

**Plant Biodiversity Findings Report at Al Makhrour Valley:  
Autumn 2018/Winter and Early Spring 2019 Seasons**

**Consultancy Service- Under the project entitled:**

**“Biodiversity Conservation and Community Development in Al-Makhrour Valley in  
Bethlehem, Palestine”**

**Consultancy Location: Al Makhrour Valley - Bethlehem Governorate**

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**Submitted by:**

**Pioneer Consultancy Center for Sustainable Development**

**Address: BLd. 153 -Manger Street**

**P.O. Box 118**

**Bethlehem – Palestine**

**Tel: +970(2)2752584 / Fax: +970(2) 2752583**

**Email: [roubina@uems.ps](mailto:roubina@uems.ps)**

**Submitted to:**

**The Palestine Institute for Biodiversity and Sustainability (PIBS) and the Palestine  
Museum of Natural History (PMNH) - Bethlehem University**

**Address: Mar Andreas Building**

**Al-Karkarfa, Bethlehem – Palestine**

**Tel: + 970 2-2773553**

**[mazin@qumsiyeh.org](mailto:mazin@qumsiyeh.org)**



## **Plant Biodiversity Findings Report at Al Makhrour Valley: Autumn 2018/Winter and Early Spring 2019 Seasons**

**Prepared by:**

**Roubina Ghattas, Adel Abu Ayyash, and Marian Rishmawi**

### **I. Introduction:**

Pioneer Consultancy Center for sustainable development (PCC) has started preparing for studying the plant biodiversity at Al Makhrour valley since the startup of the project entitled: "*Biodiversity Conservation and Community Development in Al-Makhrour Valley in Bethlehem, Palestine*". The PCC team has revise potential relevant literature and documents regarding the targeted site; Al Makhrour Valley (MKV), and its natural landscapes and plant biodiversity at the site.

Keeping in mind the aim of the project and the specific objective of the biodiversity inventory; specifically advancing the knowledge base regarding plant biodiversity in MKV towards better understanding and effective protection for its valuable biodiversity and its supportive habitats, PCC developed the necessary scientific set up for the inventory supported with effective action plan, timeframe, tools, field sheets, databases etc. At the end, this activity will support the development of a comprehensive assessment for plant biodiversity status including their relevant habitats and ecosystems. It will also support the project team to develop biodiversity conservation plan, the identification of sites of restoration need, building relevant capacities, change attitudes, public and stakeholders' outreach, and others. All this shall be accomplished with the vision of sustaining the ecosystem services of the valley and its value as World Heritage Site.

### **II. Methodology for Plant Biodiversity Inventory at AL Makhrour Valley**

The plant biodiversity inventory for AL Makhrour Valley (MKV) is one of the major components of the biodiversity assessment, as it offers detailed information collected from the surveys on site; specifically regarding the status of the biotic and abiotic components of the targeted site based on field surveys, measurements and inspection by specialized experts using specialized methodologies in the field.

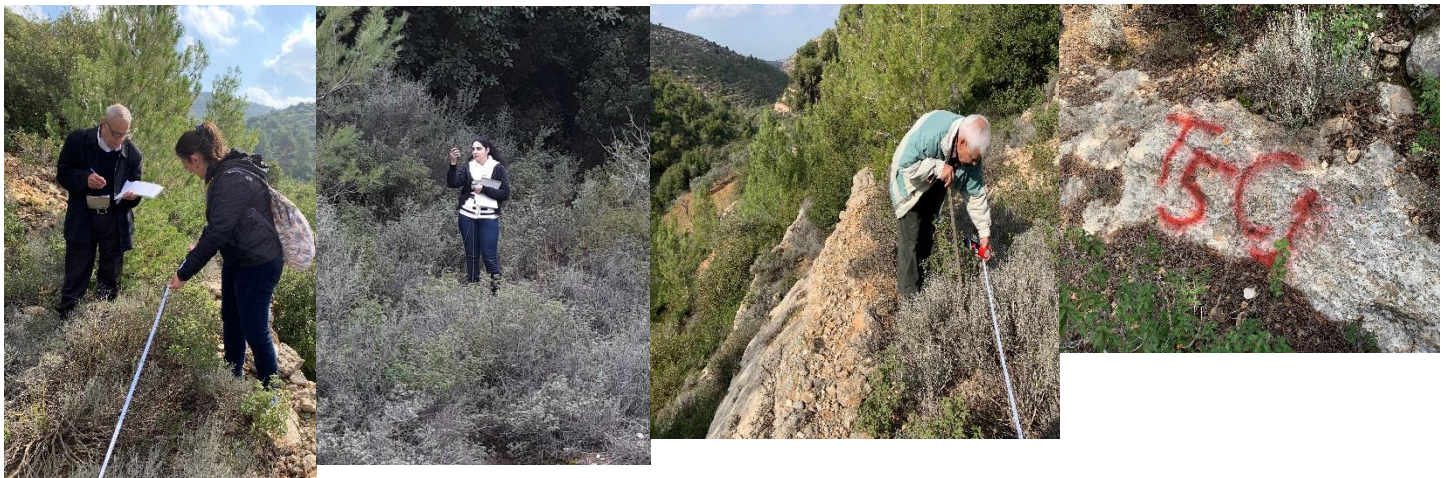
The plant biodiversity inventory of autumn 2018 and winter 2019 seasons was conducted at MKV during the three months of December 2018, January and February, 2019, while spring season was partly covered during the month of March 2019, but surveys will continue to fulfil the spring season inventory in April 2019. The inventory was done through implementing scientific methods and approaches for surveying plant species on site, while investigating their habitats, their supporting abiotic elements such as soil, and

topography of the site, etc. The main threats and human interferences were also recorded as seen on site.

***The principal objectives of the inventory are to:***

- 1) determine the extent, structure, status and composition of plant community, habitat, or vegetation cover types;
- 2) document the presence or absence of endangered or threatened plant species according to IUCN Red List;
- 3) describe vegetation-environment relationships;
- 4) detect existing natural and man-induced environmental perturbations;
- 5) describe successional trends and patterns when available.

To fulfil the objectives of the biodiversity inventory, the inventory was done utilizing international methods for proper inventory for vegetation cover at targeted site - MKV. This component of the study is recommended by national strategies such as the National Biodiversity Strategy and Action Plan for Palestine and international guidelines for recording and assessing status of species such as the ones set by IUCN species survival commission and global species programme. This approach enhance the concept of conservation based on sound knowledge, and better valuation of the resources. The team that performed the inventory was composed of four specialized people of PCC staff as following: Mr. Adel Abu Ayyash, Mrs. Roubina Ghattas, Eng. Mohammad Abu Amrieh and Miss Marian Rishmawi. Some are specialized in plant taxonomy, others in nature conservation, agro-biodiversity and in rural development (Photos 2.1, 2.2, 2.3).



***Photos 2.1, 2.2, 2.3: PCC team conducting the plant inventory surveys at MKV***

The team has conducted effective field visits (14 visits) to the site covering Al Makhroun Valley including the natural area that circles battir village towards Husan village (named



here as MKV), while adopting the Braun and Blanquette (1964)<sup>1</sup> and line transect methodologies for plant surveys<sup>2</sup>. At least 45 working days were spent at office to prepare for field surveys, revise the collected information from the field and verify the plants classification, and their status and characteristics by the survey team, in addition to data analysis, building relevant database and reporting. Hence, this report presents the findings of the plant biodiversity inventory works, surveys, data analysis done during autumn, winter and beginning of spring 2018/2019.

### ***2.1 Braun and Blanquet methodology***

The Braun-Blanquet cover-abundance scale methodology was used to analyze vegetation cover-abundance ratings and to elucidate graphically species-environment relationships at MKV. This method is known to provide sufficiently accurate baseline data to allow environmental impact assessment and vegetation assessment studies. The Braun-Blanquet system of vegetation classification is the most widely used and uniform system of vegetation classification, enabling us to compare plant communities over a particular area, and, therefore, also presenting a basis for such items as geographical comparison of habitats, vegetation mapping of the areas, and analyze the rate, in which taxa appear to be bound to one or several communities<sup>3</sup>.

The Braun-Blanquet cover-abundance scale was used to estimate plant species importance and abundance in this study. Plant Cover was determined from estimates of vertical plant shoot-area projection as a percentage of quadrat area<sup>4</sup>. The index designating the appropriate cover-range and species classification were recorded in the field. Field species sampling was conducted in transects covering targeted site area. The surveyed area was divided into 33 transects of 70\*70 m and within transects, one to four quadrats of 25\*25 m were specified and surveyed. The quadrats were set in a way that would cover major part of the transect area. Within each quadrat, plant species were surveyed by counting the number of each species growing in the quadrats. During plant species sampling the species type, name, structure and abundance were all measured.

During the field surveys conducted at Al Makhrou valley, the project team has estimated the vascular plant species cover that existed at the different selected transects. Each transect was selected based on set of criteria including the location of transect, the topography, the type of vegetation cover, and its habitat. The field surveyors has ensured

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<sup>1</sup> Douglas A. Wikum, G. Frederick Shanholtzer (July, 1978). Application of the Braun-Blanquet cover-abundance scale for vegetation analysis in land development studies. *Environmental Management*, Volume 2, Issue 4, pp 323– 329.

<sup>2</sup> Wikum, D.A. & Shanholtzer, G.F. (1974). Application of the Braun-Blanquet cover-abundance scale for vegetation analysis in land development studies. *Environmental Management*. July 1978, Volume 2, Issue 4, pp 323–329. <https://doi.org/10.1007/BF01866672>

<sup>3</sup> <http://repository.naturalis.nl/document/572813>

<sup>4</sup> Mueller-Dombois, D. and Ellenberg, H. (1974) *Aims and Methods of Vegetation Ecology*. John Wiley and Sons, New York, 547 p.



the most comprehensive geographic coverage for the valley, coverage for the diverse habitats, coverage for the diverse plant species and others. Other terms were taking into consideration which is the accessibility of the land, the slope, and the density of the plants covering that piece of land. Accordingly and in each transect certain number of quadrats were specified to study in details regarding the type of plants the quadrat is supporting, and its estimated frequency (according to B& B methodology). In some transects only one quadrat was taken as the topography of the land did not allow the team to access all parts of the transect; mainly because those transects were of very steep slopes.

The transects were selected in a way that ensures the coverage of all types of habitats on site. Trees, shrubby and herbaceous vegetation were all studied in each transect. The habitat, soil type and elevation of each transect were specified and interpreted with the type and abundance of species surveyed. Hence, a variety of information were collected along each transect to highlight ecological relationships, the abiotic conditions of each transect and quadrat were also described focusing on the elevation and coordinates, soil type, habitat type, and slope rate.

A profile diagram was used to elucidate graphically the vegetation-environment relationships. The use of cover-abundance ratings in profile diagrams allows one to visualize simultaneously species importance, community composition and structure, and vegetation-topographic relationships<sup>5</sup>. The plant profile of the transect represents plant species that occurred at each sampling quadrat.

The cover-abundance index for each species appears to the right of the species name, directly as a + (cross) rating and a (number). The meaning of those number is interpreted as in table 2.1 below.

**Table (2.1): Braun and Blanquet Scale by Range of Cover**

Braun –Blanquet scale	Range of plant cover (%)
<b>5</b>	<b>75-100</b>
<b>4</b>	<b>50-75</b>
<b>3</b>	<b>25-50</b>
<b>2</b>	<b>5-25</b>
<b>1</b>	<b>&lt;5; numerous individuals</b>
<b>+</b>	<b>&lt;1; few individuals</b>

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<sup>5</sup> Richmond, T. De A. and D. Mueller-Dombois. 1972. Coastline ecosystems on Oahu, Hawaii. *Vegetation* 25: 367-400



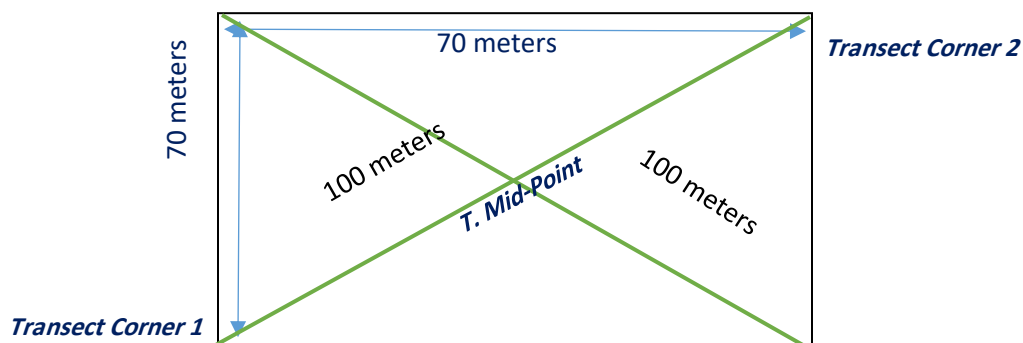
**Map 2.1: AL Makhroul valley delineating the site and all transects selected to be surveyed for their plant cover.**

## 2.2 Line Transect Methodology

Another measurement was taken through implementing the line transect methodology. Plant coverage in relation to soil and rock coverage at the study area was also estimated by measuring a line transect by counting numbers of plant species occurrence at regular or subjectively determined intervals along the line transects covering each block transect selected to be studied according to Braun and Blanquet methodology. (Block transect is the transect described in section 2.1).

Line transect measurements were taken within area of each block transect (described earlier). The line transect was taken as X lines, where each line is of 100 meters length, hence a 200 meters of line transect were measured within each block transect. The line transect is delineated by using a nylon rope of 100 meters marked and numbered with cm intervals, all the way along its length. It was laid across the block transect, where the position of the line transect line was set to cross the whole block transect selected to be studied.

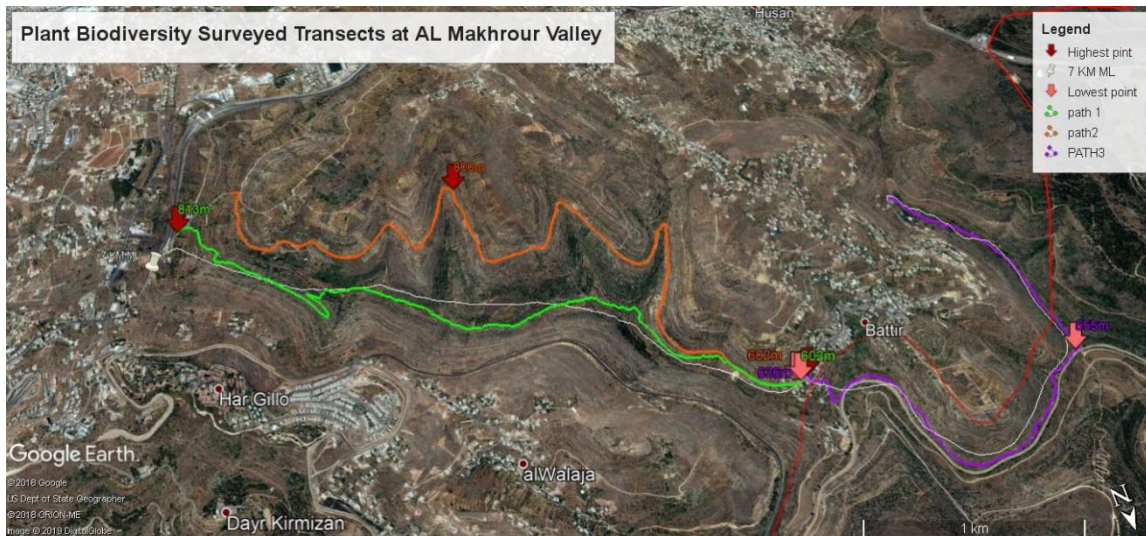
The starting point for the line transect was taken at the first corner of the block transect, while the end point of the line transect was the second corner of the block transect and so on. 70 meters was the space left between one line-transect and the other (see diagram 1 below). A line transect was carried out by unrolling the transect line along the gradient identified. The species touching the line were recorded and their canopy area was measured along the whole length of the line (continuous sampling was taken). Alternatively, the presence, or absence of species at each marked point is recorded (systematic sampling). When there is no plant species touching the line, the soil or rock existing in the space was recorded. At the end the data of the line transect helped PCC team to calculate the plant coverage versus the rock and soil coverage in each block transect. It also helps to identify the frequency of species growing along the line transect and the plant density of the block transect as a whole.



**Diagram 1: Shows a block transect of 70\*70 meters selected in the field and a line transect of 100 meters length set inside the block transect.**

### 2.3 The surveys Area at Al Makhrou Valley

The surveyed area encompasses the valley from Beit Jala side at coordinates 31°42'52.38"N, 35°10'26.16"E reaching up to the natural valley between Battir and Husan villages at point 31°43'18.33"N, 35° 7'54.77"E, taking three paths 1, 2 and 3 (see map 2.2). The area enjoys the different potential habitats that the valley embraces and the different plant species that it supports. The highest point at the studied paths was estimated at 813 meters above sea level and the lowest point reaches to an estimate of 602 meters above sea level.



**Map 2.2: Paths used to support PCC team to conduct the surveys in a comprehensive geographic manner.**



### III. Preliminary findings for plant biodiversity surveys at Al Makhrou Valley – covering Autumn 2018 and Winter 2019 seasons

#### 3.1 Ecosystem and Habitats of Al Makhrou Valley:

Al Makhrou Valley encompasses an area of approximately 3 kilometers of land (WHS is 13 kms), falls in the Mediterranean botanical and zoogeographical region<sup>6</sup> and the Mediterranean biogeographical zone<sup>7</sup>. It is also an important part of the hydrological system that replenishes the western aquifer. The mean annual temperature in this area is 15-18°C. The annual average precipitation is 250-650 mm, some of which falls as snow in some years<sup>8</sup>. The soil is mainly light and brown Rendzina with some area of mixture of Terra Rossa and brown and light Rendzina. With an elevation ranging from ca. 640 m to ca. 830m above sea level<sup>9</sup>. Al Makhrou area is well –known as the governorate's most fertile land and its traditional breadbasket. The valley is announced as Important Bird Area (IBAs)<sup>10</sup> and was designated as a Key Biodiversity Area<sup>11</sup> at national and global levels. AL Makhrou valley is located in the Mediterranean Forests, Woodland and Scrub biome, one of WWF's Global 200 priority biomes for conservation<sup>12</sup>. The area is also part of Conservation International's Global Biodiversity Hotspot Mediterranean Basin<sup>13</sup>, and of a global Centre of Plant Diversity<sup>14</sup>, two additional designations of global conservation importance.

