walln. – Syn: *F. grandiflora* Robert, *Ranunculus ficariiformis* F. W. Schultz, *R. ficaria* subsp. *ficariiformis* (F. W. Schultz) Rouy & Foucaud – En: Lesser Celandine. – Ar: Oshbet El Bawaseer. – Lf: Perennial herb, 10-40 cm. – Ft: January-April. – Mt Hermon: 1140 m, 33°30'07"N, 35°49'41"E. – Lebanon: Saida, Beirut, Jounieh, Tripoli, Qraiye, Ghazir, Zahle, Niha, Baalbek. – Hab: Rich clay soil, damp meadows, low mountain ranges, sunny places. – Uses: Entire plant is used as antidiarrhoeic and in the treatment of colon inflammation.

Ranunculus millefolius subsp. *hierosolymitanus* (Boiss.) P. H. Davis – Syn: *R. hierosolymitanus* Boiss., *R. myriophyllus* var. *hierosolymitanus* (Boiss.) Post – En: Jerusalem Buttercup. – Ar: Houzan El Qods. – Lf: Annual herb, 50-80 cm. – Ft: March-May. – Mt Hermon: 1140 m, 33°30'07"N, 35°49'41"E. – Lebanon: Tripoli, Beirut, Jamhour, Broumana, Machnaka, Ras El Kifa, Aramoun, Jabal Terbol, Raifoun, Nabatieh, Mdeyrej, Dahr Al Baidar, Sannine, Bcharre, Hadath, Hadchit, Sawfar, Ehden, Hasroun, Ksara, Zahle, Nabee El Hadid, Ebel Es Saqi, Hasbani, Rachaya and Yanta. – Hab: Meadows, pastures, calcareous rock crevices and hedges, roadsides, sunny places. – Uses: Pounded fresh flowers are externally used to treat rheumatism.

Rhamnaceae

Rhamnus punctata Boiss. – En: Thicket Rose. – Ar: Ward Al-Hayshah. – Lf: Deciduous shrub, 1-2 m. – Mt Hermon: 1492 m, 33°28'40"N, 35°50'27"E. – Lebanon: Saida, Nahr Ghadir, Choueifat, Beirut, Antilias, Nahr El Kalb, Tripoli, Nahr Abou Ali, Mar Roukhos, Kesrwan, Araya, Qraiye, Jamhour, Aintoura, Aley, Douma, Afqa, Ain Zhalta, Qannoubine, Ammiq, Deir Mimas, Rachaya. – Hab: Meadows, roadsides, margins of cultivated fields, red clay soil (terra rossa). – Uses: None documented.

Rosaceae

Cotoneaster nummularius Fisch. & C. A. Mey. – Syn: *C. racemiflorus* var. *nummularius* (Fisch. & C. A. Mey.) Dippel – En: Nummular Cotoneaster. – Ar: Sfarjaleyyi. – Lf: Deciduous shrub, 50-150 cm. – Ft: May-June. – Mt Hermon: 2306 m, 33°25'37"N, 35°50'32"E. – Lebanon: Mdeyrej,

Jabal El Knisse, Kfar Selouane, Zahle, Afqa, Ariz, Hermel, Michmich, Ehden, Hadchit, Dimane, Bcharre, Ehden, Sir Al Danniyeh, Ainata, Jdita, Mt Hermon. – Hab: Calcareous plateaus, among rocks, high mountain ranges, dry and sunny places. – Uses: Decoction of fruits is taken orally as orexigenic, stomachic and expectorant.

Crataegus azarolus L. – Syn: *C. aronia* (L.) DC., *C. azarolus* subsp. *aronia* (L.) Rouy & E. G. Camus – En: Mediterranean Medlar, Azarole, Hawthorn. – Ar: Zaarour Asfar. – Lf: Deciduous shrub or tree, 2-10 m. – Ft: March-May. – Mt Hermon: 1325 m, 33°28'27"N, 35°50'39"E. – Lebanon: Saida, Hadath, Beirut, Tripoli, Aley, Bsous, Jamhour, Hasroun, Souk El Gharb, Choueifat, Ain Zhalta, Ainata, Wadi El Harir. – Hab: Open shrubby areas, hedges. – Uses: Infusion of flowers is used as sedative and to treat chronic diarrhoea, insomnia and palpitation.

Potentilla geranioides subsp. *syriaca* (Boiss.) Soják – En: Syria Cinquefoil. – Ar: Mokaweya Soreyya. – Lf: Perennial herb with woody base, 10-30 cm. – Ft: April-July. – Mt Hermon: 2307 m, 33°25'39"N, 35°50'31"E. – Lebanon: Jabal El Barouk, Jabal El Knisse, Makmel, Sannine, Ehden, Ariz, Jroud Tannourine, Ainata. Endemic to Lebanon and Syria. – Hab: Rich clay soil, damp meadows, low mountain ranges, sunny places. – Uses: Decoction of rhizomes is used as antidiarrhoeic, astringent, antipyretic, stomachic and depurative.

Prunus cocomilia Ten. – Syn: *P. ursina* Kotschy – En: Bear's Plum. – Ar: Brakrouk. – Lf: Deciduous shrub or tree, 4-8 m. – Ft: March-May. – Mt Hermon: 1191 m, 33°28'55"N, 35°51'73"E. – Lebanon: Aramoun, Achkout, Qraiye, Beit Meri, Ehden, Sir Al Danniyeh, Bcharre, Barouk, Ain Zhalta, Dahr Al Baidar, Bouarij, Wadi El Harir, Rachaya, Sawfar, Ainata. – Hab: Rocky habitats, roadsides, field boundaries and orchards. – Uses: Fruits are edible and used as laxative. Trunk and stems are used as fuel and in making agricultural tools.

Prunus dulcis (Mill.) D. A. Webb – Syn: *P. korshinskyi* Hand.-Mazz., *Amygdalus korshinskyi* (Hand.Mazz.) Bornm., *A. communis* L. var. *microphylla* Post – Ar: Lawz Korshinski. – Lf: Deciduous shrub or small tree, 1-2 m. – Ft: March-April. – Mt Hermon: 1550 m, 33°27'21"N, 35°52'39"E. – Lebanon: Jezzine, Machghara, Maasser El Chouf, Ain Zhalta Ariz, Zahle, Ammiq, Hazerta, Kefraiya, Ainata, Deir El Ahmar, Rachaya. – Hab: Dry and rocky slopes, red gravel soil, medium mountain ranges, sunny places. – Uses: Decoction of seeds is taken orally to treat hypercholesterolemia.

Prunus prostrata Labill. – Syn: *Cerasus prostrata* (Labill.) Ser. – En: Mountain Cherry. – Ar: Karaz Barri. – Lf: Deciduous shrub, 20-80 cm. – Ft: April-June. – Mt Hermon: 1843 m, 33°26'24"N, 35°50'48"E. – Lebanon: Hasroun, Jabal El Barouk, Ain Zhalta, Zahle, Ehden, Sannine, Jabal El Makmel, Mt Hermon, Ainata, Ain Hazir. – Hab: Calcareous open rocky slopes, flat clayey areas, high mountain ranges. – Uses: Ripe fruits are laxative.

Pyrus syriaca Boiss. – En: Syrian Pear. – Ar: Ngas Barri. – Lf: Deciduous shrub or tree, 5-10 m. – Ft: February-May. – Mt Hermon: 1422 m, 33°27'22"N, 35°50'50"E. – Lebanon: Saida, Beirut, Tripoli, Aabey, Baabda, Arayia, Jounieh, Ain Zhalta, Bcharre, Ariz, Dahr Al Baidar, Ainata, Hasroun, Deir El Ahmar, Baalbek, Deir El Achayer, Mt Hermon. – Hab: Rocky and cultivated lands, dry and sunny places. – Uses: Infusion of fruits is taken orally as expectorant to treat stomachache.

Rosa canina L. s. str. – En: Dog Rose. – Ar: Ward Barri. – Lf: Shrub, 1-2.5 m. – Ft: May-August. – Mt Hermon: 1292 m, 33°28'55"N, 35°51'37"E. – Lebanon: Raifoun, Baskinta, Ain Zhalta, Jabal Moussa, Ksara, Ouadi El Arayech, Baalbek, Ain Bourday, Rachaya. – Hab: Hedges, among

rocks, field margins, dry and damp places. – Uses: Fruit juice is used as astringent, antidiarrhoeic and antiscorbutic. Decoction of roots and fruits is taken to treat dyspnoea and rheumatism.

Rosa corymbifera Borkh. – Syn: *R. dumetorum* Thuill., *R. canina* var. *collina* Boiss. – En: Thicket Rose. – Ar: Ward Al-Hayshah. – Lf: Deciduous shrub, 1-2.5 m. – Ft: May-June. – Mt Hermon: 1220 m, 33°28'31"N, 35°51'10"E. – Lebanon: Antilias, Aley, Choueir, Bikfaya, Yachouche, Bhamdoun, Sawfar, Hasroun, Ehden, Ariz, Ainata, Zahle, Baalbek. – Hab: Meadows, roadsides, margins of cultivated fields, red clay soil (terra rossa). – Uses: Ornamental plant.

Rosa pulverulenta M. Bieb. – Syn: *R. glutinosa* Sm., *R. libanotica* Boiss. – En: Sticky Rose. – Ar: Ward Dabek. – Lf: Deciduous shrub, 20-50 cm. – Ft: June-July. – Mt Hermon: 1289 m, 33°26'33"N, 35°51'15"E. – Lebanon: Jabal El Barouk, Jabal El Knisse, Jabal Sannine, Dimane, Ariz, Ehden, Yammoune, Jabal Qamouaa, Qalaat Arouba, Mt Hermon. – Hab: Hedges, among rocks, field margins, several mountain ranges, dry and damp places. – Uses: Fruit juice is orally used as astringent, antidiarrhoeic, diuretic and antiscorbutic.

Rubus canescens DC. – Syn: *R. tomentosus* auct. sensu Weihe & Nees – En: Tomentose blackberry. – Ar: Olaik Abyad. – Lf: Deciduous shrub, 80 cm, June-October – Mt Hermon: 1197 m, 33°29'47"N, 35°50'35"E. – Lebanon: Raifoun, Douma, Ghosta, Kfar Selouane, Jabal El Knisse, Jabal El Barouk, Dimane, Sannine, Zahle, Hezerta, Mt Hermon. – Hab: Thickets, hedges, fields, rocky limestone habitats. – Uses: Fruits are edible and decoction of leaves is used as astringent.

Sanguisorba minorsubsp. lasiocarpa (Boiss. & Hausskn.) Nordborg – Syn: *Poterium compactum* Boiss. – En: Compact burnet. – Ar: Ballan Katheef. – Lf: Perennial, rhizomatous herb. – Ft: June-July. – Mt Hermon : 1140 m, 33°30'07"N, 35°49'41"E. – Lebanon: between Jabal Sannine and Jabal El Knisse, North Baskinta. – Hab: Among rocks, gravel soil, roadsides, sunny places. – Uses: Decoction of the entire plant (roots and leaves) is used as astringent and vulnerary to cure wounds. Leaves infusion is used as a soothing treatment for sunburn and eczema.