The World Heritage Site also encompasses series of agricultural valleys extending along Al Makhrou Valley towards the west of Beit Jala, then towards the village of Husan, encircling the village of Battir, and extending to the neighboring village of Al Walaja to the northeast. The valley enjoys a strategic location and the availability of springs that attracted people to settle in the area and adapts its steep landscape into arable land, through developing complex irrigation system for the water supply that has led to the creation of dry walls terraces, agricultural watchtowers (manatir) locally known as palaces (qusoor), and olive presses. All were the basis for a strong presence of agriculture of olives

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<sup>6</sup> Zohary, M., (1973). *Geobotanical Foundations of the Middle East*. Stuttgart: B. Fischer Verlag. 739 pp

<sup>7</sup> Soto-Berelov, M., Fall, P.L. & Falconer, S.E (2012). A revised map of plant geographical regions of the Southern Levant. *Proceedings of the Geospatial Science Research Symposium GSR2*. Melbourne.

<sup>8</sup> Meteorological Data 2009-2018. Meteorological Department, Ramallah, Palestine.

<sup>9</sup> Measurements taken in the field, verification will be done using GIS application.

<sup>10</sup> <http://datazone.birdlife.org/country/palestinian-authority-territories> and <http://datazone.birdlife.org/site/results?cty=240&fam=0&gen=0>

<sup>11</sup> <http://www.keybiodiversityareas.org/site/results?reg=8&cty=240&snm=>

<sup>12</sup> Olson, D. M. and Dinerstein, E. (2002). The Global 200: Priority ecoregions for global conservation. *Annals of the Missouri Botanical Garden* 89(2): 199-224.

<sup>13</sup> Conservation International (2013). *Global Biodiversity Hotspots: Mediterranean Basin*. Downloaded from [http://www.conservation.org/where/priority\\_areas/hotspots/europe\\_central\\_asia/Mediterranean-Basin/Pages/default.aspx](http://www.conservation.org/where/priority_areas/hotspots/europe_central_asia/Mediterranean-Basin/Pages/default.aspx)

<sup>14</sup> WWF and IUCN (1994). *Centres of Plant Diversity: a Guide and Strategy for their Conservation*. Volume 1: Europe, Africa, South West Asia and the Middle East. Gland, Switzerland and Cambridge, UK: WWF and IUCN.

and vegetables and others. The traditional system of irrigated terraces is an outstanding example of technological expertise, which constitutes an integral part of the cultural landscape<sup>15</sup>.

The landscapes at Al Makhroul Valley mainly the series of hills’ formations, terraces (natural and man-made) and the valley that flows between the hills of each side, and the related human interventions have created the abundance of diverse habitats along the valley including the abundant agricultural lands (fallow lands), the olive groves that their owners still take care of, the batha – garrigue associations with fairly new succession of wild plant cover, the maquis Mediterranean forest with developed succession of vegetation cover, in addition to the planted areas with mainly pine and cypress trees. (See Table 3.1, Annex 3.1 and Photos 3.1, 3.2, 3.3).



**Photos 3.1, 3.2, 3.3: Landscapes of AL Makhroul Valley**

**Table 3.1: Ecosystem field sheet**

1. The studied site Name	Al Makhroul Valley
2. The valley Eco-region	Mediterranean Region (Mountainous Zone Environment) Central Highlands Range of the West Bank Region Series of hills and a valley that flows from Beit Jala city enclaving Battir villages towards Husan village
3. The valley plant territory geo-element	Mediterranean plant geo-element
4. The valley typology	A mix between; natural maquis forest and a man-made coniferous forest It is a Mediterranean landscape composed of different interacting vegetation patches. Pine and oak ecosystems form contiguous patches within this landscape, in pure stands, or as mixed pine–oak ecosystems. AL Makhroul landscape typically form a patch mosaic where different vegetation types are intermingled in complex patterns created by the variation in physical, biological, and anthropogenic landscape conditions. Further, the mosaics are a

<sup>15</sup> MoTA (Ministry of Tourism and Antiquities), 2013. Palestine, Land of Olives and Vines Cultural Landscape of Southern Jerusalem, Battir. World Heritage Site Nomination Document. Palestinian Ministry of Tourism and Antiquities. Department of Antiquities and Cultural Heritage Palestine.

	heterogeneous combination of both “natural” and man-made patches interleaved with one another in complex patterns that result from different edaphic conditions, topography, exposure to wind and sun, fire and other disturbances, and land-use histories.
<b>5. The valley density</b>	40-93% plant density
<b>6. The valley ecosystem habitats (and its estimated percentage)</b>	<ul style="list-style-type: none"> <li>-Maquis forest –Sclerophyllous - Broad Leaved - Oak Forest and Maquis with <i>Quercus calliprinos</i> dominant species</li> <li>-Man-made Coniferous forest with <i>Pinus halepensis</i> dominant species</li> <li>-Garrigue/Batha forest – shrublands and grasslands</li> <li>-Agricultural land – Olive Groves</li> <li>-Fallow land –abundant land</li> <li>-The valley (5-8ms width)– elongated lowland between the hills</li> </ul> <p>The percentages will be better estimated with further surveys and GIS support</p>
<b>7. The Valley’s water resources</b>	<ul style="list-style-type: none"> <li>- Number of springs distributed along the valley such as Kabryano spring, Al A’mdan Spring, and others (to be collected from literature and surveys).</li> <li>-Water collection systems as natural and man-made rainwater harvesting systems (including cisterns and surface stone cistern)</li> </ul>
<b>8. The valley Surrounding environment</b>	<ul style="list-style-type: none"> <li>-Number of Qanateer or Castles (observed: 27 of them)</li> <li>-Cisterns (observed: 4)</li> <li>-Grottos (observed: 2)</li> <li>-Surrounding the valley a buffer area of agricultural lands and terraces, pieces of lands invested for eco-tourism activities such as restaurants, camping areas, etc)</li> <li>-It is surrounded with Palestinian localities such as Battir, Al Walaja, Husan villages and Beit Jala city; the largest Palestinian localities in the Western Bethlehem Area.</li> <li>-It is also surrounded by Israeli settlements such as Har Gillo from northern side and pass road 60 and Betar Illit and Hadar Betar settlements from southern western side which forms part of Gutsh Etzion settlement’s bloc.</li> <li>-From an environmental and water perspective, the area west of Bethlehem including Al Makhroul valley and the surrounding area is considered a high water production zone in relation to the lower part of the water aquifer.</li> </ul>
<b>9. Conservation programs and authority</b>	<ul style="list-style-type: none"> <li>-No conservation actions are taken on the ground although it is a WHS, however a management plan was set by relevant stakeholders for the site for protecting and developing the site. But there is no conservation plan specific for the biodiversity of the site.</li> <li>-Both Battir village council and Beit Jala municipality are the main authorities that the area is demarcated under their jurisdiction according to the Palestinian Local Government classification. Private ownership is prevailing at site.</li> <li>-The area is located in Geopolitical area “C”; under Israel civil and security control, makes up to 61% of West Bank. No development is allowed unless a permit is taken from Israeli side.</li> </ul>
<b>10. The valley threats</b>	New construction activities, building new terraces, replacing natural areas with agricultural lands, restoration activities, small fires (especially during olives harvesting season), garbage and litter disposal and others (further investigation is needed)
<b>11. The valley photos</b>	More than 50 photos

12. Succession	Different levels of successions in different landscape patches. To be specified per studied transects.
13. notes	<p>- <i>Quercus calliprinos</i> forest of high nature conservation value in the Mediterranean region. Sclerophyllous oak forests are an important ecosystem type of the natural vegetation in the Mediterranean region. As a part of the mosaic-like landscape, old-growth oak forests, in particular, provide a wide range of ecosystem functions and services.</p> <p>The site supports different micro-environments that support the growth of diverse plant species of different life forms and distribution at the site</p>
14. General plant cover observed during the exploration visit to the Valley's ecosystem	<p><i>Plant species that were identified during the exploration visit are listed in Annex 3.1- Plant species identified at Al Makbrouh Valley till date of the report.</i></p>

During the field surveys and while studying the targeted transects along the valley, the habitats of the valley were identified. The Valley encompasses diverse habitats that supports diverse flora, fauna and avi-fauna species. The habitats of the valley are highly affected with the different human interventions at the valley. As it is clear that the valley used to be cultivated and in some areas cultivation is still practiced by locals; mainly those inhabiting the Palestinian localities in proximity; but mainly Battir village and Beit Jala city. The man made terraces, the olives' cultivations, the cisterns and the 'Manateer' (watchtowers for crops' harvest storage) are main human elements distributed all over the valley. However, a major part of the valley is not cultivated anymore, number of places are totally abundant and neglected and hence the major part of the valley is a mixture feature of both natural and man-made components (see Tables 3.4).

***Of the main habitats that were surveyed are the following:***

1. Natural Oak forest: Sclerophyllous Broad Leaved Oak Forest and Maquis. This habitat is dominated with *Quercus calliprinos* Oak tree that supports the growth of diverse and dense batha/garrigue plant associations of mainly *Sarcopoterium spinosum*, *Cistus spp.*, *Calicotome villosa*, and *Coridothymus capitatus*. This habitat supports the growth of diverse wild Mediterranean trees such as *Rhamnus lycioides*, *Crataegus aronia*, *Pistacia Palaestina*, and the reseeded of *Pinus halepensis*, and *Pinus pinea*, in addition to diverse shrub and herbaceous species such as *Teucrium divaricatum*, *Teucrium capitatum*, *Fumana arabica*, *Andropogon distachyos* and many others.
2. Mixed natural oak and olive groves: This habitat is dominated with both oak and olive trees. The habitat support the growth of number of trees such as *Arbutus andrachne*, *Pistacia Palaestina*, *Styrax officinalis* and number of shrubs and

- herbaceous species such as *Pistacia lentiscus*, *Phlomis viscosa*, *Calicotome villosa*, *Cyclamen persicum*, *Smilax aspera*, and many others.
3. Man-made planted coniferous woodland: This habitat is dominant with *Pinus halepensis* cultivated tree and its reseeding plants. This habitat does not support diverse plants but mainly scattered herbaceous species especially at the sides of the habitat where new habitats starts to emerge.
  4. Batha and Garrigue habitat: This habitat support the growth of shrub/subshrubs and herbaceous species. Of the main species are *Phlomis viscoa*, *Cistus spp.*, *sarcopoterium spinosum*, *coridothymus capitatus*, *Calicotome villosa*, *Bellis sylvestris*, *Teucrium creticum*, and many others.
  5. Fallow lands and olive groves: This habitat is mainly located at the flat lowland valley, where there are wide spread olive groves either cultivated or still taken care of by its owners as those groves are plowed lands or groves that are cultivated and left alone for one or two seasons only, or groves that were cultivated but neglected and only visited for harvesting and here the fallow land appear under or on the sides of the olive grove land. The plant associations in this habitat are *Asparagus aphyllus*, *Andropogon distachyos*, *Calicotome villosa*, *Carlina spp.*, *Arum Palaestinum*, *Malva parviflora* and many *graminae spp.* and *papilionaceae spp.* (to be classified in spring season).
  6. Mixed oak and Pine forest supporting batha association, which supports diverse types of plants such as *Pistacia palaestina*, *Rhamnus Lycoides*, *Crataegus aronia*, *Teucrium capitatum*, *Thymus spicata*, *Thymbra spicata*, *Leontodon tuberosus*, and others.
  7. The trench of the lowland valley (the deepest point in the valley): This trench is 5-8 meters in width and it supports the growth of all plant forms including trees, shrubs and herbaceous species. Of main plants are *Pistacia palaestina*, *Quercus calliprinos*, *Sarcopoterium spinosum*, *Calicotome villosa*, *cistus spp.*, *Salvia indica*, *Daucus carota*, *Phagnalon rupestre*, *Dittrichia viscosa* and many others (see photos 3.4 – 3.9) and Table 3.4.



**Photos 3.4, 3.5, 3.6: Diverse habitats at AL Makhroul Valley; examples - Coniferous man-made woodland, batha-garrigue association, the valley trench respectively.**



**Photos 3.7, 3.8, 3.9: continued – habitats at Al Makhroul Valley; examples – olive groves, mixed oak forest and olive groves, mixed oak and pine forest and batha association respectively.**

It was also noticed that there are many micro-environments that support the growth of specific plant species within the different habitats. This is mainly obvious on terraces (natural and man-made), near the paths, near water collections and on Heaps of small rocks. For example of the lithophyte species that grow abundantly in the valley are *Cyclamen persicum*, *Umbilicus intermedius*, *Arisarum vulgare*, *Chiliadenus iphionoides* (*varthemia*), *Ajuga chamaepitys*, *Eremostachys laciniata* and others which are mainly geophytes. Near the paths and water collection sites there were diverse plants growing such as *Sinapis arvensis*, *Malva parviflora*, *Foeniculum vulgare*, *Nasturtium officinale*, *Verbascum sinuatum*, *Ferula communis* and many others. And there are number of climbing plant species including *Smilax aspera*, *Clematis cirrhosa*, *Clematis flammula*, *Lonicera etrusca*, (see photos 3.10-3.13, Tables 3.4)



*Eremostachys laciniata* - صوفية



*Smilax aspera* - عليق



*Arum Palaestinum* - لوف الفلسطيني



*Umbilicus intermedius* - مخلدة

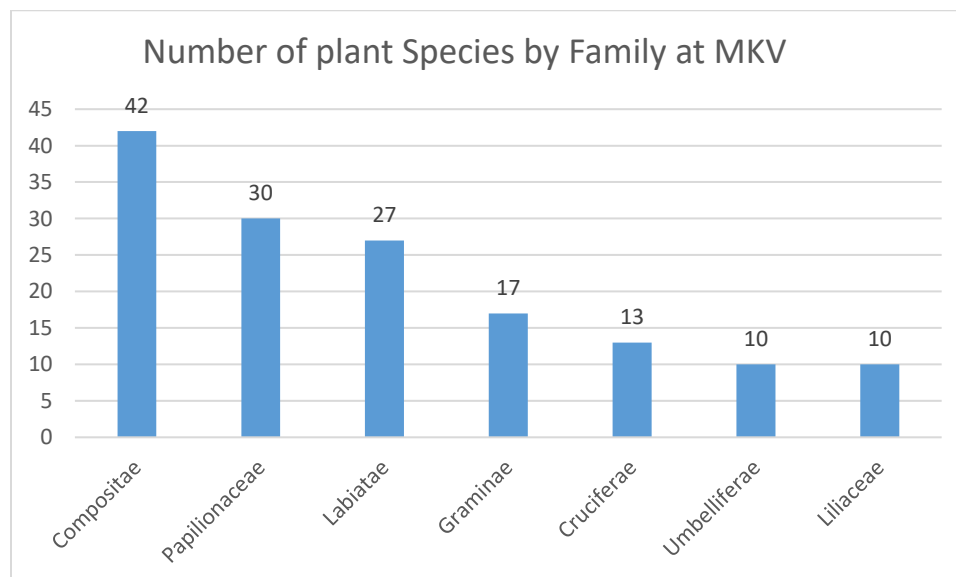
**Photos 3.10, 3.11, 3.12, 3.13: Lithophytes and climbers at Al Makhrou Valley**

### 3.2 The Results of the Plant Cover Inventory (Vascular Plants):

#### 3.2.1 Introduction

A total of 270 vascular plant species were recorded the flora survey at MKV until the date of the report. The area clearly hosts high number of vascular plants, as the results here present the findings of the autumn, winter, and early spring seasons 2018/2019. The diverse habitats at MKV forms supporting environment for the growth of diverse plant species. The valley supports the growth of 55 plant families; most dominantly are Compositae, Papilionaceae, Labiatae, Graminae and Cruciferae (see Figure 3.1).

The total number of tree species surveyed at the valley is 16 trees, while the valley encompasses 38 shrubs and sub-shrubs, and 216 herbaceous plant species.



**Figure 3.1: Number of plant species by family surveyed at Al Makhrou Valley**

Of the dominant tree species growing at MKV are Oak trees *Quercus calliprinos*, Aleppo Pine trees *Pinus halepensis*, and Olive trees *Olea europea*. Other tree species were identified in the area including Pistachio trees *Pistacia palaestina*, Strawberry trees *Arbutus andrachne*, Carob trees *Ceratonia siliqua*, Stone Pine trees *Pinus pinea*, Cypress trees *Cupressus sempervirens*, Hawthorn Azarole trees *Crataegus aronia*, snowbell bush trees *Styrax officinalis*, Syrian Pear *Pyrus Syriaca*, Sumaq tree *Rhus coriaria* and others. Three main dominant trees were found growing at the valley; Pine, Olive and Oak trees. The pine trees are mainly cultivated trees (some reseeding is taking place) of an estimated age that ranges between 20 and 80 years old, while the olive trees which are also cultivated (some reseeding is taking place) of an estimated age that ranges between 2 to 50 years old. The oak trees which are all wild natural trees were found of an estimated age between 5 to 50 years (reseeding is taking place).

Regarding the main shrub species growing at MKV are Rock rose *Cistus creticus*, *Cistus salvifolius*, Headed Thyme *coridothymus capitatus*, Spiny Broom *Calicotome villosa*, Prickly Burnet *sarcopoterium spinosum*, Hedge Germander *Teurcium divaricatum*, Cat Thyme Germander *Teucrium capitatum*, Shrubby Jerusalem Sage *Phlomis viscosa*, Mediterranean thyme *Thymbra spicata* and others. Of the three most dominant shrubs found growing at MKV are Rock rose, Prickly burnet, Spiny broom and Headed thyme.

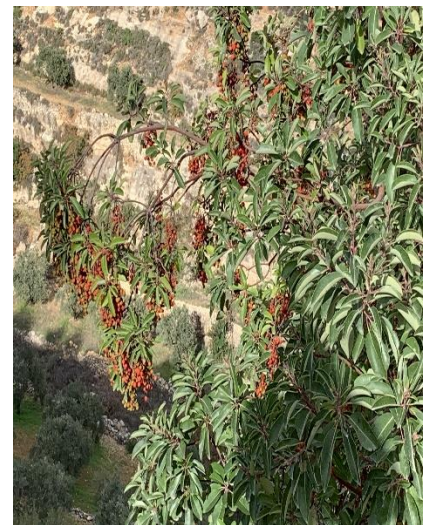
Regarding the main herbaceous species are Persian Cyclamen *Cyclamen persicum*, Arabian Cistus *Fumana arabica*, Rough Binweed *Smilax aspera*, Spanish Carline Thistle *Carlina Hispanica*, Early virgin's-bower *Clematis Cirrhosa* and many others (Photos 3.9-3.14). The whole list of vascular plant species found during surveys at Al Makhrou Valley including the natural area circulating Battir Village is documented in Annex 3.1.