Sanguisorba verrucosa (G. Don) Ces. – Syn: *Poterium verrucosum* G. Don – En: Warty Burnet. – Ar: Ballan Taloul. – Lf: Perennial, rhizomatous herb, 20-50 cm. – Ft: April-May. – Mt Hermon: 1405 m, 33°27'42"N, 35°50'35"E. – Lebanon: Saida, Beirut, Ras Chekka, Tripoli, Nahr Abou Ali, Beit Meri, Jamhour, Jabal Terbol, Hadchit, Ehden, Qannoubine, Yammoune, Zahle, Qoub Elias, Rayak. – Hab: Meadows, grassy grounds, moist fields, roadsides, low mountain ranges, sunny places. – Uses: None documented.

Sarcopoterium spinosum (L.) Spach – Syn: *Poterium spinosum* L., *Sanguisorba spinosa* (L.) Bertol. – En: Spiny Burnet. – Ar: Ballan Shaek. – Lf: Dense, spiny dwarf shrub, 60 cm. – Ft: March-April. – Mt Hermon: 1292 m, 33°28'55"N, 35°51'73"E. – Lebanon: Widespread especially in overgrazed pastures. – Hab: Dry and rocky slopes, open woodlands, grassy grounds, sunny places. – Uses: Whole plant is used as firewood for villagers bread ovens "Tanour" for baking Lebanese bread "Markouk". Decoction of dried fleshy berries and root barks are orally used by Bedouin healers and villagers to treat diabetes mellitus.

Rubiaceae

Crucianella macrostachya Boiss. – En: Common Crossword. – Ar: Solaybeyya Sagheerat El Sanabel. – Lf: Annual plant, 30-60 cm. – Ft: May-August. – Mt Hermon: 1325 m, 33°28'29"N, 35°50'37"E. – Lebanon: Saida, Beirut, Marjaayoun, Nahr El Mout, Tripoli, Bikfayia, Bhamdoun, Kahale, Jabal El Barouk, Chebaa, Akkar, Rachaya. – Hab: Rocky slopes, gravel, abandoned lands. – Uses: No indication.

Galium divaricatum Lam. – En: Lamarck's bedstraw. – Ar: Galium Rafee. – Lf: Annual herb, 1040 cm. – Ft: March-April. – Mt Hermon: 1140 m, 33°30'07"N, 35°49'41"E. – Lebanon: Beirut, Beit Meri, Baabda, Hammana, Mairouba, Faraiya, Hammara. – Hab: rocky slopes, shaded regions, noncalcareous soils, low mountain ranges. – Uses: Medicinal plant, decoction of whole plant is used as diuretic and vulnerary.

Galium incanum subsp. antilibanoticum Ehrend. – Syn: *G. orientale* var. *alpinum* Boiss. sensu Bornm. in sched. – Ar: Galium Mbayyad. – Lf: Perennial herb, 15-30 cm. – Ft: May-June. – Mt Hermon: 2072 m, 33°25'58"N, 35°50'20"E. – Lebanon: Bcharre, Kalat Djendal (Mt Hermon region, locus classicus). Endemic to Lebanon and Syria (see map in Ehrendorfer 1951: 446). – Hab: Cliffs of dry stony slopes in high mountain ranges. – Uses: None documented.

Galium libanoticum Ehrend. – Syn: *G. scabrifolium* (Boiss.) Hausskn. f. *libanotica* Bornm. in sched. – En: Lebanon Bedstraw. – Ar: Ghalium Lebnan. – Lf: Perennial herb, 30-60 cm. – Ft: June-July. – Mt Hermon: 2057 m, 33°26'01"N, 35°50'21"E. – Lebanon: Mairouba, Bchela, Bzoummar, Raifoun, Afqa, Bikfayia, Barouk, Mdeyrej, Aaquora, Ehmej, Bcharre, Dimane, Hasroun, Zahle, Kfar Selouane, Jabal Sannine, Ammiq, Baalbek, Yanta, Ehden, Ouadi El Arayech, Hasbaya and Rachaya. – Hab: Dry and calcareous rocky slopes, sunny places at medium and high altitudes. – Uses: Decoction of entire plant is used as diuretic and vulnerary and for wounds.

Mericarpaea ciliata (Banks & Sol.) Eig – Syn: *Mericarpaea vaillantoides* Boiss. – En: False Valantia. – Ar: Shabeehat El Valantia. – Lf: Annual herb, 5-15 cm. – Ft: March-April. – Mt Hermon: 1182 m, 33°29'59"N, 35°49'52"E. – Lebanon: Al Masnaa, Deir El Achayer, Ouadi El Harir, Rachaya. – Hab: Meadows, red soil (Terra Rossa), dry and sunny places. – Uses: None documented.

Rubia tenuifolia subsp. doniettii (Griseb.) Ehrend. & Schönb.-Tem. – Syn: *R. doniettii* Griseb., *R. tenuifolia* d'Urv. var. *stenophylla* (Boiss.) J. Thiébaud, *R. olivieri* A. Rich. var. *stenophylla* (Boiss.) Boiss. – En: Elliptic-leaved Madder. – Ar: Fowwa Dayyekat El Warak. – Lf: Perennial climber with woody base, 30-120 cm. – Ft: March-June. – Mt Hermon: 1355 m, 33°28'29"N, 35°50'37"E. – Lebanon: Beirut, Aabey, Terbol, Bikfaiya, Aley, Kahale, Afqa, Hasroun, Sannine, Ariz, Zahle, Baalbek, Ouadi El Harir, Rachaya and Chebaa. – Hab: Mountain rocks, woodlands, scrubs, thickets, cultivated land margins, low mountain ranges, sunny places. – Uses: Decoction of root is used as diuretic, laxative, emmenagogue, and abortive. The mixture of roots decoction and oil is locally applied to treat sciatica and rheumatism, infusion of flowers is used as antidiarrhoeic and aphrodisiac.

Scrophulariaceae s. l. (incl. Plantaginaceae p. pte.)

Anarrhinum orientale Benth. – En: Oriental Anarrhium. – Ar: Sawsal Sharki. – Lf: Perennial herb, 30-80 cm. – Ft: May-July. – Mt Hermon: 1355 m, 33°28'29"N, 35°50'37"E. – Lebanon: Saida, Beirut, Nahr El Kalb, Deir El Qamar, Bikfayia, Ghazir, Baabda, Aintoura, Chouiefat, Mokhtara, Mansouriye, Maasser El Chouf, Faraiya, Douma, Ehden, Ehmej, Bcharre, Zahle, Baalbek, Yanta and Rachaya. – Hab: Scrubs, meadows, rocky slopes, roadsides, dry and sunny places. – Uses: None documented.

Scrophularia libanotica subsp. *libanotica* var. *australis* R. R. Mill – Syn: *S. variegata* Bieb. var. *libanotica* Boiss. – En: Lebanon Fig-wort. – Ar: Khanzireyyi Lebnan. – Lf: Perennial herb, 20-50 cm. – Ft: May-July. – Mt Hermon: 1923 m, 33°26'17"N, 35°50'37"E. – Lebanon: Qornet el Aachra, Qurnat as Sawda, Ouyoun Orghosh. – Hab: Dry scrubs, cultivated and abandoned lands, open shrubby areas, sunny places, roadsides at low and medium altitudes. – Uses: Infusion of flowering tops, leaves and rhizomes for 20 min is locally applied for the treatment of skin irritations, eczemas and wounds.

Verbascum agrimoniifolium (K. Koch) Hub.-Mor. – Syn: *Celsia agrimoniaefolia* K. Koch – En: Syrian Mullein. – Ar: Bosayr Souri. – Lf: Biennial rosette herb, 50-150 cm. – Ft: April-Oct. – Mt Hermon: 2100 m, 33°25'37"N, 35°50'32"E. – Lebanon: Tripoli, Furn El Chebbak, Jabal Sannine, Sawfar, Aitanit, Ksara, Ferzol, Zahle, Marj, Rachaya. Endemic to Lebanon and Syria. – Hab: Hedges, roadsides, grassy and stony grounds, dry and sunny places. – Uses: Medicinal plant, decoction of flowers is used as emollient and diuretic and in the treatment of cough, bronchitis, cold, fever, diarrhea and gastrointestinal bleeding.

Verbascum cedreti Boiss. – Syn: *V. rascheyanum* Boiss., *V. cedretoides* Gombault – En: Cedar mullein. – Ar: Bosayr El Ariz. – Lf: Biennial herb, 30-80 cm. – Ft: May-August. – Mt Hermon: 1310 m, 33°29'02"N, 35°50'25"E. – Lebanon: Bikfaiya, Choueir, Machmouche near Jezzine, Maaser El Chouf, Kfar Halda near Douma, Tripoli, Fnaidek, Jabal El Barouk, Jabal El Knisse, Ain Zhalta, Jabal Sannine, Jisr Al Hajar, Aitou, Basloukit, Ehden, Bcharre, Ariz, Tannourine, Dimane, Dahrn El Kadib, Rachaya. – Hab: Stony slopes, among mountain rocks, low mountain ranges, dry and sunny places. – Uses: Decoction of roots and leaves is used as emollient, anti-inflammatory and anti-poison.

Verbascum libanoticum Murb. & J. Thiébaud – En: Lebanon Mullein. – Ar: Bosayr Lebani. – Lf: Biennial herb, 50-120 cm. – Ft: May-July. – Mt Hermon: 1923 m, 33°26'17"N, 35°50'37"E. – Lebanon: Qartaba, Chahtoul, Nahr Ed Dahab, Ehmej, Dhour Choueir. Endemic to Lebanon and Syria. – Hab: Calcareous rock-crevices, open dry shrubby areas, roadsides, sunny places. – Uses: Decoction of flowers and leaves emollient. Decoction in milk or water is locally applied on skin ulcers. Decoction of leaves mixed with *Malva neglecta* is used as poultice for hemorrhoids.

Verbascum ptychophyllum Boiss. – En: Wavy-leaved Mullein. – Ar: Bosayr Motamawej El Warak. – Lf: Biennial or perennial herb, 50-200 cm. – Ft: May-July. – Mt Hermon: 1191 m, 33°28'55"N, 35°51'73"E. – Lebanon: Zahle, Ouadi El Harir, Jdeidit Yabous, Rachaya. Endemic to Lebanon and Syria. – Hab: Calcareous plateaus, dry and stony hillslopes, sunny places. – Uses: Medicinal plant, decoction of leaves and flowers is used as emollient. Decoction of roots and leaves is used for the treatment of eye diseases and improving eye sight.

Verbascum sinaicum Benth. – Syn: *V. ternacha* Hochst., *V. somaliense* Baker – En: Sinai Mullein. – Ar: Bosayr Seenaa. – Lf: Biennial herb, 60-150 cm. – Ft: June-August. – Mt Hermon:

1292 m, 33°28'55"N, 35°51'73"E. – Lebanon: Beit Chama, Ablah, Rayak, Yammoune, Rachaya. – Hab: Dry and rocky slopes, gravel soil, roadsides, fields, low mountain ranges, sunny places. – Uses: Medicinal plant, flower and leaf are used as sedative, diuretic, emollient, astringent and in the treatment of cough and asthma. Essential oil of flowers is used for eczema, earache, catarrhs, and the treatment of warts and carbuncles.