*Quercus calliprinos* - بلوط



*Pinus halepensis* - صنوبر الشائع



*Arbutus andrachne* - قيقب او القطلب

**Photos 3.9, 3.10, 3.11: Dominant trees at Al Makhrou valley during autumn and winter 018/2019**





*Bellis sylvestris* - حنونة  
البور



*Gagea commutata* - زهرة نجمة بيت لحم



*Cyclamen Persicum* - عصا  
الراعي او زعموط



*Leontodon tuberosus*  
(*Thrinicia tuberosa*) - كتيمة



*Trifolium clypeatum*-  
برسيم ترسي ابيض



*Calicotome villosa* -  
قندول



*Cistus salviifolius*-  
لبيد ابيض



*Clematis cirrhosa* -  
حبيل المسك

**Photos 3.12, 3.13, 3.14: Dominant perennial/annuals and shrubs at Al Makhroul Valley during autumn and winter 2018/2019**

The valley supports that growth of large number of rare species that are distributed along the valley. IT was found 38 rare and very rare plant species where 11 are very rare species at local level, and 32 LC species, and 1VU species according to IUCN Red list. The rare species are mainly found among 9 families of which are orchidaceae, polygonaceae, solanaceae, verbenaceae, and violaceae. It was also found that the valley supports the growth of 14 endemic species; mostly endemic to Palestine and Syria, which are all of high conservation value. *Iris vartanii* is an important species to note here as it is the only one that is endemic to Palestine and found rare species at local level, while classified as vulnerable species decreasing in number at global level according to IUCN Red List (See Table 3.2, Photo 3.15 and Annex 3.1)



*Crocus heymanii* -  
زعفران

*Colchicum hierosolymitanum* -  
الودع المقدس

*Iris vartanii* –  
سوسن المسطرة

*Vagaria parviflora*  
رجل الحمامة البيضاء-

*Orchis galilaea*  
سحلب الجليل –

**Photo 3.15, 3.16, 3.17: Selected Rare and very rare Species at MKV**

**Table 3.2: Endemic species found at MKV and their abundance**

Family	Species name	Endemism	Abundance at local level	Abundance (IUCN Red List)
Amaryllidaceae	<i>Vagaria parviflora</i>	ES	F	LC
Araceae	<i>Biarum angustatum</i>	ET	F	-
Boraginaceae	<i>Alkanna strigosa</i>	ET	C	-
	<i>Echium judaeum</i>	ES	CC	-
Compositae	<i>Anthemis bornmuelleri</i>	ES	CC	-
	<i>Calendula palaestina</i>	EL	C(LD)	-
Iridaceae	<i>Iris vartanii</i>	EP	R	VU
Labiatae	<i>Sabia judaica</i>	ES	C	-
	<i>Sabia pinnata</i>	ET	C (LD)	-
Liliaceae	<i>Bellevalia eigii</i>	EE	F	-
	<i>Bellevalia flexuosa</i>	ES	CC	-
Papilionaceae	<i>Trigonella berythea</i>	ET	F	-
Scrophularaceae	<i>Scrophularia rubicaulis</i>	ES	F	-
Umbelliferae	<i>Chaetosciadium trichospermum</i>	ES	CC	-

- Ad1 (abundance at local level, according to Checklist and Ecological Database<sup>16</sup>): CC=Very common species, C=Common species, F=Frequent species, R=somewhat rare species, C(LD)= Common with limited distribution, CC(LD)= Very common with limited distribution, R(COE)= Rare but common in other ecosystem, NR= Not Registered in the study area before but found during surveys, R(LD)= Rare with limited distribution, F(LD)= Frequent species with limited distribution
- Abd2 (abundance at global level, according to IUCN RED List<sup>17</sup>): LC= Least Concern, VU= Vulnerable - decreasing

<sup>16</sup> Ori F., Uzi P., David H., Avi S. (1999). Checklist and Ecological Data-Base of the Flora of Israel and its Surroundings. Hebrew University, Jerusalem.

<sup>17</sup> <http://www.iucnredlist.org/search>

- End= Endemism, EP=Endemic to Palestine, ET=Endemic to Palestine and Turkey, EL=Endemic to Palestine and Lebanon, ES=Endemic to Palestine and Syria,

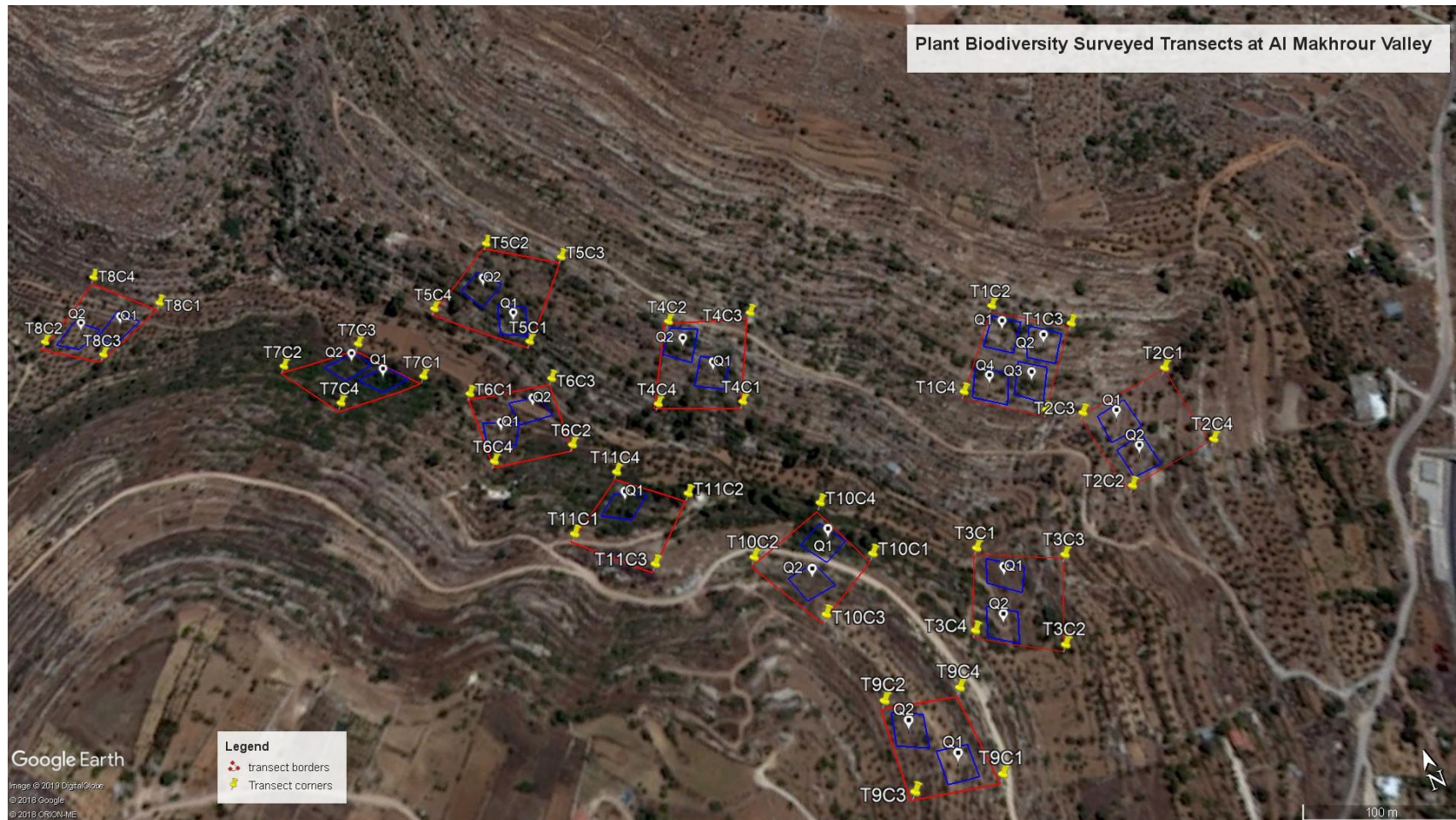
### 3.2.2 Results of the Braun and Blanquet (B&B) Survey done at Al Makhroul Valley

Investigating the results of the studied 33 transects, it appears that transects number T10, T22, T9, and T12 are the most diverse in plants transects; followed by T11, T17, T20 and T30 as they are mainly mixed habitats of natural oak forest and olive groves habitats (almost all mature succession of natural habitats) that encompass high humidity, high humus matter and fertile healthy soils, appropriate rock formations and distribution, elevation and solar radiation that affect positively the survival and reproduction of living organisms. T10 and T22 supports the growth of almost 54 different plant species, while T12 and T9 supports the growth of almost 52 plant species respectively and so on. This data reflects what was studied and surveys during the report period (see Table 3.3).

*Table 3.3: Total number of plant species growing at each studied transect during the report period*

Transect no.	Number of plants species	Transect no.	Number of Plant species
T1	26	T17	44
T2	38	T18	8
T3	34	T19	26
T4	36	T20	38
T5	28	T21	22
T6	42	T22	54
T7	29	T23	32
T8	30	T24	20
T9	52	T25	13
T10	54	T26	47
T11	48	T27	32
T12	52	T28	42
T13	33	T29	40
T14	28	T30	44
T15	37	T31	29
T16	28	T32	24
T33	31	T33	24

The following section shows detailed maps for the distribution of studied transects and their quadrats and table 3.4. below presents the estimated cover according to Braun and Blanquet scale at the different surveyed transects. (See Table 3.4). Coordinates of studied transects are summarized in Annex 3.2. For details regarding each plant species and its distribution over the different studied transect see Annex 3.3.



**Map 3.1: Presents the distribution and geo-location of the studied transects T1, T2, T3, T4, T5, T6, T7, T8, T9, T10, and T11 and their quadrats at MKV- (Beit Jala city from eastern side).**

**Table 3.4: List of species and their estimated cover by surveyed transects along the Al-Makhrouf Valley.**

Transect	Transect 1 (T1) Northern hill from Beit Jala side – path 1				Transect 2 (T2) Beit Jala side –path 1		Transect 3 (T3) Lowland Valley between series of hills (northern, southern and eastern hills) from Beit Jala side – path 1	
	Q1	Q2	Q3	Q4	Q1	Q2	Q1	Q2
Soil type	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Alluvial soil, lots of humus and remaining of compost	Alluvial soil	Rendzina soil	Rendzina soil
Habitat	maquis oak forest (startup of succession) with bath and Garrigue association	maquis forest(startup of succession) with bath and Garrigue association	maquis forest(startup of succession) with bath and Garrigue association	maquis forest(startup of succession) with bath and Garrigue association	Maquis oak forest, fallow land and olive groves	Olive groves and fallow land, lots of humus	Bath and garrigue association, fallow land and olive groves	Bath and garrigue association, fallow land and olives groves
Plant cover	65% plant cover	60% plant cover	60% plant cover	65% plant cover	70% plant cover	75% plant cover	80% plant cover	80% plant cover
Elevations above sea level	793m	789m	790m	776m	781	771	736m	740m
Slope	moderate steep	moderate steep	moderate steep	moderate steep	Steep	steep	flat	flat
Species	<b>Braun and Blanquet scale</b>							
<i>Adonis microcarpa</i>	+( <b>&lt;1%</b> )	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	-	-	-
<i>Allium neapolitanum</i>	-	+( <b>&lt;1%</b> )	-	-	-	-	+( <b>&lt;1%</b> )	-
<i>Anacamptis papilionacea</i> ( <i>Orchis papilionacea</i> )	-	-	-	-	-	+( <b>&lt;1%</b> )	-	-
<i>Andropogon distachyos</i>	<b>2(10%)</b>	<b>2(10%)</b>	<b>2(10%)</b>	<b>2(10%)</b>	+( <b>&lt;1%</b> )	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Anagallis arvensis</i>	-	-	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	-
<i>Anemone coronaria</i>	+( <b>&lt;1%</b> )	-	-	-	-	+( <b>&lt;1%</b> )	-	-
<i>Anthemis pseudocotula</i>	-	-	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	-

Transect	Transect 1 (T1) Northern hill from Beit Jala side – path 1				Transect 2 (T2) Beit Jala side –path 1		Transect 3 (T3) Lowland Valley between series of hills (northern, southern and eastern hills) from Beit Jala side – path 1	
	Q1	Q2	Q3	Q4	Q1	Q2	Q1	Q2
<b>Soil type</b>	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Alluvial soil, lots of humus and remaining of compost	Alluvial soil	Rendzina soil	Rendzina soil
<b>Habitat</b>	maquis oak forest (startup of succession) with bath and Garrigue association	maquis forest(startup of succession) with bath and Garrigue association	maquis forest(startup of succession) with bath and Garrigue association	maquis forest(startup of succession) with bath and Garrigue association	Maquis oak forest, fallow land and olive groves	Olive groves and fallow land, lots of humus	Bath and garrigue association, fallow land and olive groves	Bath and garrigue association, fallow land and olives groves
<b>Plant cover</b>	65% plant cover	60% plant cover	60% plant cover	65% plant cover	70% plant cover	75% plant cover	80% plant cover	80% plant cover
<b>Elevations above sea level</b>	793m	789m	790m	776m	781	771	736m	740m
<b>Slope</b>	moderate steep	moderate steep	moderate steep	moderate steep	Steep	steep	flat	flat
<b>Species</b>	<b>Braun and Blanquet scale</b>							
<i>Arum Palaestinum</i>	-	-	-	-	1(5%)	+(<1%)	-	-
<i>Asparagus aphyllus</i>	+(<1%)	1(5%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)
<i>Asphodeline lutea</i>	-	+(<1%)	-	-	+(<1%)	-	-	-
<i>Bellis sylvestris</i>	+(<1%)	-	-	+(<1%)	-	+(<1%)	+(<1%)	-
<i>Bellevalia flexuosa</i>	-	-	-	-	-	+(<1%)	-	-
<i>Calicotome villosa</i>	+(<1%)	+(<1%)	2(5%)	+(<1%)	+(<1%)	-	+(<1%)	2(10%)
<i>Calendula arvensis</i>	-	-	-	-	+(<1%)	+(<1%)	+(<1%)	+(<1%)
<i>Carlina hispanica</i>	+(<1%)	1(5%)	-	+(<1%)	-	-	-	-

Transect	Transect 1 (T1) Northern hill from Beit Jala side – path 1				Transect 2 (T2) Beit Jala side –path 1		Transect 3 (T3) Lowland Valley between series of hills (northern, southern and eastern hills) from Beit Jala side – path 1	
	Q1	Q2	Q3	Q4	Q1	Q2	Q1	Q2
<b>Soil type</b>	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Alluvial soil, lots of humus and remaining of compost	Alluvial soil	Rendzina soil	Rendzina soil
<b>Habitat</b>	maquis oak forest (startup of succession) with bath and Garrigue association	maquis forest(startup of succession) with bath and Garrigue association	maquis forest(startup of succession) with bath and Garrigue association	maquis forest(startup of succession) with bath and Garrigue association	Maquis oak forest, fallow land and olive groves	Olive groves and fallow land, lots of humus	Bath and garrigue association, fallow land and olive groves	Bath and garrigue association, fallow land and olives groves
<b>Plant cover</b>	65% plant cover	60% plant cover	60% plant cover	65% plant cover	70% plant cover	75% plant cover	80% plant cover	80% plant cover
<b>Elevations above sea level</b>	793m	789m	790m	776m	781	771	736m	740m
<b>Slope</b>	moderate steep	moderate steep	moderate steep	moderate steep	Steep	steep	flat	flat
<b>Species</b>	<b>Braun and Blanquet scale</b>							
<i>Carlina curretum</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	+( <b>&lt;1%</b> )	-	-	-	-
<i>Chiliadenus iphionoides</i>	-	-	-	-	+( <b>&lt;1%</b> )	-	-	-
<i>Cistus salvifolius</i>	<b>2(15%)</b>	<b>2(10%)</b>	<b>3(25%)</b>	<b>3(27%)</b>	-	<b>1(&lt;5%)</b>	+( <b>&lt;1%</b> )	<b>2(15%)</b>
<i>Coridothymus capitatus</i>	<b>2(10%)</b>	<b>3(25%)</b>	<b>3(25%)</b>	-	-	-	-	-
<i>Crataegus aronia</i>	-	-	-	-	-	-	+( <b>&lt;1%</b> )	-
<i>Cyclamen persicum</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	<b>1(5%)</b>	<b>1(&lt;5%)</b>	+( <b>&lt;1%</b> )	<b>1(5%)</b>	+( <b>&lt;1%</b> )
<i>Daucus carota</i>	-	-	-	-	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Dittrichia viscosa</i>	-	-	-	-	-	-	-	+( <b>&lt;1%</b> )
<i>Echinops polyceras</i>	-	-	-	-	-	-	+( <b>&lt;1%</b> )	-

Transect	Transect 1 (T1) Northern hill from Beit Jala side – path 1				Transect 2 (T2) Beit Jala side –path 1		Transect 3 (T3) Lowland Valley between series of hills (northern, southern and eastern hills) from Beit Jala side – path 1	
	Q1	Q2	Q3	Q4	Q1	Q2	Q1	Q2
<b>Soil type</b>	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Alluvial soil, lots of humus and remaining of compost	Alluvial soil	Rendzina soil	Rendzina soil
<b>Habitat</b>	maquis oak forest (startup of succession) with bath and Garrigue association	maquis forest (startup of succession) with bath and Garrigue association	maquis forest (startup of succession) with bath and Garrigue association	maquis forest (startup of succession) with bath and Garrigue association	Maquis oak forest, fallow land and olive groves	Olive groves and fallow land, lots of humus	Bath and garrigue association, fallow land and olive groves	Bath and garrigue association, fallow land and olives groves
<b>Plant cover</b>	65% plant cover	60% plant cover	60% plant cover	65% plant cover	70% plant cover	75% plant cover	80% plant cover	80% plant cover
<b>Elevations above sea level</b>	793m	789m	790m	776m	781	771	736m	740m
<b>Slope</b>	moderate steep	moderate steep	moderate steep	moderate steep	Steep	steep	flat	flat
<b>Species</b>	<b>Braun and Blanquet scale</b>							
<i>Erodium ciconium</i>	-	-	-	-	-	+( $<1\%$ )	-	-
<i>Eryngium cretium</i>	-	-	-	-	-	-	-	+( $<1\%$ )
<i>Helianthemum ventosum</i>	+( $<1\%$ )	-	+( $<1\%$ )	-	-	-	-	-
<i>Hordeum bulbosum</i>	-	-	-	-	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )
<i>Hordeum spontanium</i>	-	-	-	-	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )
<i>Fumana Arabica</i>	+( $<1\%$ )	1(5%)	-	1(5%)	-	-	-	-
<i>Geranium robertianum</i>	-	-	-	-	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )
<i>Malva parviflora</i>	-	-	-	-	1(5%)	-	-	-
<i>Medicago monspeliaca</i>	-	-	-	-	+( $<1\%$ )	+( $<1\%$ )	-	-