Veronica syriaca Roem. & Schult. – Syn: *V. pedunculata* Labill. non Vahl – En: Syrian Speedwell. – Ar: Veronika Soureyya. – Lf: Annual herb, 10-20 cm. – Ft: January-May. – Mt Hermon: 1182 m, 33°30'02"N, 35°49'51"E. – Lebanon: Saida, Beirut, Choueifat, Tripoli, Bikfaiya, Aley, Aabey, Raifoun, Chemlane, Jezzine, Aintoura, Mairouba, Bzemmar, Faraiya, Ehden, Ariz, Hasroun, Dahr Al Baidar, Bcharre, Sannine, Rachaya. – Hab: Stony and rocky slopes, red gravel soil, roadsides, gardens, low mountain ranges. – Uses: None documented.

Solanaceae

Hyoscyamus albus L. – En: White Henbane. – Ar: Banj Aabyad. – Lf: Annual plant, 50-60 cm. – Ft: March-July. – Mt Hermon: 1229 m, 33°29'08"N, 35°51'29"E. – Lebanon: Enfe, Tripoli, Broumana, Amchit, Qraiye, Bchela, Harajel, Terbol, Salima, Baskinta, Machghara, Nabatieh, Rachaya. – Hab: Old walls, roadsides, low mountain ranges, sunny places. – Uses: Hallucinogenic and poisonous plant.

Hyoscyamus reticulatus L. – En: Netted Henbane. – Ar: Banj Shabaki. – Lf: Annual herb, 2050 cm. – Ft: March-May. – Mt Hermon: 1224 m, 33°29'08"N, 35°51'29"E. – Lebanon: Yammoune, Ksara, Zahle, Marj, Majdal Anjar, Baalbek, Ain Bourday, Al Masnaa, Jabal El Barouk, Rachaya. – Hab: Margins of cultivated fields and gardens, roadsides. – Uses: Hallucinogenic drug and poisonous plant.

Valerianaceae

Centranthus longiflorus Steven subsp. *longiflorus* – En: Long-flowered Spur-Valerian. – Ar: Asa El Nator. – Lf: Annual herb, 60-150 cm. – Ft: June-Oct. – Mt Hermon: 1147 m, 33°30'07"N, 35°49'41"E. – Lebanon: Hammana, Bikfayia, Qraiye, Jabal El Barouk, Sawfar, Ehden, Hasroun, Ariz, Bcharre, Qannoubine, Ain Zhalta, Sannine, Ain Hazir, Zahle, Jdita, Ain Bourday, Baalbek, Mt Hermon. – Hab: Stony ground, roadsides, old walls, sunny places. – Uses: Medicinal and ornamental plant indicated as antitumour, anti-inflammatory, sedative and anticonvulsant.

5.4 Conclusion related to flora

The surveys launched in 2011 revealed the existence of an important flora on the Lebanese side of Mt Hermon. The first annotated checklist of Arnold *et al.* (2015) counts a number of 223 species, around 110 of which were previously recorded as present in the investigated area (Mouterde 1966, 1970, 1983) and the remaining species (113) are newly reported. The families of Asteraceae (27 spp.), Lamiaceae (20 spp.) and Rosaceae (13 spp.) constituting the major share of the species form 40 % of the list.

From the reported 223 taxa, 24 are narrow endemics. This pronounced endemism represents the most important feature characterizing the flora of the mountain. The endemics are rather diffused over the different sites studied. These preliminary findings indicate the pronounced plant biodiversity richness of the Lebanese side of Mt Hermon. The climatic and geomorphological diversity and the isolation effect of its topography have rendered the mountain a home for a rich variety of wildlife including many rare and endemic plant species. Although not yet completed, this work is the first comprehensive contribution to the checklist of the Hermon flora in Lebanon and can be considered the basis for compiling a complete checklist, and supporting the evaluation efforts of the diversity of the Lebanese flora in general. This study highlights the vital role Mt Hermon plays in the conservation of many economically important wild plants and in the resilience of local livelihoods. On the other hand the gathered ethnobotanical knowledge reveals the importance of the mountain for the surrounding villages that have always benefited of the mountain plants as a major source for their primary needs (food, feed, medicines, energy, etc.). Indeed, the rich biodiverse environment of Mt Hermon has been providing a veritable trove of flora containing compounds of high value for the indigenous people. Although this traditional knowledge is inherited from generation to generation over hundreds of years and may not be based on scientific evidence, it appears to be efficient in treatment of many health disorders (Apostolides-Arnold 1991). Such knowledge stands as a potent source to derive inspiration towards biodiversity conservation while enhancing livelihoods and adapting to perturbations. It should be further enlarged to cover the whole flora of the mountain before being submitted to valorization, sustainable utilisation and capitalization. The people of the mountain should be trained on suitable cultivation, sustainable harvesting and post harvesting technology. They should be also encouraged to take up entrepreneurial actions to convert the bioresources of the mountain into socioeconomic wealth. Therefore, it is strongly recommended to develop and implement specific regulations, monitoring systems and public awareness tools on preservation and sustainable use of the Lebanese flora. Moreover, scientific monitoring and accurate prediction of the future impacts of climate change on plant diversity are critical to the development of conservation strategies.

5.5 Fauna diversity- Mammals

Interviewing and questioning the inhabitants and stakeholders of the study area, it appears that 12 mammal species occur in it: the most threatened and rare species *Canis lupus pallipes* (Internationally LC and Nationally VU), *Felis sylvestris tristrami* (Internationally LC and Nationally NT), *Hyaena hyaena syriaca* (Internationally NT and Nationally EN) and all the economic species (*Crocidura russula*, *Erinaceus europaeus*, *Myotis blythi omari*, *Pipistrellus kuhli ikhawanius*, *Pipistrellus pipistrellus pipistrellus*, *Rhinolophus ferrumequinum ferrumequinum*, and *Rhinolophus hipposideros minimus*; All

are Internationally LC and Nationally NT), in particular the *Erinaceus europaeus concolor* (Internationally and Nationally LC). They deserve protection and monitoring for several reasons: the first four which occupy the top or sub-top of the trophic chain are in continuous decline since they are constantly persecuted by people due to lack of awareness. As for the *Erinaceus europaeus concolor*, it is an insectivorous of excellence and feeds on eggs and larvae of insects found in the soil. Its role is well known in controlling outbreaks of insects harmful to flora. At the national level, it appears that most of the mentioned mammals of the study area are ranging from vulnerable to critically endangered.

5.6 Conclusion related to mammals

The Red Fox and the Jackal are well known in Rachaya but were not listed above because they are not yet classified as threatened despite their persecution by people and therefore rarefaction. Of interest is that the threatened mammal species are wolves and Hyaenas only but the number of these species will certainly increase if the persecution of species continues. Many villagers still believe that the Jackal and Fox should be killed because they ate their ancestors' chickens and many still hate the hyeana because their mothers were warning them to come hyena if they don't stop crying at night. The wolf was the one who ate Laila the Red Riding Hood. In order to protect these animals, it is necessary to plant positive ideas in children and to educate adults about the role played by these animals in nature.

5.7 Fauna diversity- Birds

In the Ornithology of Lebanon, Rachaya Caza wasn't a direct target for ornithologists or birdwatchers of the past. The few birds that were mentioned in a paper of MacFarlaine (1978) are of unknown localities. It was until seventies when Tohmé & Neuschwander (1974) and Macfarlane (1978) recorded bird species from Anti-Lebanon and probably elsewhere within the reserve. The bird study that was carried out at Rachaya Caza by Ghassan Ramadan-Jaradi in 2005 on behalf of USAID-Mercy Corps produced the first comprehensive list for the birds of this area. Since then, only two ornithological papers have been published by Beale & Ramadan-Jaradi (2001) and Ramadan-Jaradi & Ramadan-Jaradi (2002) with mention to the features of some avian species of the site. Continuous but scattered visits continued to the Rachaya, Kawkaba and Kfarmeshki and their surroundings by Ramadan-Jaradi produced new and more significant records. The resulting list of birds is shown below in Table (1) where threatened species are highlighted with red, near threatened with orange and trigger species with green.

Table 2: Threatened, near threatened and trigger species

Species	Total #	Rachaya	Kawkaba	Kfarmeshki
1. Little Egret	5	13/4/2019	22/7/05	
2. White Pelican	127	28/3/2019	15/3/2019	15/10/2002
3. White Stork	170	28/3/2019	15/3/2019	May-5/6/2003
4. Teal	-	8/1/1955 Nevins (1960)		
5. Pintail	unknown	8/1/1955 Nevins (1960)		
6. Shoveler	unknown	8/1/1955 Nevins (1960)		
7. Pochard	unknown	8/1/1955 Nevins (1960)		
8. Ferruginous Duck	unknown	8/1/1955 Nevins (1960)		
9. Egyptian Vulture (EN)	1		22/4/2019	
10. Griffon Vulturs	1		10/5/2019	
11. Sparrowhawk	3	10/5/2019		15/10/2002
12. Levant Sparrowhawk	56		22/4/2019	19/9/2003
13. White-tailed Eagle	1	2/1/1955 Jhonson in Kumerloeve (1962)		
	1	8/1/1955 Nevins (1960)		
14. Honey Buzzard	71	10/5/2019	17/5/2019	31/10/2002
15. Short-toed Eagle	8	14/5/1956 Hollom (1959)	10/5/2019	15/10/2002 27/10/2002
16. Common Buzzard	15	10/5/2019	11/5/2019	18/10/2002
17. Long-legged Buzzard	4	14/5/1956 Hollom (1959)	22/4/2019	22/4/2019 10/5/2019
18. Golden Eagle	2	2/1/1955 Jhonson in Kumerloeve (1962)		5/5/2002 10/10/02
19. Lesser Spotted Eagle	68	10/5/2019	11/5/2019	10/10/2002 15/10/2002 11/5/2019
20. Greater Spotted Eagle (VU)	3	10/5/2019	22/4/2019	9/10/2002 (GR-J)
21. Steppe Eagle (EN)	4	22/4/2019	22/4/2019	6/10/2002
22. Imperial Eagle (VU)	3		11/5/2019	6/10/2002
23. Bonelli's Eagle	1	11/5/2019		
24. Marsh Harrier	6			18/10/2002
25. Hen Harrier	1			13/10/2002
26. Kestrel	7	11/5/2019	10/5/2019	10/10/02
27. Eleonora's Falcon	1			26/10/2002
28. Lanner	1			13/10/02
29. Peregrine	2	22/4/2019		15/10/2002
30. Sociable Plover (CR)	3		15/3/2019	