Transect	Transect 1 (T1) Northern hill from Beit Jala side – path 1				Transect 2 (T2) Beit Jala side –path 1		Transect 3 (T3) Lowland Valley between series of hills (northern, southern and eastern hills) from Beit Jala side – path 1	
	Q1	Q2	Q3	Q4	Q1	Q2	Q1	Q2
<b>Soil type</b>	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Alluvial soil, lots of humus and remaining of compost	Alluvial soil	Rendzina soil	Rendzina soil
<b>Habitat</b>	maquis oak forest (startup of succession) with bath and Garrigue association	maquis forest(startup of succession) with bath and Garrigue association	maquis forest(startup of succession) with bath and Garrigue association	maquis forest(startup of succession) with bath and Garrigue association	Maquis oak forest, fallow land and olive groves	Olive groves and fallow land, lots of humus	Bath and garrigue association, fallow land and olive groves	Bath and garrigue association, fallow land and olives groves
<b>Plant cover</b>	65% plant cover	60% plant cover	60% plant cover	65% plant cover	70% plant cover	75% plant cover	80% plant cover	80% plant cover
<b>Elevations above sea level</b>	793m	789m	790m	776m	781	771	736m	740m
<b>Slope</b>	moderate steep	moderate steep	moderate steep	moderate steep	Steep	steep	flat	flat
<b>Species</b>	<b>Braun and Blanquet scale</b>							
<i>Thymbra spicata</i>	1(5%)	+(<1%)	2(10%)	+(<1%)	-	+(<1%)	-	+(<1%)
<i>Notobasis syriaca</i>	-	-	-	-	2(10%)	-	-	-
<i>Olea europaea</i>	+(<1%)	-	-	+(<1%)	+(<1%)	4(70%)	+(<1%)	-
<i>Phagnalon rupestre</i>	+(<1%)	+(<1%)	-	-	-	-	-	-
<i>Pinus halepensis</i>	+(<1%)	-	-	+(<1%)	1(5%)	-	-	-
<i>Pistacia lentiscus</i>	-	-	-	+(<1%)	-	-	-	-
<i>Pistacia palaestina</i>	-	-	-	-	-	2(20%)	+(<1%)	+(<1%)
<i>Phalaris aquatica (tuberosa)</i>	-	-	-	-	-	-	+(<1%)	+(<1%)
<i>Plantago afra</i>	-	-	-	-	-	+(<1%)	-	+(<1%)

Transect	Transect 1 (T1) Northern hill from Beit Jala side – path 1				Transect 2 (T2) Beit Jala side –path 1		Transect 3 (T3) Lowland Valley between series of hills (northern, southern and eastern hills) from Beit Jala side – path 1	
	Q1	Q2	Q3	Q4	Q1	Q2	Q1	Q2
<b>Soil type</b>	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Alluvial soil, lots of humus and remaining of compost	Alluvial soil	Rendzina soil	Rendzina soil
<b>Habitat</b>	maquis oak forest (startup of succession) with bath and Garrigue association	maquis forest(startup of succession) with bath and Garrigue association	maquis forest(startup of succession) with bath and Garrigue association	maquis forest(startup of succession) with bath and Garrigue association	Maquis oak forest, fallow land and olive groves	Olive groves and fallow land, lots of humus	Bath and garrigue association, fallow land and olive groves	Bath and garrigue association, fallow land and olives groves
<b>Plant cover</b>	65% plant cover	60% plant cover	60% plant cover	65% plant cover	70% plant cover	75% plant cover	80% plant cover	80% plant cover
<b>Elevations above sea level</b>	793m	789m	790m	776m	781	771	736m	740m
<b>Slope</b>	moderate steep	moderate steep	moderate steep	moderate steep	Steep	steep	flat	flat
<b>Species</b>	<b>Braun and Blanquet scale</b>							
<i>Poa bulbosa</i>	-	-	-	-	-	-	+(<1%)	+(<1%)
<i>Podonosma orientalis</i>	-	-	-	-	-	+(<1%)	-	+(<1%)
<i>Picnomon acarna</i>	-	-	-	-	-	-	+(<1%)	-
<i>Quercus calliprinos</i>	2(10%)	2(10%)	2(10%)	2(10%)	3(35%)	1(5%)	+(<1%)	1(<5%)
<i>Rhamnus lycioides</i>	+(<1%)	+(<1%)	-	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)
<i>Rubia tenuifolia</i>	-	-	-	-	-	-	+(<1%)	+(<1%)
<i>Sarcopoterium spinosum</i>	3(30%)	1(5%)	+(<1%)	3(30%)	2(25%)	1(5%)	1(5%)	3(<50%)
<i>Scandix verna (iberica)</i>	-	-	-	-	-	+(<1%)	-	-
<i>Securigera securidaca</i>	-	-	-	-	-	+(<1%)	+(<1%)	+(<1%)

Transect	Transect 1 (T1) Northern hill from Beit Jala side – path 1				Transect 2 (T2) Beit Jala side –path 1		Transect 3 (T3) Lowland Valley between series of hills (northern, southern and eastern hills) from Beit Jala side – path 1	
	Q1	Q2	Q3	Q4	Q1	Q2	Q1	Q2
<b>Soil type</b>	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Alluvial soil, lots of humus and remaining of compost	Alluvial soil	Rendzina soil	Rendzina soil
<b>Habitat</b>	maquis oak forest (startup of succession) with bath and Garrigue association	maquis forest(startup of succession) with bath and Garrigue association	maquis forest(startup of succession) with bath and Garrigue association	maquis forest(startup of succession) with bath and Garrigue association	Maquis oak forest, fallow land and olive groves	Olive groves and fallow land, lots of humus	Bath and garrigue association, fallow land and olive groves	Bath and garrigue association, fallow land and olives groves
<b>Plant cover</b>	65% plant cover	60% plant cover	60% plant cover	65% plant cover	70% plant cover	75% plant cover	80% plant cover	80% plant cover
<b>Elevations above sea level</b>	793m	789m	790m	776m	781	771	736m	740m
<b>Slope</b>	moderate steep	moderate steep	moderate steep	moderate steep	Steep	steep	flat	flat
<b>Species</b>	<b>Braun and Blanquet scale</b>							
<i>Sedum sedifforme</i>	-	-	+(<1%)	-	-	-	-	-
<i>Silybum marianum</i>	-	-	-	-	-	-	+(<1%)	-
<i>Smilax aspera</i>	-	-	-	-	+(<1%)	-	+(<1%)	+(<1%)
<i>Sonchus oleraceus</i>	-	-	-	-	-	+(<1%)	+(<1%)	-
<i>Teucrium capitatum</i>	-	-	-	-	1(5%)	+(<1%)	-	-
<i>Teucrium creticum</i>	+(<1%)	-	-	1(5%)	-	-	-	-
<i>Teucrium divaricatum</i>	1(5%)	2(10%)	+(<1%)	-	2(5%)	-	+(<1%)	-
<i>Tetragonolobus palaestinus</i>	+(<1%)	-	+(<1%)	-	+(<1%)	-	-	+(<1%)
<i>Trigonella arabica</i>	+(<1%)	-	-	+(<1%)	-	-	-	-

Transect	Transect 1 (T1) Northern hill from Beit Jala side – path 1				Transect 2 (T2) Beit Jala side –path 1		Transect 3 (T3) Lowland Valley between series of hills (northern, southern and eastern hills) from Beit Jala side – path 1	
	Q1	Q2	Q3	Q4	Q1	Q2	Q1	Q2
<b>Soil type</b>	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Rendzina soil with accumulation of Humus	Alluvial soil, lots of humus and remaining of compost	Alluvial soil	Rendzina soil	Rendzina soil
<b>Habitat</b>	maquis oak forest (startup of succession) with bath and Garrigue association	maquis forest(startup of succession) with bath and Garrigue association	maquis forest(startup of succession) with bath and Garrigue association	maquis forest(startup of succession) with bath and Garrigue association	Maquis oak forest, fallow land and olive groves	Olive groves and fallow land, lots of humus	Bath and garrigue association, fallow land and olive groves	Bath and garrigue association, fallow land and olives groves
<b>Plant cover</b>	65% plant cover	60% plant cover	60% plant cover	65% plant cover	70% plant cover	75% plant cover	80% plant cover	80% plant cover
<b>Elevations above sea level</b>	793m	789m	790m	776m	781	771	736m	740m
<b>Slope</b>	moderate steep	moderate steep	moderate steep	moderate steep	Steep	steep	flat	flat
<b>Species</b>	<b>Braun and Blanquet scale</b>							
<i>Umbilicus intermedius</i>	-	-	-	-	-	+( <b>&lt;1%</b> )	-	-
<i>Urtica urens</i>	-	-	+( <b>&lt;1%</b> )	-	<b>2(15%)</b>	+( <b>&lt;1%</b> )	-	-
<i>Vicia Palaestina</i>	-	-	-	-	-	+( <b>&lt;1%</b> )	-	+( <b>&lt;1%</b> )
<i>Verbena supina</i>	-	-	-	-	-	+( <b>&lt;1%</b> )	-	-

Transect	Transect 4 (T4) – continuous series of Northern hill – path 1			Transect 5 (T5)- continuous series of Northern hill towards Battir – path 1		Transect 6 (T6) – valley of olive groves and fallow land – the valley below the northern hills of T5 – path 1	
	Q1	Q2	Q3	Q1	Q2	Q1	Q2
<b>Soil type</b>	Brown and light rendzina	Brown and light rendzina	Brown and light rendzina	Brown and light rendzina	Brown and light rendzina	Brown rendzina	Brown rendzina
<b>Habitat</b>	maquis forest –startup succession since 25years	maquis forest – startup succession since 25years	maquis forest–startup succession since 25years	maquis forest–startup succession since 25years	maquis forest– startup succession since 25years	Fallow land and olive groves– lots of segetal species	The trench of the valley
<b>Plant cover</b>	80% plant cover	80% plant cover	80% plant cover	80% plant cover	80% plant cover	40% plant cover	80% plant cover
<b>Elevations above sea level</b>	753m	760m	748m	733m	737m	712 m	710
<b>Slope</b>	Moderate steep	Moderate steep	Moderate steep	Very Steep	Very steep	flat	flat
<b>Species</b>	<b>Braun and Blanquet scale</b>						
<i>Allium orientale</i>	-	-	-	-	-	+( $<1\%$ )	-
<i>Anacamptis papilionacea</i>	-	-	-	+( $<1\%$ )	-	-	-
<i>Andropogon distachyos</i>	+( $<1\%$ )	-	-	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )	-
<i>Anemone coronaria</i>	+( $<1\%$ )	-	-	-	+( $<1\%$ )	-	-
<i>Arbutus andrachne</i>	-	-	-	+( $<1\%$ )	+( $<1\%$ )	-	-
<i>Asparagus aphyllus</i>	+( $<1\%$ )	1( $<1\%$ )	+( $<1\%$ )	-	+( $<1\%$ )	-	+( $<1\%$ )
<i>Asphodelus ramosus (microcarpus)</i>	+( $<1\%$ )	-	-	+( $<1\%$ )	-	-	-
<i>Asphodeline lutea</i>	-	+( $<1\%$ )	-	-	-	-	-
<i>Bellis sylvestris</i>	-	-	-	-	-	+( $<1\%$ )	-
<i>Bromus tectorum</i>	+( $<1\%$ )	-	+( $<1\%$ )	-	+( $<1\%$ )	-	-
<i>Calicotome villosa</i>	1(5%)	1(5%)	1(5%)	2(15%)	1(5%)	-	1(5%)
<i>Calendula arvensis</i>	-	-	-	-	-	+( $<1\%$ )	+( $<1\%$ )
<i>Carlina curetum</i>	-	-	+( $<1\%$ )	-	-	-	-

Transect	Transect 4 (T4) – continuous series of Northern hill – path 1			Transect 5 (T5)- continuous series of Northern hill towards Battir – path 1		Transect 6 (T6) – valley of olive groves and fallow land – the valley below the northern hills of T5 – path 1	
	Q1	Q2	Q3	Q1	Q2	Q1	Q2
<b>Soil type</b>	Brown and light rendzina	Brown and light rendzina	Brown and light rendzina	Brown and light rendzina	Brown and light rendzina	Brown rendzina	Brown rendzina
<b>Habitat</b>	maquis forest –startup succession since 25years	maquis forest – startup succession since 25years	maquis forest–startup succession since 25years	maquis forest–startup succession since 25years	maquis forest– startup succession since 25years	Fallow land and olive groves– lots of segetal species	The trench of the valley
<b>Plant cover</b>	80% plant cover	80% plant cover	80% plant cover	80% plant cover	80% plant cover	40% plant cover	80% plant cover
<b>Elevations above sea level</b>	753m	760m	748m	733m	737m	712 m	710
<b>Slope</b>	Moderate steep	Moderate steep	Moderate steep	Very Steep	Very steep	flat	flat
<b>Species</b>	<b>Braun and Blanquet scale</b>						
<i>Carthamus tenuis</i>	-	-	-	-	-	+( $<1\%$ )	-
<i>Ceratonia siliqua</i>	-	-	-	-	-	+( $<1\%$ )	-
<i>Cistus salvifolius</i>	3(25%)	3(25%)	3(25%)	3(25%)	3(30%)	1(5%)	1(5%)
<i>Chiliadenus iphionoides</i>	-	-	-	+( $1<\%$ )	-	-	-
<i>Coridothymus capitatus</i>	3(25%)	3(25%)	3(30%)	3(25%)	3(30%)	-	1(5%)
<i>Cyclamen persicum</i>	1(5%)	2(10%)	1(5%)	+( $<1\%$ )	-	+( $<1\%$ )	+( $<1\%$ )
<i>Cupressus sempervirens</i>	-	-	-	-	+( $<1\%$ )	-	-
<i>Daucus carota</i>	-	-	-	-	-	-	+( $1<\%$ )
<i>Erodium gruinum</i>	-	-	-	-	-	+( $<1\%$ )	-
<i>Ephedra aphylla</i>	-	-	-	-	-	+( $<1\%$ )	-
<i>Erucaria hispanica</i>	-	-	-	-	-	-	+( $<1\%$ )
<i>Eryngium cretium</i>	-	-	+( $<1\%$ )	-	-	-	-
<i>Fumana arabica</i>	1(5%)	2(7%)	1(5%)	1(5%)	+( $<1\%$ )	-	-
<i>Galium murale</i>	-	-	-	-	-	-	+( $<1\%$ )

Transect	Transect 4 (T4) – continuous series of Northern hill – path 1			Transect 5 (T5)- continuous series of Northern hill towards Battir – path 1		Transect 6 (T6) – valley of olive groves and fallow land – the valley below the northern hills of T5 – path 1	
	Q1	Q2	Q3	Q1	Q2	Q1	Q2
<b>Soil type</b>	Brown and light rendzina	Brown and light rendzina	Brown and light rendzina	Brown and light rendzina	Brown and light rendzina	Brown rendzina	Brown rendzina
<b>Habitat</b>	maquis forest –startup succession since 25years	maquis forest – startup succession since 25years	maquis forest–startup succession since 25years	maquis forest–startup succession since 25years	maquis forest– startup succession since 25years	Fallow land and olive groves– lots of segetal species	The trench of the valley
<b>Plant cover</b>	80% plant cover	80% plant cover	80% plant cover	80% plant cover	80% plant cover	40% plant cover	80% plant cover
<b>Elevations above sea level</b>	753m	760m	748m	733m	737m	712 m	710
<b>Slope</b>	Moderate steep	Moderate steep	Moderate steep	Very Steep	Very steep	flat	flat
<b>Species</b>	<b>Braun and Blanquet scale</b>						
<i>Helichrysum sanguineum</i>	+( $<1\%$ )						
<i>Helminthotheca echioides</i>	-	-	-	-	-	+( $<1\%$ )	+( $<1\%$ )
<i>Hirschfeldia incana</i>	-	-	-	-	-	+( $<1\%$ )	-
<i>Hordeum bulbosum</i>	-	-	-	-	-	-	+( $<1\%$ )
<i>Hordeum glaucum</i>	-	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )	-	-	-
<i>Lamium amplexicaule</i>	-	-	-	-	-	-	+( $<1\%$ )
<i>Lobularia arabica</i>	+( $<1\%$ )	-	-	-	-	-	-
<i>Muscari neglectum (pulchellum)</i>	-	-	-	-	-	+( $<1\%$ )	-
<i>Olea europaea</i>	-	+( $<1\%$ )	-	-	-	5(80%)	-
<i>Paronychia argentea</i>	+( $<1\%$ )	-	+( $<1\%$ )	-	+( $<1\%$ )	-	-
<i>Phagnalon rupestre</i>	+( $<1\%$ )	1(5%)	+( $<1\%$ )	-	+( $<1\%$ )	-	+( $<1\%$ )
<i>Phalaris aquatica (tuberosa)</i>	-	-	-	-	-	-	+( $<1\%$ )
<i>Phlomis viscosa</i>	-	-	-	-	-	-	1(5%)
<i>Picnoman acarna</i>	-	-	-	-	-	+( $<1\%$ )	-