Species	Total #	Rachaya	Kawkaba	Kfarmeshki
31. Coot	-	8/1/1955 Nevins (1960)		
32. Avocet	unknown	8/1/1955 Nevins (1960)		
33. Chukar	7	10/5/2019	22/4/2019	Apr/May/1974 Macfarlane (1978) 22/4/2019
34. Quail	3	22/4/2019	22/4/2019	10/10/02
35. Corncrake	1			10/10/02
36. Common Crane	90	22/4/2019		22/10/2002 15/3/2019
37. Cream colored Cursor	6		11/5/2019	Hardy (1945)
38. Great Snipe (NT)	1			29/9/2004
39. Rock Dove	-	24/7/1947 West (1954)		
40. Cuckoo	5	13/5/1956 Hollom (1959)	10/5/2019	22/4/2019
41. Roller	3	24/7/1947 West (1954)	17/5/2019	
42. Nightjar	3		22/4/2019	29/10/2002
43. White-breasted Kingfisher	2			Feb, Mar Nevins (1960)
44. Scops Owl	few	11/5/2019	22/4/2019	8/1/1955 Nevins (1960)
45. Tawny Owl		15/3/2019		
46. Eagle Owl	1	11/5/2019		14/2/2001
47. Barn Owl	3	11/5/2019	10/5/2019	17/7/2005
48. Common Swift	Breeds in towns	17/5/2019	22/4/2019	17/7/2005
49. Little Swift	unknown	15/3/2019		
50. House Martin	several	11/5/2019	11/5/2019	6/10/2002
51. Bee-eater	16		22/4/2019	2/5/2003
52. Hoopoe	3	15/3/2019	15/3/2019	22/7/2005
53. Calandra Lark	7	22/4/2019		1999
54. Short-toed Lark	3	10/5/2019		23/7/2005
55. Syrian Woodpecker	3		11/5/2019	23/5/2002
56. White-throated Robin	2	15/3/2019		22/7/2005
57. Black Redstart	3	10/5/2019	10/5/2019	22/7/2005
58. Red-rumped Swallow	Unknown	14/5/1956 Hollom (1959)		30/5/1974 MacFarlane (1978)
59. Tawny Pipit	Unknown	?/5/1956 Hollom (1959)		10/5/2019
60. Rufous bush Robin	Breeder	?/?/1956 Hollom (1959)	11/5/2019	
61. Nightingale	3	?/?/1956 Hollom (1959)	15/3/2019	
62. Northern Wheatear	8	10/5/2019	10/5/2019	23/7/2005
63. Isabelline Wheatear	4	1977 MacFarlane	11/5/2019	

Species	Total #	Rachaya	Kawkaba	Kfarmeshki
		(1978)		
64. Finch's Wheatear	-	10/3/1977 MacFarlane (1978)		
65. Ring Ouzel	3	West (1954)		17/5/2019
66. Fieldfare	1	West (1954)		
67. Blue Rock Thrush	2		11/5/2019	Navins (1960)
68. Rock Thrush	1		11/5/2019	
69. Scrub Warbler	1			23/7/2005
70. Grey Wagtail	1		22/4/2019	
71. Sardinian Warbler	2	Hollom (1959)		10/5/2019
72. Orphean Warbler	2	Kumerloeve (1962)		22/7/2005
73. Barred Warbler	3	Kumerloeve (1962)	10/5/2019	
74. Olivaceous Warbler				29/10/2002
75. Willow Warbler	2	10/May/1956 Hollom (1959)	11/5/2019	
76. Upcher's Warbler	1			22/4/2019
77. Robin	5	10/5/2019	15/3/2019	12/3/2004
78. Collared Flycatcher	2		22/4/2019	12/4/3002
79. Western Rock Nuthatch	4	22/4/2019		22/7/2005
80. Sombre Tit	2		17/5/2019	
81. Masked Shrike	3	Kumerloeve (1962)		15/3/2019
82. Jackdow	2			1999 (Gh)
83. Rock Sparrow	11	10/3/1977 MacFarlane (1978)	15/3/2019	
84. Chaffinch	13	10/5/2019		22/7/2005
85. Greenfinch	6		22/4/2019	12/3/2004
86. Pale Rock Sparrow	1		10/5/2019	
87. Brambling	1	23/12/1950 Nevins (1960)		
88. Syrian Serin (VU)	20	15/3/2019	22/4/2019	11/5/2019
89. Goldfinch	9	22/4/2019	11/5/2019	
90. Linnet	17		22/4/2019	11/5/2019
91. Crimson-winged Finch	2			15/3/2019
92. Yellow Hummer	2	8/1/1955 23-30/12/1956 Nevins (1960)	11/5/2019	
93. Cretzschmar's Bunting	2	Kumerloeve (1962)		11/5/2019
94. Black-headed Bunting	5	Kumerloeve (1962)	10/5/2019	19/5/1974 MacFarlane (1978)
95. Rock Bunting	2		10/5/2019	23/7/2005

As it is seen from the above table:

- 95 species
- 36 old records
- 93 new records
- 6 globally threatened species
- 1 near threatened species
- 14 biome restricted species

5.8 Conclusion related to Avifauna

In the Ornithology of Lebanon, Rachaya had been visited 36 times between 1864 and 1998 (over 134 years) by only 6 authors [Hardy (1945), West (1954), Hollom (1959), Nevins (1960), Kumerloeve (1962) and MacFarlane (1978)]. They produced all together a list of 36 bird species recorded only from three areas (Rachaya, Kawkaba, and Kfarmeshki). However, the bird study that was carried out irregularly in the region of Rachaya by Ramadan-Jaradi, M. and Ramadan-Jaradi, G. between 2002 and 2005 and which was supported by five recent visits to the cited sites on 15/3/2019, 22/2019, 10/5/2019, 11/5/2019 and 17/5/2019, produced a list in which, one breeding species (Syrian Serin) is vulnerable. It also has a restricted range of distribution. The other globally bird species do not breed in the country and some conservationist don't give them a weight as they simply pass in the country and are considered of no impact on the species' population. But many of these globally threatened are killed in Lebanon during their passage. Therefore, they are pushed towards extinction and their passage counts.