Transect	Transect 4 (T4) – continuous series of Northern hill – path 1			Transect 5 (T5)- continuous series of Northern hill towards Battir – path 1		Transect 6 (T6) – valley of olive groves and fallow land – the valley below the northern hills of T5 – path 1	
	Q1	Q2	Q3	Q1	Q2	Q1	Q2
<b>Soil type</b>	Brown and light rendzina	Brown and light rendzina	Brown and light rendzina	Brown and light rendzina	Brown and light rendzina	Brown rendzina	Brown rendzina
<b>Habitat</b>	maquis forest –startup succession since 25years	maquis forest – startup succession since 25years	maquis forest–startup succession since 25years	maquis forest–startup succession since 25years	maquis forest– startup succession since 25years	Fallow land and olive groves– lots of segetal species	The trench of the valley
<b>Plant cover</b>	80% plant cover	80% plant cover	80% plant cover	80% plant cover	80% plant cover	40% plant cover	80% plant cover
<b>Elevations above sea level</b>	753m	760m	748m	733m	737m	712 m	710
<b>Slope</b>	Moderate steep	Moderate steep	Moderate steep	Very Steep	Very steep	flat	flat
<b>Species</b>	<b>Braun and Blanquet scale</b>						
<i>Pinus halepensis</i>	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )	-	1(5%)
<i>Pinus pinea</i>	-	-	-	-	+( $<1\%$ )	-	-
<i>Pistacia lentiscus</i>	+( $<1\%$ )	-	+( $<1\%$ )	-	-	-	-
<i>Pistacia palaestina</i>	-	-	+( $<1\%$ )	+( $<1\%$ )	-	-	+( $<1\%$ )
<i>Podonosma orientalis</i>	-	-	+( $<1\%$ )	+( $<1\%$ )	-	-	-
<i>Prasium majus</i>	-	-	+( $<1\%$ )	-	+( $<1\%$ )	-	-
<i>Pulicaria arabica</i>	-	-	-	-	-	+( $<1\%$ )	-
<i>Quercus calliprinos</i>	2(10%)	1(5%)	2(10%)	1(5%)	1(5%)	-	1(5%)
<i>Rhamnus lycioides</i>	-	-	-	-	-	+( $<1\%$ )	+( $<1\%$ )
<i>Rubia tenuifolia</i>	-	-	+( $<1\%$ )	-	-	+( $<1\%$ )	+( $<1\%$ )
<i>Sarcopoterium spinosum</i>	-	-	+( $<1\%$ )	-	-	+( $<1\%$ )	2(10%)
<i>Salvia dominica</i>	-	-	-	-	-	-	+( $<1\%$ )
<i>Salvia indica</i>	-	-	-	-	-	-	+( $<1\%$ )



Transect	Transect 4 (T4) – continuous series of Northern hill – path 1			Transect 5 (T5)- continuous series of Northern hill towards Battir – path 1		Transect 6 (T6) – valley of olive groves and fallow land – the valley below the northern hills of T5 – path 1	
	Q1	Q2	Q3	Q1	Q2	Q1	Q2
<b>Soil type</b>	Brown and light rendzina	Brown and light rendzina	Brown and light rendzina	Brown and light rendzina	Brown and light rendzina	Brown rendzina	Brown rendzina
<b>Habitat</b>	maquis forest –startup succession since 25years	maquis forest – startup succession since 25years	maquis forest–startup succession since 25years	maquis forest–startup succession since 25years	maquis forest– startup succession since 25years	Fallow land and olive groves– lots of segetal species	The trench of the valley
<b>Plant cover</b>	80% plant cover	80% plant cover	80% plant cover	80% plant cover	80% plant cover	40% plant cover	80% plant cover
<b>Elevations above sea level</b>	753m	760m	748m	733m	737m	712 m	710
<b>Slope</b>	Moderate steep	Moderate steep	Moderate steep	Very Steep	Very steep	flat	flat
<b>Species</b>	<b>Braun and Blanquet scale</b>						
<i>Senecio leucanthemifolius</i> subsp <i>vernalis</i>	-	-	-	-	-	+( $<1\%$ )	+( $<1\%$ )
<i>Silene aegyptiaca</i>	+( $<1\%$ )	+( $<1\%$ )	-	+( $<1\%$ )	+( $<1\%$ )	-	-
<i>Silybum marianum</i>	-	-	-	-	-	+( $<1\%$ )	-
<i>Smilax aspera</i>	-	-	-	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )
<i>Sisymbrium irio</i>	-	-	-	-	-	+( $<1\%$ )	-
<i>Securigera securidaca</i>	-	-	-	-	-	-	+( $<1\%$ )
<i>Thrinacia tuberosa</i> ( <i>Leontodon tuberosus</i> )	+( $<1\%$ )	-	-	-	-	-	-
<i>Teucrium capitatum</i> ( <i>polium</i> )	+( $<1\%$ )	1(5%)	+( $<1\%$ )	-	-	-	-
<i>Teucrium creticum</i>	-	-	+( $<1\%$ )	+( $<1\%$ )	-	+( $<1\%$ )	+( $<1\%$ )
<i>Teucrium divaricatum</i>	1(5%)	1(5%)	2(7%)	3(20%)	1(5%)	-	-
<i>Thymbra spicata</i>	1(5%)	+( $<1\%$ )	-	-	-	-	-
<i>Urtica urens</i>	-	-	-	-	-	-	+( $<1\%$ )
<i>Viola occulta</i>	+( $<1\%$ )	-	-	-	-	-	-



Transect	Transect7 (T7) – Southern hill in front of the northern hill of T5 –path 1		Transect 8 (T8) – Olive groves and fallow land towards Battir after T6 – path 1		Transect 9 (T9) – Southern Hill below AL Makhroure restaurant from Beit Jala side –path 2	
	Q1	Q2	Q1	Q2	Q1	Q2
<b>Soil type</b>	Mixed soil (Dark brown Rendzina & Terra Rossa) with lots of humus (10-25 cm) –deep soil	Mixed soil (Dark brown Rendzina & Terra Rossa) with lots of humus (10-25cm) – deep soil	Rendzina soil	Rendzina soil	Dark Rendzina	Dark Rendzina
<b>Habitat</b>	Maquis oak forest (mature plant cover succession. The land was cultivated before 50-80 years)	Maquis oak forest (mature plant cover succession)	Olive groves and fallow land	Olive groves and fallow land	Mixed habitat of oak forest, bath association and olive groves	Mixed habitat of oak forest and olive groves
<b>Plant cover</b>	90% plants	90% plants	60% plants	60% plants	70% plants	70% plants
<b>Elevations above sea level</b>	709m	718m	712m	708m	769m	770m
<b>Slope</b>	Very steep	Very steep	Flat	Flat	Steep to shallow slope	Steep to shallow slope
<b>Species</b>						
<i>Asphodelus ramosus (microcarpus)</i>	-	-	-	-	+(<1%)	+(<1%)
<i>Asphodeline lutea</i>	-	-	-	-	-	+(<1%)
<i>Bellevalia flexuosa</i>	-	-	+(<1%)	+(<1%)	-	-
<i>Bellis sylvestris</i>	+(<1%)	+(<1%)	-	-	+(<1%)	1(<5%)
<i>Biscutella didyma</i>	-	-	+(<1%)	+(<1%)	-	-
<i>Calicotome villosa</i>	+(<1%)	+(<1%)	-	+(<1%)	2(10%)	2(5%)
<i>Carlina hispanica</i>	+(<1%)	+(<1%)	+(<1%)	+(<1%)	-	+(<1%)
<i>Carlina cretium</i>	+(<1%)	+(<1%)	+(<1%)	+(<1%)	-	+(<1%)
<i>Capparis spinosa</i>	-	-	-	-	-	-
<i>Chaetosciadium trichospermum</i>	-	-	+(<1%)	+(<1%)	-	+(<1%)
<i>Cistus salvifolius</i>	+(<1%)	+(<1%)	1(5%)	1(5%)	3(25%)	2(7%)
<i>Clematis cirrhosa</i>	-	-	-	-	+(<1%)	-

Transect	Transect7 (T7) – Southern hill in front of the northern hill of T5 –path 1		Transect 8 (T8) – Olive groves and fallow land towards Battir after T6 – path 1		Transect 9 (T9) – Southern Hill below AL Makhroure restaurant from Beit Jala side –path 2	
	Q1	Q2	Q1	Q2	Q1	Q2
<b>Soil type</b>	Mixed soil (Dark brown Rendzina & Terra Rossa) with lots of humus (10-25 cm) –deep soil	Mixed soil (Dark brown Rendzina & Terra Rossa) with lots of humus (10-25cm) – deep soil	Rendzina soil	Rendzina soil	Dark Rendzina	Dark Rendzina
<b>Habitat</b>	Maquis oak forest (mature plant cover succession. The land was cultivated before 50-80 years)	Maquis oak forest (mature plant cover succession)	Olive groves and fallow land	Olive groves and fallow land	Mixed habitat of oak forest, bath association and olive groves	Mixed habitat of oak forest and olive groves
<b>Plant cover</b>	90% plants	90% plants	60% plants	60% plants	70% plants	70% plants
<b>Elevations above sea level</b>	709m	718m	712m	708m	769m	770m
<b>Slope</b>	Very steep	Very steep	Flat	Flat	Steep to shallow slope	Steep to shallow slope
<b>Species</b>						
<i>Colchicum hierosolymitanum</i>	-	-	-	-	+(<1%)	-
<i>Coridothymus capitatus</i>	-	-	-	+(<1%)	+(<1%)	-
<i>Crataegus aronia</i>	+(<1%)	+(<1%)	-	-	-	-
<i>Cyclamen persicum</i>	+(<1%)	+(<1%)	-	-	2(20%)	2(15%)
<i>Dactylis carota</i>	-	-	-	-	-	+(<1%)
<i>Dittrichia viscosa</i>	-	-	-	-	+(<1%)	+(<1%)
<i>Erodium gruinum</i>	-	-	+(<1%)	-	+(<1%)	+(<1%)
<i>Erodium ciconium</i>	-	-	-	-	+(<1%)	-
<i>Ephedra aphylla</i>	-	+(<1%)	-	-	-	-
<i>Helminthotheca echioides</i>	-	-	+(<1%)	+(<1%)	-	-
<i>Helianthemum ventosum</i>	-	-	-	+(<1%)	+(<1%)	-

Transect	Transect7 (T7) – Southern hill in front of the northern hill of T5 –path 1		Transect 8 (T8) – Olive groves and fallow land towards Battir after T6 – path 1		Transect 9 (T9) – Southern Hill below AL Makhroure restaurant from Beit Jala side –path 2	
	Q1	Q2	Q1	Q2	Q1	Q2
<b>Soil type</b>	Mixed soil (Dark brown Rendzina & Terra Rossa) with lots of humus (10-25 cm) –deep soil	Mixed soil (Dark brown Rendzina & Terra Rossa) with lots of humus (10-25cm) – deep soil	Rendzina soil	Rendzina soil	Dark Rendzina	Dark Rendzina
<b>Habitat</b>	Maquis oak forest (mature plant cover succession. The land was cultivated before 50-80 years)	Maquis oak forest (mature plant cover succession)	Olive groves and fallow land	Olive groves and fallow land	Mixed habitat of oak forest, bath association and olive groves	Mixed habitat of oak forest and olive groves
<b>Plant cover</b>	90% plants	90% plants	60% plants	60% plants	70% plants	70% plants
<b>Elevations above sea level</b>	709m	718m	712m	708m	769m	770m
<b>Slope</b>	Very steep	Very steep	Flat	Flat	Steep to shallow slope	Steep to shallow slope
<b>Species</b>						
<i>Heliabrysum sanguineum</i>	-	-	-	-	+(<1%)	+(<1%)
<i>Herniaria glabra</i>	-	-	+(<1%)	+(<1%)	-	-
<i>Fumana arabica</i>	+(<1%)	-	-	-	3(20%)	1(<5%)
<i>Fumana thymifolia</i>	-	-	-	-	1(5%)	-
<i>Lonicera etrusca</i>	+(<1%)	-	-	-	-	-
<i>Malva parviflora</i>	-	-	+(<1%)	-	+(<1%)	+(<1%)
<i>Thymbra spicata</i>	-	+(<1%)	-	-	+(<1%)	1(<5%)
<i>Olea europaea</i>	-	-	4(75%)	4(75%)	1(5%)	1(<5%)
<i>Onobrychis cupt-galli</i>	-	-	-	-	+(<1%)	-
<i>Osyris alba</i>	-	-	-	-	+(<1%)	-
<i>Oxalis pse-carpae</i>	-	-	+(<1%)	-	-	-

Transect	Transect7 (T7) – Southern hill in front of the northern hill of T5 –path 1		Transect 8 (T8) – Olive groves and fallow land towards Battir after T6 – path 1		Transect 9 (T9) – Southern Hill below AL Makhrour restaurant from Beit Jala side –path 2	
	Q1	Q2	Q1	Q2	Q1	Q2
<b>Soil type</b>	Mixed soil (Dark brown Rendzina & Terra Rossa) with lots of humus (10-25 cm) –deep soil	Mixed soil (Dark brown Rendzina & Terra Rossa) with lots of humus (10-25cm) – deep soil	Rendzina soil	Rendzina soil	Dark Rendzina	Dark Rendzina
<b>Habitat</b>	Maquis oak forest (mature plant cover succession. The land was cultivated before 50-80 years)	Maquis oak forest (mature plant cover succession)	Olive groves and fallow land	Olive groves and fallow land	Mixed habitat of oak forest, bath association and olive groves	Mixed habitat of oak forest and olive groves
<b>Plant cover</b>	90% plants	90% plants	60% plants	60% plants	70% plants	70% plants
<b>Elevations above sea level</b>	709m	718m	712m	708m	769m	770m
<b>Slope</b>	Very steep	Very steep	Flat	Flat	Steep to shallow slope	Steep to shallow slope
<b>Species</b>						
<i>Phagnalon rupestre</i>	-	-	-	-	+( $<1\%$ )	-
<i>Phlomis viscosa</i>	+( $<1\%$ )	+( $<1\%$ )	-	-	-	-
<i>Pisum sativum</i>	-	-	+( $<1\%$ )	-	-	-
<i>Pinus halepensis</i>	1( $<5\%$ )	1( $5\%$ )	-	-	+( $<1\%$ )	-
<i>Pistacia lentiscus</i>	+( $<1\%$ )	+( $<1\%$ )	-	-	+( $<1\%$ )	-
<i>Pistacia palaestina</i>	1( $5\%$ )	1( $5\%$ )	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )	2( $7\%$ )
<i>Poa bulbosa</i>	-	-	-	+( $<1\%$ )	-	-
<i>Polygonum argyrocoleum</i>	-	-	-	-	-	-
<i>Pulicaria arabica</i>	-	-	+( $<1\%$ )	+( $<1\%$ )	-	-
<i>Quercus calliprinos</i>	5( $75\%$ )	5( $75\%$ )	+( $<1\%$ )	1( $<5\%$ )	2( $5\%$ )	2( $7\%$ )
<i>Ranunculus asiaticus</i>	-	-	-	-	+( $<1\%$ )	-

Transect	Transect7 (T7) – Southern hill in front of the northern hill of T5 –path 1		Transect 8 (T8) – Olive groves and fallow land towards Battir after T6 – path 1		Transect 9 (T9) – Southern Hill below AL Makhrour restaurant from Beit Jala side –path 2	
	Q1	Q2	Q1	Q2	Q1	Q2
<b>Soil type</b>	Mixed soil (Dark brown Rendzina & Terra Rossa) with lots of humus (10-25 cm) –deep soil	Mixed soil (Dark brown Rendzina & Terra Rossa) with lots of humus (10-25cm) – deep soil	Rendzina soil	Rendzina soil	Dark Rendzina	Dark Rendzina
<b>Habitat</b>	Maquis oak forest (mature plant cover succession. The land was cultivated before 50-80 years)	Maquis oak forest (mature plant cover succession)	Olive groves and fallow land	Olive groves and fallow land	Mixed habitat of oak forest, bath association and olive groves	Mixed habitat of oak forest and olive groves
<b>Plant cover</b>	90% plants	90% plants	60% plants	60% plants	70% plants	70% plants
<b>Elevations above sea level</b>	709m	718m	712m	708m	769m	770m
<b>Slope</b>	Very steep	Very steep	Flat	Flat	Steep to shallow slope	Steep to shallow slope
<b>Species</b>						
<i>Ridolfia segetum</i>	-	-	+(<1%)	+(<1%)	-	-
<i>Reseda alba</i>	-	-	-	-	+(<1%)	+(<1%)
<i>Rhamnus lycioides</i>	1(<5%)	+(<1%)	-	-	+(<1%)	1(<5%)
<i>Rubia tenuifolia</i>	-	+(<1%)	-	-	+(<1%)	+(<1%)
<i>Sarcopoterium spinosum</i>	+(<1%)	+(<1%)	+(<1%)	1(<5%)	1(5%)	1(5%)
<i>Senecio leucanthemifolius subsp. vernalis</i>	-	-	+(<1%)	+(<1%)	+(<1%)	+(<1%)
<i>Silybum marianum</i>	-	-	-	-	+(<1%)	+(<1%)
<i>Sinapis arvensis</i>	+(<1%)	+(<1%)	+(<1%)	+(<1%)	-	-
<i>Sisymbrium irio</i>	+(<1%)	+(<1%)	+(<1%)	+(<1%)	-	-
<i>Smilax aspera</i>	+(<1%)	+(<1%)	-	-	+(<1%)	+(<1%)

Transect	Transect7 (T7) – Southern hill in front of the northern hill of T5 –path 1		Transect 8 (T8) – Olive groves and fallow land towards Battir after T6 – path 1		Transect 9 (T9) – Southern Hill below AL Makhroure restaurant from Beit Jala side –path 2	
	Q1	Q2	Q1	Q2	Q1	Q2
<b>Soil type</b>	Mixed soil (Dark brown Rendzina & Terra Rossa) with lots of humus (10-25 cm) –deep soil	Mixed soil (Dark brown Rendzina & Terra Rossa) with lots of humus (10-25cm) – deep soil	Rendzina soil	Rendzina soil	Dark Rendzina	Dark Rendzina
<b>Habitat</b>	Maquis oak forest (mature plant cover succession. The land was cultivated before 50-80 years)	Maquis oak forest (mature plant cover succession)	Olive groves and fallow land	Olive groves and fallow land	Mixed habitat of oak forest, bath association and olive groves	Mixed habitat of oak forest and olive groves
<b>Plant cover</b>	90% plants	90% plants	60% plants	60% plants	70% plants	70% plants
<b>Elevations above sea level</b>	709m	718m	712m	708m	769m	770m
<b>Slope</b>	Very steep	Very steep	Flat	Flat	Steep to shallow slope	Steep to shallow slope
<b>Species</b>						
<i>Sonchus oleraceus</i>	-	-	-	-	-	-
<i>Styrax officinalis</i>	-	-	-	-	+(<1%)	-
<i>Taraxacum cyprium</i>	-	-	-	-	+(<1%)	-
<i>Teucrium capitatum (polium)</i>	-	-	-	-	1(<5%)	1(<5%)
<i>Teucrium creticum</i>	+(<1%)	+(<1%)	-	-	+(<1%)	-
<i>Teucrium divaricatum</i>	+(<1%)	+(<1%)	-	-	1(<5%)	-
<i>Thrinicia tuberosa</i>	+(<1%)	+(<1%)	-	-	+(<1%)	1(<5%)
<i>Tolpis virgata</i>	-	-	-	-	+(<1%)	-
<i>Trifolium purpureum</i>	-	-	+(<1%)	+(<1%)	-	+(<1%)
<i>Umbilicus intermedius</i>	-	-	-	-	1(<5%)	1(<5%)