The presence of the Syrian Serin as breeding species and the occurrence of 14 biome restricted species make from the study area a true IBA.

The protection of these species requires enforcement of Law of Hunting, ban of use of illegal pesticides, raising awareness among the public, educating students, providing advocacy to decision-makers and monitoring of the results using the following species as indicators due to their sensitivities to changes in farming habitats from traditional to conventional: Masked Shrike, Syrian Serin, Cretzschmar's Bunting, Sardinian Warbler, Mistle Thrush, European Robin, Black-eared Wheatear, Blackbird, Black Redstart and Eurasian Jay.

5.9 Fauna diversity- Herpetofauna

Apparently, there is no major herpetological work conducted at Rachaya. In 2002, Hraoui-Bloquet *et al.* published a comprehensive paper on the distribution of the

herpetofauna species over the Lebanese territories. Some old monographs are also known for the region (Lebanon and Syria): Angel, 1936; Boulanger, 1923; Lortet, 1883; Muller and Wettstein, 1933; Werner, 1939; Wettstein, 1928. Other recent works on the Lebanese herpetofauna have been published by Bosch (1998) and Bosch et al (1998).

These works have resulted together with the recent field research undertaken by Souad Hraoui Bloquet and Ryad Sadek in a species list (Herpetofauna of Lebanon, New data of distribution) and the interviews with elderly people or environmentalists of interests in reptiles and amphibians, we have set the following list, of which three species are classified as endangered in accordance with the IUCN criteria.

• <i>Salamandra inframaculata inframaculata</i> Martens, 1885	NT
• <i>Cyrtopodion kotschyi orientalis</i> (Stepanek, 1937)	LC
• <i>Ptyodactylus puisseuxi</i> Boutan 1893-Rachaya	LC
• <i>Acantodactylus schreiberi syriaca</i> Bijttger, 1879	EN
• <i>Parvilacerta fraasii</i> (Lehrs, 1910)	EN
• <i>Phoenicolacerta kulzeri kulzeri</i> (Miiller & Wettstein. 1932)	EN
• <i>Mesalina brevirostris cf. microlepis</i> Angel, 1936	LC
• <i>Calchides ocellatus ocellatus</i> (ForsskSI, 1775)	NT
• <i>Eutneces schneideri pavimentatus</i> (Geoffroy St.-Hilaire, 1827)	LC
• <i>Hierophis jugularis</i> (Linnaeus, 1758)	LC
• <i>Platyceps najadum dahlii</i> (Schinz, 1833) [formerly Coluber].	LC

5.10 Conclusion related to Herpetofauna

Beside the data that was mentioned from Rachaya, the questioning of shepherds, elderly people and interested in wildlife persons, lead us to set the above list of 1 amphibian and 10 reptiles. Of them three are globally threatened (endangered) species. It is true that the snakes are not among the threatened species but they are rarifying very fast due to persecution that doesn't distinguish between venomous and non-venomous ones. New surveys may produce a longer list of herpetofauna in Rachaya Caza.

6. Overall conclusion and reflection

- Regardless of whether the biodiversity assessment in Rachaya District is made in organic or conventional farming areas, the biodiversity that was found is rich and contains various species that are globally threatened and much more of species that are nationally threatened, including 8 species of 8 warblers that characterize the Mediterranean Biome.
- However, this biodiversity is in need of protection and conservation efforts, especially that our personal observations indicated that some olive groves on slopes with degraded traditional stone walls or without stone walls, is characterized by eroded soils that constitute a real environmental issue. The eroded soil leads to poverty in plant species and subsequently in consumers of plant species and their fauna of invertebrates and small vertebrates.
- Studies in Lebanon and elsewhere in Italy, Spain and Greece, showed that organic olive groves host about 40% higher species richness, which indicates, as in other similar studies, that the organic olive cultivation methods have a higher capacity to support biodiversity, since wild plants as primary producers in the ecosystem that provides habitats and feeding and breeding resources are the foundation for the biodiversity of insects, mammals, birds and reptiles naturally occurring in traditionally managed olive groves.
- The ground flora of olive groves is thus essential to support and conserve biodiversity in agricultural landscape for the future. To the ground flora adds the stratification of the olive trees where all participate in an association with the fauna as follow:
 - Large, old trees – invertebrates, small mammals, reptiles, and birds
 - Grassy understory – flora, invertebrates
 - Stone walls and terraces – reptiles
 - Patches of semi-natural vegetation on or off the farm – essential refuges for flora and fauna

In combination, these associations create great structural diversity and a rich ecosystem.

Local studies illustrated this, but a Lebanese overview of the biodiversity value of the olive ecosystem is lacking.

- By restricting or forbidding tillage and promoting organic olive cultivation, not only biodiversity would be enhanced; this could also prevent further soil erosion and

create a more heterogenic agricultural landscape with higher biological and cultural values.

- On another hand and during our assessment of the biodiversity of Rachaya District, many factors appeared to be putting a pressure on the biodiversity of this area. The most important factor of them is the neglect that is illustrated by the abandoned olive groves due to zero management effort. This could be referred to social reasons that need to be explored too. However, it would be also beneficial to conduct field studies in Rachaya District in order to know: 1) which species are more affected by practices in olive groves and how, 2) what are the bird species associated to olive groves, and 3) why the olive grove produce fruits at the time of autumn bird migration.

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