Transect	Transect 10 (T10) – slope of southern hill below the path after T9 – path 2		Transect 11 (T11) – At Abu Saliba house and stairs- below the path after T10 – path 2
	Q1	Q2	Q1
<b>Soil type</b>	Dark Rendzina	Dark Rendzina	Dark Rendzina
<b>Habitat</b>	Mixed habitat of natural oak forest and Pine coniferous man- made forest	Mixed habitat of oak forest and olive groves	Natural Oak forest
<b>Plant cover</b>	80% plants	70% plants	85% plants
<b>Elevations above sea level</b>	764m	769m	759m
<b>Slope</b>	Very steep	Steep	Very steep
<b>Species</b>	<b>Braun and Blanquet scale</b>		
<i>Amaranthus blitoides</i>	-	+(<1%)	-
<i>Anchusa hybrida</i>	-	-	2(5%)
<i>Anchusa strigosa</i>	-	-	+(<1%)
<i>Anemone coronaria</i>	-	+(<1%)	+(<1%)
<i>Andropogon distachyos</i>	+(<1%)	1(<5%)	1(<5%)
<i>Arisarum vulgare</i>	-	2(5%)	-
<i>Arum palaestinum</i>	-	+(<1%)	-
<i>Asparagus aphyllus</i>	+(<1%)	2(5%)	+(<1%)
<i>Asphodelus ramosus (microcarpus)</i>	-	+(<1%)	-
<i>Asphodeline lutea</i>	-	+(<1%)	-
<i>Bellis sylvestris</i>	+(<1%)	+(<5%)	+(<1%)
<i>Calicotome villosa</i>	1(<5%)	2(5%)	1(<5%)
<i>Carlina hispanica</i>	+(<1%)	+(<1%)	+(<1%)
<i>Carlina curetum</i>	+(<1%)	+(<1%)	+(<1%)
<i>Capparis spinosa</i>	-	-	+(<1%)

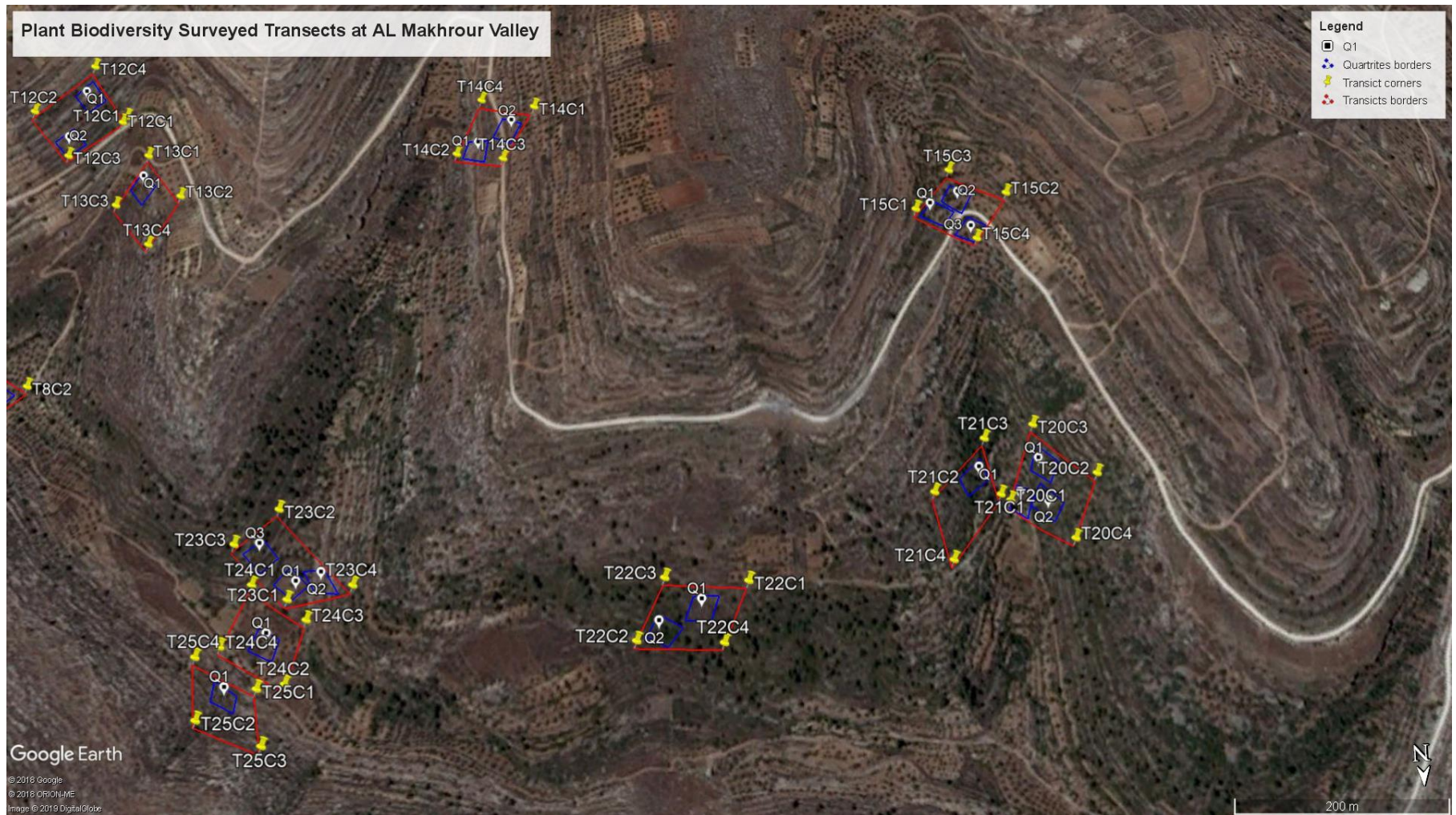
Transect	Transect 10 (T10) – slope of southern hill below the path after T9 – path 2		Transect 11 (T11) – At Abu Saliba house and stairs- below the path after T10 – path 2
	Q1	Q2	Q1
Soil type	Dark Rendzina	Dark Rendzina	Dark Rendzina
Habitat	Mixed habitat of natural oak forest and Pine coniferous man- made forest	Mixed habitat of oak forest and olive groves	Natural Oak forest
Plant cover	80% plants	70% plants	85% plants
Elevations above sea level	764m	769m	759m
Slope	Very steep	Steep	Very steep
Species	<b>Braun and Blanquet scale</b>		
<i>Ceratonia siliqua</i>	-	-	+(<1%)
<i>Centaurea hyalolepis</i>	-	-	+(<1%)
<i>Chiliadenus iphionoides (varthemia)</i>	+(<1%)	+(<1%)	-
<i>Cistus creticum (incans)</i>	1(<5%)	2(7%)	1(5%)
<i>Cistus salvifolius</i>	1(<5%)	1(<5%)	+(<1%)
<i>Clematis cirrhosa</i>	1(<5%)	-	+(<1%)
<i>Coridothymus capitatus</i>	+(<1%)	-	1(<5%)
<i>Crataegus aronia</i>	+(<1%)	-	-
<i>Cupressus sempervirens</i>	-	-	+(<1%)
<i>Cyclamen persicum</i>	+(<1%)	2(15%)	1(<5%)
<i>Dittrichia viscosa</i>	+(<1%)	+(<1%)	2(5%)
<i>Ephedra aphylla</i>	+(<1%)	-	+(<1%)
<i>Erodium gruinum</i>	-	+(<1%)	-
<i>Erodium ciconium</i>	-	+(<1%)	+(<1%)

Transect	Transect 10 (T10) – slope of southern hill below the path after T9 – path 2		Transect 11 (T11) – At Abu Saliba house and stairs- below the path after T10 – path 2
	Q1	Q2	Q1
<b>Soil type</b>	Dark Rendzina	Dark Rendzina	Dark Rendzina
<b>Habitat</b>	Mixed habitat of natural oak forest and Pine coniferous man- made forest	Mixed habitat of oak forest and olive groves	Natural Oak forest
<b>Plant cover</b>	80% plants	70% plants	85% plants
<b>Elevations above sea level</b>	764m	769m	759m
<b>Slope</b>	Very steep	Steep	Very steep
<b>Species</b>	<b>Braun and Blanquet scale</b>		
<i>Foeniculum vulgare</i>	+(<1%)	+(<1%)	-
<i>Fumana arabica</i>	+(<1%)	1(5%)	+(<1%)
<i>Fumana thymifolia</i>	+(<1%)	-	+(<1%)
<i>Galium murale</i>	-	-	+(<1%)
<i>Heliachrysum sanguineum</i>	+(<1%)	-	+(<1%)
<i>Hirschfeldia incana</i>	+(<1%)	-	-
<i>Lamium amplexicaule</i>	+(<1%)	+(<1%)	-
<i>Lonicera etrusca</i>	-	-	2(5%)
<i>Majorana syriaca</i> ( <i>Origanum syriacum</i> )	-	-	1(<5%)
<i>Malva parviflora</i>	-	+(<1%)	+(<1%)
<i>Nasturtium officinale</i>	+(<1%)	+(<1%)	-
<i>Olea europaea</i>	1(<5%)	2(5%)	+(<1%)
<i>Onobrychis caput-galli</i>	-	-	+(<1%)
<i>Oxalis pes-caprae</i>	-	-	+(<1%)

Transect	Transect 10 (T10) – slope of southern hill below the path after T9 – path 2		Transect 11 (T11) – At Abu Saliba house and stairs- below the path after T10 – path 2
	Q1	Q2	Q1
<b>Soil type</b>	Dark Rendzina	Dark Rendzina	Dark Rendzina
<b>Habitat</b>	Mixed habitat of natural oak forest and Pine coniferous man- made forest	Mixed habitat of oak forest and olive groves	Natural Oak forest
<b>Plant cover</b>	80% plants	70% plants	85% plants
<b>Elevations above sea level</b>	764m	769m	759m
<b>Slope</b>	Very steep	Steep	Very steep
<b>Species</b>	<b>Braun and Blanquet scale</b>		
<i>Phagnalon rupestre</i>	-	-	+(<1%)
<i>Phlomis viscosa</i>	-	-	+(<1%)
<i>Pinus halepensis</i>	1(<5%)	-	1(<5%)
<i>Pinus Pinea</i>	-	-	+(<1%)
<i>Pistacia palaestina</i>	+(<1%)	2(7%)	1(5%)
<i>Poa bulbosa</i>	-	-	+(<1%)
<i>Polygonum argyrocoleum</i>	+(<1%)	+(<1%)	+(<1%)
<i>Quercus calliprinos</i>	2 (25%)	2(25%)	2(5%)
<i>Ranunculus asiaticus</i>	-	+(<1%)	-
<i>Reseda alba</i>	+(<1%)	+(<1%)	-
<i>Rhamnus lycioides</i>	1(<5%)	1(<5%)	-
<i>Rhus coriaria</i>	+(<1%)	-	-
<i>Rubia tenuifolia</i>	+(<1%)	+(<1%)	+(<1%)

Transect	Transect 10 (T10) – slope of southern hill below the path after T9 – path 2		Transect 11 (T11) – At Abu Saliba house and stairs- below the path after T10 – path 2
	Q1	Q2	Q1
<b>Soil type</b>	Dark Rendzina	Dark Rendzina	Dark Rendzina
<b>Habitat</b>	Mixed habitat of natural oak forest and Pine coniferous man- made forest	Mixed habitat of oak forest and olive groves	Natural Oak forest
<b>Plant cover</b>	80% plants	70% plants	85% plants
<b>Elevations above sea level</b>	764m	769m	759m
<b>Slope</b>	Very steep	Steep	Very steep
<b>Species</b>	<b>Braun and Blanquet scale</b>		
<i>Sarcopoterium spinosum</i>	-	1(5%)	1(<5%)
<i>Senecio leucanthemifolius subsp. vernalis</i>	-	-	+(<1%)
<i>Silene aegyptiaca</i>	+(<1%)	+(<1%)	-
<i>Silybum marianum</i>	-	+(<1%)	-
<i>Smilax aspera</i>	+(<1%)	+(<1%)	+(<1%)
<i>Sonchus oleraceus</i>	+(<1%)	-	+(<1%)
<i>Styrax officinalis</i>	+(<1%)	-	-
<i>Taraxacum cyprium</i>	+(<1%)	+(<1%)	-
<i>Teucrium divaricatum</i>	-	-	+(<1%)
<i>Teucrium capitatum (polium)</i>	+(<1%)	+(<1%)	-
<i>Teucrium creticum</i>	+(<1%)	-	+(<1%)
<i>Thrinicia tuberosa</i>	-	1(<5%)	+(<1%)
<i>Thymbra spicata</i>	-	1(<5%)	+(<1%)
<i>Tolpis virgata</i>	-	+(<1%)	-

Transect	Transect 10 (T10) – slope of southern hill below the path after T9 – path 2		Transect 11 (T11) – At Abu Saliba house and stairs- below the path after T10 – path 2
	Q1	Q2	Q1
Soil type	Dark Rendzina	Dark Rendzina	Dark Rendzina
Habitat	Mixed habitat of natural oak forest and Pine coniferous man- made forest	Mixed habitat of oak forest and olive groves	Natural Oak forest
Plant cover	80% plants	70% plants	85% plants
Elevations above sea level	764m	769m	759m
Slope	Very steep	Steep	Very steep
Species	<b>Braun and Blanquet scale</b>		
<i>Umbilicus intermedius</i>	-	1(<5%)	+(<1%)
<i>Urtica pilulifera</i>	+(<1%)	+(<1%)	-
<i>Verbascum sinuatum</i>	-	-	+(<1%)



**Map 3.2: Presents the distribution and geo-location of the studied transects T12, T13, T14, T15, T20, T22, T23, T24 and T25 and their quadrats at MKV- (Middle of the Valley).**

Transect	Transect 12 (T12) – South East hill in middle of the Valley – path 2		Transect 13 (T13) – Slope below the path - opposite T12 – path 2	Transect 14 (T14) – North West Hill- above the owl nest - Middle of the Valley – section below path and section above path - path 2	
	Q1	Q2	Q1	Q1	Q2
<b>Soil type</b>	White light and Dark Rendzina	White light and Dark Rendzina	White light Rendzina	Light Rendzina	Brown Rendzina
<b>Habitat</b>	Batha Association (in succession) with scattered Pine forest	Batha Association (in succession) with scattered Pine forest	Mixture of Olive groves, fallow land, and batha association	Batha association with a section of heap association	Olive groves and batha association
<b>Plant cover</b>	70% plants	60% plants	80% plants	70% plants	70% plants
<b>Elevations above sea level</b>	802m	805m	775m	792m	789m
<b>Slope</b>	Shallow slope	Shallow slope	Fore-slope (under path)	Shallow Slope (under path)	Steep (above path)
<b>Species</b>	<b>Braun and Blanquet scale</b>				
<i>Adonis microcarpa</i>	-	+(<1%)	-	-	-
<i>Amaranthus blitoides</i>	+(<1%)	-	-	-	-
<i>Anchusa strigosa</i>	-	-	-	-	+(<1%)
<i>Anemone coronaria</i>	+(<1%)	+(<1%)	+(<1%)	-	+(<1%)
<i>Andropogon distachyos</i>	+(<1%)	+(<1%)	+(<1%)	-	+(<1%)
<i>Arum Palaestinum</i>	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)
<i>Asparagus aphyllus</i>	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)
<i>Asteriscus aquaticus</i>	+(<1%)	-	-	-	-
<i>Astragalus pelecinus</i> ( <i>Biserrula pelecinus</i> )	+(<1%)	+(<1%)	-	+(<1%)	+(<1%)
<i>Bellis sylvestris</i>	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)
<i>Biarum angustatum</i>	+(<1%)	-	-	-	-
<i>Calicotome villosa</i>	1(<5%)	1(<5%)	2(5%)	1(5%)	1(<5%)
<i>Carlina hispanica</i>	-	+(<1%)	+(<1%)	+(<1%)	+(<1%)



Transect	Transect 12 (T12) – South East hill in middle of the Valley – path 2		Transect 13 (T13) – Slope below the path - opposite T12 – path 2	Transect 14 (T14) – North West Hill- above the owl nest - Middle of the Valley – section below path and section above path - path 2	
	Q1	Q2	Q1	Q1	Q2
<b>Soil type</b>	White light and Dark Rendzina	White light and Dark Rendzina	White light Rendzina	Light Rendzina	Brown Rendzina
<b>Habitat</b>	Batha Association (in succession) with scattered Pine forest	Batha Association (in succession) with scattered Pine forest	Mixture of Olive groves, fallow land, and batha association	Batha association with a section of heap association	Olive groves and batha association
<b>Plant cover</b>	70% plants	60% plants	80% plants	70% plants	70% plants
<b>Elevations above sea level</b>	802m	805m	775m	792m	789m
<b>Slope</b>	Shallow slope	Shallow slope	Fore-slope (under path)	Shallow Slope (under path)	Steep (above path)
<b>Species</b>	<b>Braun and Blanquet scale</b>				
<i>Carlina curretum</i>	-	+(<1%)	+(<1%)	-	-
<i>Chiliadenus iphionoides</i>	+(<1%)	+(<1%)	-	+(<1%)	+(<1%)
<i>Clematis cirrhosa</i>	+(<1%)	-	-	-	-
<i>Cistus creticus</i>	2(12%)	2(12%)	2(5%)	-	1(5%)
<i>Cistus salviifolius</i>	2(12%)	2(12%)	2(5%)	-	-
<i>Colchicum hierosolymitanum</i>	+(<1%)	+(<1%)	-	-	-
<i>Coridothymus capitatus</i>	1(<5%)	2(<5%)	-	-	1(<5%)
<i>Cyclamen persicum</i>	+(<1%)	+(<1%)	1(<5%)	+(<1%)	-
<i>Daucus carota</i>	-	-	+(<1%)	-	-
<i>Dittrichia viscosa</i>	-	-	+(<1%)	-	-
<i>Echium judaeum</i>	+(<1%)	-	-	-	-
<i>Eminium spiculatum</i>	-	-	+(<1%)	-	-
<i>Erodium gruinum</i>	+(<1%)	+(<1%)	+(<1%)	-	-
<i>Erodium ciconium</i>	+(<1%)	+(<1%)	+(<1%)	-	-
<i>Ephedra aphylla</i>	-	-	-	+(<1%)	-

Transect	Transect 12 (T12) – South East hill in middle of the Valley – path 2		Transect 13 (T13) – Slope below the path - opposite T12 – path 2	Transect 14 (T14) – North West Hill- above the owl nest - Middle of the Valley – section below path and section above path - path 2	
	Q1	Q2	Q1	Q1	Q2
<b>Soil type</b>	White light and Dark Rendzina	White light and Dark Rendzina	White light Rendzina	Light Rendzina	Brown Rendzina
<b>Habitat</b>	Batha Association (in succession) with scattered Pine forest	Batha Association (in succession) with scattered Pine forest	Mixture of Olive groves, fallow land, and batha association	Batha association with a section of heap association	Olive groves and batha association
<b>Plant cover</b>	70% plants	60% plants	80% plants	70% plants	70% plants
<b>Elevations above sea level</b>	802m	805m	775m	792m	789m
<b>Slope</b>	Shallow slope	Shallow slope	Fore-slope (under path)	Shallow Slope (under path)	Steep (above path)
<b>Species</b>	<b>Braun and Blanquet scale</b>				
<i>Logfia gallica</i> ( <i>Filago gallica</i> )	+( <b>&lt;1%</b> )	-	-	-	-
<i>Fumana arabica</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Fumana thymifolia</i>	+( <b>&lt;1%</b> )	-	-	+( <b>&lt;1%</b> )	-
<i>Gagea commutata</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	-	-
<i>Helicbrysum sanguineum</i>	+( <b>&lt;1%</b> )	-	+( <b>&lt;1%</b> )	1( <b>&lt;5%</b> )	+( <b>&lt;1%</b> )
<i>Hirschfeldia incana</i>	-	-	+( <b>&lt;1%</b> )	-	-
<i>Lactuca tuberosa</i>	-	-	+( <b>&lt;1%</b> )	( <b>&lt;1%</b> )	-
<i>Malva parviflora</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	1( <b>5%</b> )	-	-
<i>Majorana syriaca</i> ( <i>Origanum syriacum</i> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	-	-
<i>Mentha longifolia</i>	-	-	-	+( <b>&lt;1%</b> )	-
<i>Micromeria nervosa</i>	+( <b>&lt;1%</b> )	-	-	-	-
<i>Neslia apiculata</i>	+( <b>&lt;1%</b> )	-	-	-	-
<i>Olea europaea</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	2( <b>15%</b> )	-	3( <b>25%</b> )
<i>Onobrychis caput-galli</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	-	-

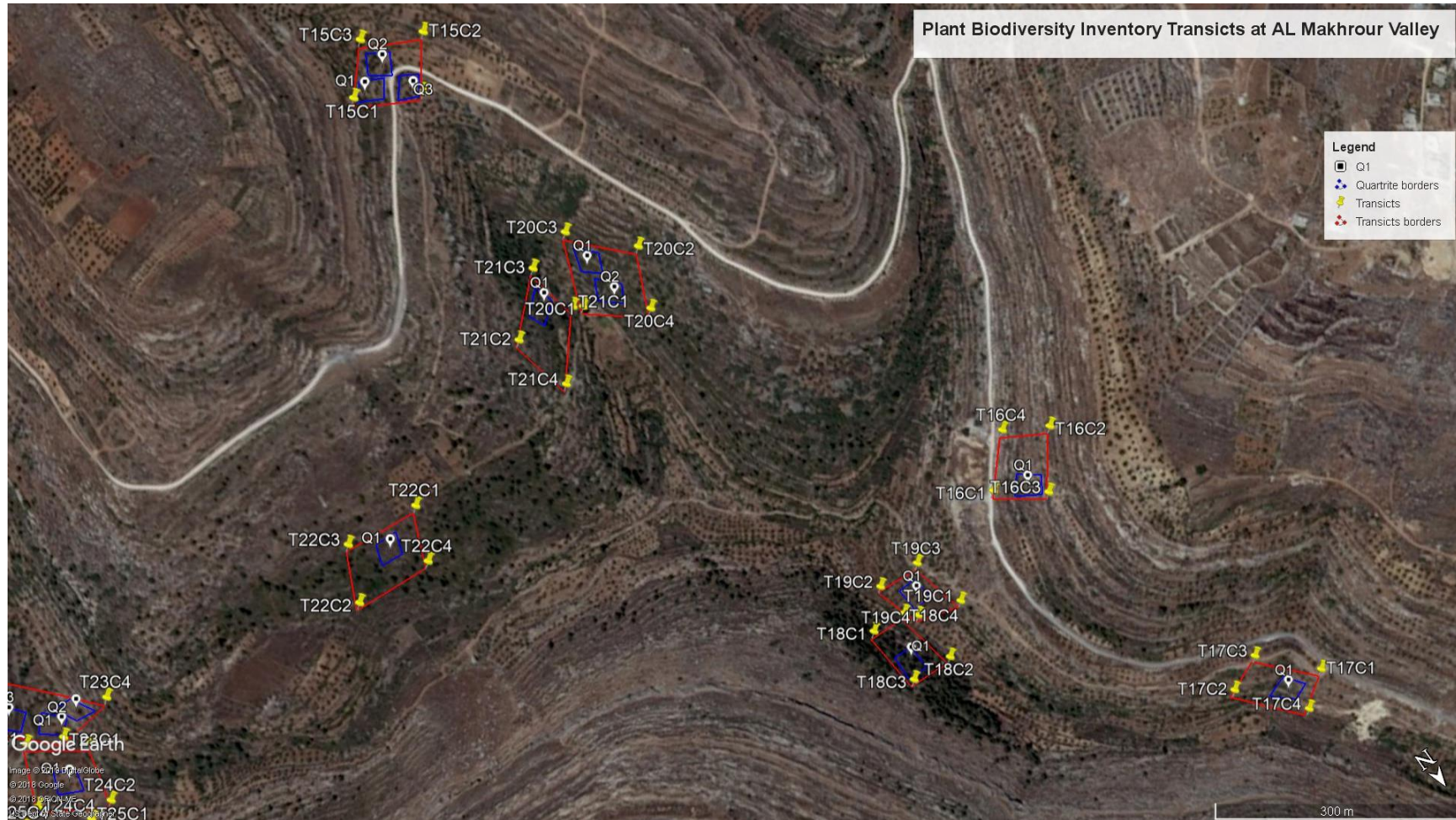
Transect	Transect 12 (T12) – South East hill in middle of the Valley – path 2		Transect 13 (T13) – Slope below the path - opposite T12 – path 2	Transect 14 (T14) – North West Hill- above the owl nest - Middle of the Valley – section below path and section above path - path 2	
	Q1	Q2	Q1	Q1	Q2
<b>Soil type</b>	White light and Dark Rendzina	White light and Dark Rendzina	White light Rendzina	Light Rendzina	Brown Rendzina
<b>Habitat</b>	Batha Association (in succession) with scattered Pine forest	Batha Association (in succession) with scattered Pine forest	Mixture of Olive groves, fallow land, and batha association	Batha association with a section of heap association	Olive groves and batha association
<b>Plant cover</b>	70% plants	60% plants	80% plants	70% plants	70% plants
<b>Elevations above sea level</b>	802m	805m	775m	792m	789m
<b>Slope</b>	Shallow slope	Shallow slope	Fore-slope (under path)	Shallow Slope (under path)	Steep (above path)
<b>Species</b>	<b>Braun and Blanquet scale</b>				
<i>Phagnalon rupestre</i>	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )
<i>Phlomis viscosa</i>	+( $<1\%$ )	+( $<1\%$ )	-	-	-
<i>Pinus halepensis</i>	2(10%)	2(10%)	+( $<1\%$ )	+( $<1\%$ )	1( $<5\%$ )
<i>Pistacia palaestina</i>	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )	-	-
<i>Poa bulbosa</i>	1( $<5\%$ )	-	-	-	-
<i>Quercus calliprinos</i>	1( $<5\%$ )	+( $<1\%$ )	2( $<5\%$ )	1(5%)	1( $<5\%$ )
<i>Ranunculus asiaticus</i>	+( $<1\%$ )	-	-	-	-
<i>Reseda alba</i>	+( $<1\%$ )	-	-	-	-
<i>Rubia tenuifolia</i>	+( $<1\%$ )	+( $<1\%$ )	-	-	+( $<1\%$ )
<i>Sarcopoterium spinosum</i>	2(15%)	2(20%)	3(30%)	3(40%)	2(25%)
<i>Salvia dominica</i>	+( $<1\%$ )	+( $<1\%$ )	-	-	-
<i>Salvia Palaestina</i>	+( $<1\%$ )	+( $<1\%$ )	-	-	-
<i>Securigera securidaca</i>	-	-	+( $<1\%$ )	-	-
<i>Senecio leucantbemifolius</i> <i>subsp. vernalis</i>	+( $<1\%$ )	+( $<1\%$ )	-	-	-
<i>Silene aegyptiaca</i>	-	+( $<1\%$ )	-	-	-

Transect	Transect 12 (T12) – South East hill in middle of the Valley – path 2		Transect 13 (T13) – Slope below the path - opposite T12 – path 2	Transect 14 (T14) – North West Hill- above the owl nest - Middle of the Valley – section below path and section above path - path 2	
	Q1	Q2	Q1	Q1	Q2
<b>Soil type</b>	White light and Dark Rendzina	White light and Dark Rendzina	White light Rendzina	Light Rendzina	Brown Rendzina
<b>Habitat</b>	Batha Association (in succession) with scattered Pine forest	Batha Association (in succession) with scattered Pine forest	Mixture of Olive groves, fallow land, and batha association	Batha association with a section of heap association	Olive groves and batha association
<b>Plant cover</b>	70% plants	60% plants	80% plants	70% plants	70% plants
<b>Elevations above sea level</b>	802m	805m	775m	792m	789m
<b>Slope</b>	Shallow slope	Shallow slope	Fore-slope (under path)	Shallow Slope (under path)	Steep (above path)
<b>Species</b>	<b>Braun and Blanquet scale</b>				
<i>Silybum marianum</i>	-	-	2(5%)	-	-
<i>Smilax aspera</i>	+(<1%)	+(<1%)	-	-	-
<i>Styrax officinalis</i>	-	-	+(<1%)	-	-
<i>Thrinicia tuberosa</i>	+(<1%)	+(<1%)	+(<1%)	1(<5%)	+(<1%)
<i>Thymbra spicata</i>	+(<1%)	+(<1%)	+(<1%)	+(<1%)	-
<i>Teucrium capitatum (polium)</i>	+(<1%)	+(<1%)	-	-	-
<i>Teucrium creticum</i>	-	+(<1%)	+(<1%)	-	-
<i>Teucrium divaricatum</i>	+(<1%)	+(<1%)	-	-	-
<i>Umbilicus intermedius</i>	-	+(<1%)	-	+(<1%)	-

Transect	Transect 15 (T15) – Mountain south east- Curved area – above path 2 and Q3 below path 2 opposite Q1 and Q2 towards E'in A'mdan from southern side			Transect 16 (T16) –above path 2- eastern mountain
	Q1	Q2	Q3	Q1
<b>Soil type</b>	Dark Rendzina	Dark Rendzina	Dark and light Rendzina	Light Rendzina
<b>Habitat</b>	Mixed Oak maquis forest and olive groves	Mixed Oak maquis forest and olive groves	Olive Groves and fallow land	Batha association
<b>Plant cover</b>	80% plants	83% plants	75% plants	52% plants
<b>Elevations above sea level</b>	791m	792m	650m	680m
<b>Slope</b>	Steep slope	Flat part on mid of the hill	Shallow slope – below the path	Very Steep
<b>Species</b>	<b>Braun and Blanquet scale</b>			
<i>Allium neapolitanum</i>	-	+( $<1\%$ )	-	-
<i>Amaranthus blitoides</i>	-	-	-	+( $<1\%$ )
<i>Andropogon distachyos</i>	-	-	+( $<1\%$ )	2(5%)
<i>Arbutus andrachne</i>	+( $<1\%$ )	1( $<5\%$ )	-	-
<i>Arum Palaestinum</i>	-	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )
<i>Asparagus aphyllus</i>	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )	-
<i>Asphodeline lutea</i>	-	-	+( $<1\%$ )	+( $<1\%$ )
<i>Asphodelus ramosus (microcarpus)</i>	-	-	+( $<1\%$ )	+( $<1\%$ )
<i>Calicotome villosa</i>	2(5%)	2(5%)	+( $<1\%$ )	-
<i>Calendula arvensis</i>	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )	-
<i>Carlina hispanica or Carlina curetum</i>	-	+( $<1\%$ )	-	+( $<1\%$ )
<i>Cerastium glomeratum (viscosum)</i>	+( $<1\%$ )	+( $<1\%$ )	-	-
<i>Chiliadenus iphionoides</i>	+( $<1\%$ )	-	+( $<1\%$ )	2(10%)
<i>Cistus creticus (incans)</i>	1(5%)	1( $<5\%$ )	1( $<5\%$ )	1(5%)
<i>Cistus salviifolius</i>	1(5%)	1( $<5\%$ )	1( $<5\%$ )	+( $<5\%$ )
<i>Coridothymus capitatus</i>	1( $<5\%$ )	+( $<1\%$ )	-	2(10%)
<i>Cyclamen persicum</i>	+( $<1\%$ )	1( $<5\%$ )	-	-

Transect	Transect 15 (T15) – Mountain south east- Curved area – above path 2 and Q3 below path 2 opposite Q1 and Q2 towards E'in A'mdan from southern side			Transect 16 (T16) –above path 2- eastern mountain
	Q1	Q2	Q3	Q1
<b>Soil type</b>	Dark Rendzina	Dark Rendzina	Dark and light Rendzina	Light Rendzina
<b>Habitat</b>	Mixed Oak maquis forest and olive groves	Mixed Oak maquis forest and olive groves	Olive Groves and fallow land	Batha association
<b>Plant cover</b>	80% plants	83% plants	75% plants	52% plants
<b>Elevations above sea level</b>	791m	792m	650m	680m
<b>Slope</b>	Steep slope	Flat part on mid of the hill	Shallow slope – below the path	Very Steep
<b>Species</b>	<b>Braun and Blanquet scale</b>			
<i>Dittrichia viscosa</i>	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Echium judaeum</i>	-	+( <b>&lt;1%</b> )	-	+( <b>&lt;1%</b> )
<i>Ephedra aphylla</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	-
<i>Fumana thymifolia</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	+( <b>&lt;1%</b> )
<i>Fumana arabica</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	+( <b>&lt;1%</b> )
<i>Galium murale</i>	-	+( <b>&lt;1%</b> )	-	<b>1(&lt;5%)</b>
<i>Lactuca tuberosa</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	-
<i>Lonicera etrusca</i>	-	+( <b>&lt;1%</b> )	-	-
<i>Mentha longifolia</i>	<b>1(&lt;5%)</b>	<b>1(&lt;5%)</b>	-	-
<i>Olea europaea</i>	<b>2(10%)</b>	<b>2(15%)</b>	<b>4(55%)</b>	-
<i>Phagnalon rupestre</i>	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-
<i>Pinus halepensis</i>	<b>1(&lt;5%)</b>	+( <b>&lt;1%</b> )	-	<b>1(5%)</b>
<i>Pistacia lentiscus</i>	<b>1(5%)</b>	<b>1(5%)</b>	-	-
<i>Pistacia palaestina</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Polygonum argyrocoleum</i>	-	+( <b>&lt;1%</b> )	-	-
<i>Quercus calliprinos</i>	<b>3(25%)</b>	<b>3(35%)</b>	<b>1(&lt;5%)</b>	<b>1(5%)</b>
<i>Ranunculus asiaticus</i>	-	-	-	+( <b>&lt;1%</b> )

Transect	Transect 15 (T15) – Mountain south east- Curved area – above path 2 and Q3 below path 2 opposite Q1 and Q2 towards E'in A'mdan from southern side			Transect 16 (T16) –above path 2- eastern mountain
	Q1	Q2	Q3	Q1
<b>Soil type</b>	Dark Rendzina	Dark Rendzina	Dark and light Rendzina	Light Rendzina
<b>Habitat</b>	Mixed Oak maquis forest and olive groves	Mixed Oak maquis forest and olive groves	Olive Groves and fallow land	Batha association
<b>Plant cover</b>	80% plants	83% plants	75% plants	52% plants
<b>Elevations above sea level</b>	791m	792m	650m	680m
<b>Slope</b>	Steep slope	Flat part on mid of the hill	Shallow slope – below the path	Very Steep
<b>Species</b>	<b>Braun and Blanquet scale</b>			
<i>Rubia tenuifolia</i>	+(<1%)	+(<1%)	+(<1%)	-
<i>Sarcopoterium spinosum</i>	1(<5%)	1(<5%)	2(5%)	2(10%)
<i>Securigera securidaca</i>	-	+(<1%)	-	-
<i>Silene aegyptiaca</i>	-	+(<1%)	+(<1%)	-
<i>Silybum marianum</i>	-	-	-	+(<1%)
<i>Sinapis arvensis</i>	-	+(<1%)	+(<1%)	-
<i>Smilax aspera</i>	+(<1%)	1(<5%)	+(<1%)	-
<i>Styrax officinalis</i>	+(<1%)	-	-	-
<i>Teucrium capitatum (polium)</i>	-	-	-	1(<5%)
<i>Teucrium creticum</i>	-	-	+(<1%)	+(<1%)
<i>Teucrium divaricatum</i>	+(<1%)	+(<1%)	-	-
<i>Thymbra spicata</i>	1(5%)	1(<5%)	-	+(<1%)
<i>Umbilicus intermedius</i>	+(<1%)	+(<1%)	-	-







**Maps 3.2 and 3.3: Presents the distribution and geo-location of the studied transects T15, T16, T17, T18, T19, T20, T21, T22, T23, T24 and T25 and their quadrats at MKV- (Middle of the Valley).**

Transect	Transect 17 (T17) Slope below path 1, exactly under the main stairs that takes to path 1 from Battir side	Transect 18 (T18) – Northern mountain opposite T19 from Battir Side – below path 1 – near the valley	Transect 19 (T19) – southern mountain opposite T18 from Battir side – below path 1
	Q1	Q1	Q1
Soil type	Light Rendzina soil	Rendzina soil	Light Rendzina soil
Habitat	Mixed Olive groves/fallow land, oak forest and terraces supporting batha association	Coniferous man-made forest (Pine trees of an aged between 22-25 years old)	Olive groves and fallow land supported with terraces
Plant cover	70% plants	75% plants	68% plants
Elevations above sea level	640 m	652m	650m
Slope	Very steep	Steep	Steep
Species	<b>Braun and Blanquet scale</b>		
<i>Adonis microcarpa</i>	+( <b>&lt;1%</b> )	-	-
<i>Amygdalus communis</i>	-	-	+( <b>&lt;1%</b> )
<i>Amaranthus blitoides</i>	+( <b>&lt;1%</b> )	-	-
<i>Andropogon distachyos</i>	+( <b>&lt;1%</b> )	-	-
<i>Anemone coronaria</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Arisarum vulgare</i>	-	-	+( <b>&lt;1%</b> )
<i>Arum Palaestinum</i>	<b>1</b> ( <b>&lt;5%</b> )	-	+( <b>&lt;1%</b> )
<i>Asphodeline lutea</i>	<b>1</b> ( <b>&lt;5%</b> )	-	+( <b>&lt;1%</b> )
<i>Asphodelus ramosus (microcarpus)</i>	-	-	+( <b>&lt;1%</b> )
<i>Ballota saxatilis</i>	-	-	+( <b>&lt;1%</b> )
<i>Calendula arvensis</i>	+( <b>&lt;1%</b> )	-	-

Transect	Transect 17 (T17) Slope below path 1, exactly under the main stairs that takes to path 1 from Battir side	Transect 18 (T18) – Northern mountain opposite T19 from Battir Side – below path 1 – near the valley	Transect 19 (T19) – southern mountain opposite T18 from Battir side – below path 1
	Q1	Q1	Q1
Soil type	Light Rendzina soil	Rendzina soil	Light Rendzina soil
Habitat	Mixed Olive groves/fallow land, oak forest and terraces supporting batha association	Coniferous man-made forest (Pine trees of an aged between 22-25 years old)	Olive groves and fallow land supported with terraces
Plant cover	70% plants	75% plants	68% plants
Elevations above sea level	640 m	652m	650m
Slope	Very steep	Steep	Steep
Species	<b>Braun and Blanquet scale</b>		
<i>Carlina hispanica</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Carlina cretina</i>	+( <b>&lt;1%</b> )	-	+( <b>&lt;1%</b> )
<i>Carthamus tenuis</i>	+( <b>&lt;1%</b> )	-	-
<i>Chiliadenus iphionoides</i>	+( <b>&lt;1%</b> )	-	-
<i>Cistus salvifolius</i>	<b>1(5%)</b>	<b>2(7%)</b>	-
<i>Cistus creticus</i>	-	<b>1(&lt;5%)</b>	-
<i>Clematis cirrhosa</i>	+( <b>&lt;1%</b> )	-	-
<i>Colchicum hierosolymitanum</i>	+( <b>&lt;1%</b> )	-	-
<i>Coridothymus capitatus</i>	<b>1(&lt;5%)</b>	<b>1(5%)</b>	-
<i>Crataegus aronia</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-
<i>Crepis sancta</i>	<b>1(&lt;5%)</b>	-	+( <b>&lt;5%</b> )

Transect	Transect 17 (T17) Slope below path 1, exactly under the main stairs that takes to path 1 from Battir side	Transect 18 (T18) – Northern mountain opposite T19 from Battir Side – below path 1 – near the valley	Transect 19 (T19) – southern mountain opposite T18 from Battir side – below path 1
	Q1	Q1	Q1
Soil type	Light Rendzina soil	Rendzina soil	Light Rendzina soil
Habitat	Mixed Olive groves/fallow land, oak forest and terraces supporting batha association	Coniferous man-made forest (Pine trees of an aged between 22-25 years old)	Olive groves and fallow land supported with terraces
Plant cover	70% plants	75% plants	68% plants
Elevations above sea level	640 m	652m	650m
Slope	Very steep	Steep	Steep
Species	<b>Braun and Blanquet scale</b>		
<i>Cyclamen persicum</i>	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )
<i>Erodium gruinum</i>	+( $<1\%$ )	-	+( $<1\%$ )
<i>Erodium ciconium</i>	+( $<1\%$ )	-	-
<i>Euphorbia hierosolymitana</i>	+( $<1\%$ )	-	-
<i>Gagea commutata</i>	+( $<1\%$ )	-	+( $<1\%$ )
<i>Helicbrysum sanguineum</i>	+( $<1\%$ )	-	+( $<1\%$ )
<i>Hirschfeldia incana</i>	+( $<1\%$ )	-	+( $<1\%$ )
<i>Iris vartanii</i>	+( $<1\%$ )	-	-
<i>Lonicera etrusca</i>	1( $<5\%$ )	-	-
<i>Notobasis syriaca</i>	+( $<1\%$ )	-	-
<i>Olea europaea</i>	3( $25\%$ )	-	3( $45\%$ )

Transect	Transect 17 (T17) Slope below path 1, exactly under the main stairs that takes to path 1 from Battir side	Transect 18 (T18) – Northern mountain opposite T19 from Battir Side – below path 1 – near the valley	Transect 19 (T19) – southern mountain opposite T18 from Battir side – below path 1
	Q1	Q1	Q1
Soil type	Light Rendzina soil	Rendzina soil	Light Rendzina soil
Habitat	Mixed Olive groves/fallow land, oak forest and terraces supporting batha association	Coniferous man-made forest (Pine trees of an aged between 22-25 years old)	Olive groves and fallow land supported with terraces
Plant cover	70% plants	75% plants	68% plants
Elevations above sea level	640 m	652m	650m
Slope	Very steep	Steep	Steep
Species	<b>Braun and Blanquet scale</b>		
<i>Phagnalon rupestre</i>	+( <b>&lt;1%</b> )	-	+( <b>&lt;1%</b> )
<i>Pinus halepensis</i>	<b>1(&lt;5%)</b>	<b>3(40%)</b>	<b>1(&lt;5%)</b>
<i>Pistacia Palaestina</i>	<b>1(5%)</b>	-	<b>1(5%)</b>
<i>Poa bulbosa</i>	+( <b>&lt;1%</b> )	-	-
<i>Podonosma orientalis</i>	+( <b>&lt;1%</b> )	-	-
<i>Prasium majus</i>	+( <b>&lt;1%</b> )	-	-
<i>Quercus calliprinos</i>	<b>3(30%)</b>	<b>1(5%)</b>	<b>1(5%)</b>
<i>Ranunculus asiaticus</i>	+( <b>&lt;1%</b> )	-	-
<i>Rhamnus lycioides (Rhamnus palaestinus)</i>	+( <b>&lt;1%</b> )	-	-
<i>Rubia tenuifolia</i>	+( <b>&lt;1%</b> )	-	-
<i>Sarcopoterium spinosum</i>	<b>1(5%)</b>	<b>2(10%)</b>	<b>1(&lt;5%)</b>
<i>Securigera securidaca</i>	+( <b>&lt;1%</b> )	-	-
<i>Silene aegyptiaca</i>	+( <b>&lt;1%</b> )	-	+( <b>&lt;1%</b> )

Transect	Transect 17 (T17) Slope below path 1, exactly under the main stairs that takes to path 1 from Battir side	Transect 18 (T18) – Northern mountain opposite T19 from Battir Side – below path 1 – near the valley	Transect 19 (T19) – southern mountain opposite T18 from Battir side – below path 1
	Q1	Q1	Q1
Soil type	Light Rendzina soil	Rendzina soil	Light Rendzina soil
Habitat	Mixed Olive groves/fallow land, oak forest and terraces supporting batha association	Coniferous man-made forest (Pine trees of an aged between 22-25 years old)	Olive groves and fallow land supported with terraces
Plant cover	70% plants	75% plants	68% plants
Elevations above sea level	640 m	652m	650m
Slope	Very steep	Steep	Steep
Species	<b>Braun and Blanquet scale</b>		
<i>Sinapis arvensis</i>	1(<5%)	-	+(<1%)
<i>Solanum nigrum</i>	+(<1%)	-	-
<i>Teucrium capitatum</i>	-	-	+(<1%)
<i>Tetragonolobus palaestinus</i>	-	-	+(<1%)
<i>Trifolium pupureum</i>	+(<1%)	-	+(<1%)
<i>Trifolium chypeatum</i>	+(<1%)	-	+(<1%)
<i>Thymbra spicata</i>	+(<1%)	-	-
<i>Vicia sativa</i>	+(<1%)	-	+(<1%)

Transect	Transect 20 (T20) - south western mountain – above E'in A'mdan spring- a divergent path from path 1 towards E'in A'mdan			Transect 21 (T21) –north eastern mountain – above E'in A'mdan spring –a divergent path from path 1 towards E'in A'mdan	Transect 22 (T22) AL Koulia Stone is in the middle of the two quadrats of this transect- on path 1 –Middle of the valley	
	Q1	Q2	Q3	Q1	Q1	Q2
Soil type	Rendzina	Rendzina	Rendzina	Rendzina	Rendzina	Rendzina
Habitat	Mixed Oak and Pine forest supporting batha association – succession more than 25 years	Mixed Oak and Pine forest supporting batha association – succession more than 25 years	Batha association	Mixed Oak and Pine forest supporting batha association - Succession more than 25 years	Batha - Garrigue association	Olive groves and fallow land
Plant cover	75% plants	77% plants	57% plants	69% plants	73% plants	65% plants
Elevations above sea level	695m	693m	690m	701m	659m	657m
Slope	Steep	Very steep	Flat	Steep	Steep	Flat
Species	<b>Braun and Blanquet scale</b>					
<i>Amygdalus communis</i>	+( <b>&lt;1%</b> )	<b>1(&lt;5%)</b>	-	+( <b>&lt;1%</b> )	-	+( <b>&lt;1%</b> )
<i>Amaranthus blitoides</i>	-	-	+( <b>&lt;1%</b> )	-	-	-
<i>Andropogon distachyos</i>	-	-	-	+( <b>&lt;1%</b> )	<b>1(5%)</b>	+( <b>&lt;1%</b> )
<i>Anemone coronaria</i>	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	-	+( <b>&lt;1%</b> )

Transect	Transect 20 (T20) - south western mountain – above E'in A'mdan spring- a divergent path from path 1 towards E'in A'mdan			Transect 21 (T21) –north eastern mountain – above E'in A'mdan spring –a divergent path from path 1 towards E'in A'mdan	Transect 22 (T22) AL Koulia Stone is in the middle of the two quadrats of this transect- on path 1 –Middle of the valley	
	Q1	Q2	Q3	Q1	Q1	Q2
Soil type	Rendzina	Rendzina	Rendzina	Rendzina	Rendzina	Rendzina
Habitat	Mixed Oak and Pine forest supporting batha association – succession more than 25 years	Mixed Oak and Pine forest supporting batha association – succession more than 25 years	Batha association	Mixed Oak and Pine forest supporting batha association - Succession more than 25 years	Batha - Garrigue association	Olive groves and fallow land
Plant cover	75% plants	77% plants	57% plants	69% plants	73% plants	65% plants
Elevations above sea level	695m	693m	690m	701m	659m	657m
Slope	Steep	Very steep	Flat	Steep	Steep	Flat
Species	<b>Braun and Blanquet scale</b>					
<i>Anchusa hybrida</i>	-	-	+(<1%)	-	-	-
<i>Anemone coronaria</i>	-	-	-	-	+(<1%)	+(<1%)
<i>Anthemis pseudocotula</i>	-	-	-	-	+(<1%)	+(<1%)
<i>Alcea acaulis</i>	-	-	-	-	+(<1%)	-
<i>Alkana strigosa</i>	-	-	-	-	-	+(<1%)
<i>Anacamptis papilionacea</i> ( <i>Orchis papilionacea</i> )	-	-	-	-	+(<1%)	-
<i>Arenaria leptoclados</i>	-	-	1(<5%)	-	-	-
<i>Arbutus andrachne</i>	2(25%)	2(25%)	-	2(5%)	-	-
<i>Arum Palaestinum</i>	1(<5%)	1(<5%)	1(5%)	-	+(<1%)	1(<5%)



Transect	Transect 20 (T20) - south western mountain – above E'in A'mdan spring- a divergent path from path 1 towards E'in A'mdan			Transect 21 (T21) –north eastern mountain – above E'in A'mdan spring –a divergent path from path 1 towards E'in A'mdan	Transect 22 (T22) AL Koulia Stone is in the middle of the two quadrats of this transect- on path 1 –Middle of the valley	
	Q1	Q2	Q3	Q1	Q1	Q2
<b>Soil type</b>	Rendzina	Rendzina	Rendzina	Rendzina	Rendzina	Rendzina
<b>Habitat</b>	Mixed Oak and Pine forest supporting batha association – succession more than 25 years	Mixed Oak and Pine forest supporting batha association – succession more than 25 years	Batha association	Mixed Oak and Pine forest supporting batha association - Succession more than 25 years	Batha - Garrigue association	Olive groves and fallow land
<b>Plant cover</b>	75% plants	77% plants	57% plants	69% plants	73% plants	65% plants
<b>Elevations above sea level</b>	695m	693m	690m	701m	659m	657m
<b>Slope</b>	Steep	Very steep	Flat	Steep	Steep	Flat
<b>Species</b>	<b>Braun and Blanquet scale</b>					
<i>Asparagus aphyllus</i>	-	-	-	-	+( <b>&lt;1%</b> )	<b>1(&lt;5%)</b>
<i>Asphodeline lutea</i>	-	-	-	-	<b>1(&lt;5%)</b>	-
<i>Asteriscus aquaticus</i>	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	-
<i>Pallenis spinosa (Asteriscus spinosus)</i>	-	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-
<i>Calendula arvensis</i>	-	-	-	-	+( <b>&lt;1%</b> )	-
<i>Calicotome villosa</i>	<b>1(5%)</b>	<b>1(&lt;5%)</b>	-	<b>2(14%)</b>	<b>1(5%)</b>	-
<i>Carlina hispanica</i>	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Carlina curretum</i>	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Centaurea hyalolepis</i>	-	-	+( <b>&lt;1%</b> )	-	+( <b>&lt;1%</b> )	-

Transect	Transect 20 (T20) - south western mountain – above E'in A'mdan spring- a divergent path from path 1 towards E'in A'mdan			Transect 21 (T21) –north eastern mountain – above E'in A'mdan spring –a divergent path from path 1 towards E'in A'mdan	Transect 22 (T22) AL Koulia Stone is in the middle of the two quadrats of this transect- on path 1 –Middle of the valley	
	Q1	Q2	Q3	Q1	Q1	Q2
Soil type	Rendzina	Rendzina	Rendzina	Rendzina	Rendzina	Rendzina
Habitat	Mixed Oak and Pine forest supporting batha association – succession more than 25 years	Mixed Oak and Pine forest supporting batha association – succession more than 25 years	Batha association	Mixed Oak and Pine forest supporting batha association - Succession more than 25 years	Batha - Garrigue association	Olive groves and fallow land
Plant cover	75% plants	77% plants	57% plants	69% plants	73% plants	65% plants
Elevations above sea level	695m	693m	690m	701m	659m	657m
Slope	Steep	Very steep	Flat	Steep	Steep	Flat
Species	<b>Braun and Blanquet scale</b>					
<i>Chiladenus iphionoides</i>	-	-	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Cistus salvifolius</i>	<b>1(&lt;5%)</b>	<b>1(&lt;5%)</b>	-	<b>2(7%)</b>	<b>2(10%)</b>	<b>1(5%)</b>
<i>Cistus creticus (incanus)</i>	<b>1(&lt;5%)</b>	<b>1(&lt;5%)</b>	-	<b>2(7%)</b>	-	-
<i>Coridothymus capitatus</i>	<b>1(&lt;5%)</b>	<b>2(10%)</b>	-	<b>2(7%)</b>	<b>2(7%)</b>	<b>1(&lt;5%)</b>
<i>Crataegus aronia</i>	-	-	-	-	-	-
<i>Glebionis coronarium (Chrysanthemum coronarium)</i>	-	-	-	-	+( <b>&lt;1%</b> )	-
<i>Cupressus sempervirens</i>	-	-	-	+( <b>&lt;1%</b> )	-	-
<i>Cyclamen persicum</i>	<b>1(&lt;5%)</b>	+( <b>&lt;1%</b> )	<b>2(5%)</b>	<b>1(&lt;5%)</b>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )

Transect	Transect 20 (T20) - south western mountain – above E'in A'mdan spring- a divergent path from path 1 towards E'in A'mdan			Transect 21 (T21) –north eastern mountain – above E'in A'mdan spring –a divergent path from path 1 towards E'in A'mdan	Transect 22 (T22) AL Koulia Stone is in the middle of the two quadrats of this transect- on path 1 –Middle of the valley	
	Q1	Q2	Q3	Q1	Q1	Q2
Soil type	Rendzina	Rendzina	Rendzina	Rendzina	Rendzina	Rendzina
Habitat	Mixed Oak and Pine forest supporting batha association – succession more than 25 years	Mixed Oak and Pine forest supporting batha association – succession more than 25 years	Batha association	Mixed Oak and Pine forest supporting batha association - Succession more than 25 years	Batha - Garrigue association	Olive groves and fallow land
Plant cover	75% plants	77% plants	57% plants	69% plants	73% plants	65% plants
Elevations above sea level	695m	693m	690m	701m	659m	657m
Slope	Steep	Very steep	Flat	Steep	Steep	Flat
Species	<b>Braun and Blanquet scale</b>					
<i>Daucus carota</i>	-	-	-	-	+( <b>&lt;1%</b> )	-
<i>Dittrichia viscosa (Inula viscosa)</i>	-	-	-	+( <b>&lt;1%</b> )	-	+( <b>&lt;1%</b> )
<i>Erodium gruinum</i>	-	-	+( <b>&lt;1%</b> )	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Eryngium creticum</i>	-	-	-	-	+( <b>&lt;1%</b> )	-
<i>Ficus carica</i>	-	-	-	-	-	+( <b>&lt;1%</b> )
<i>Fumana Arabica</i>	<b>1(5%)</b>	-	-	+( <b>&lt;1%</b> )	-	-
<i>Gagea commutata</i>	-	-	-	-	-	+( <b>&lt;1%</b> )
<i>Hordeum bulbosum</i>	-	-	-	-	<b>2(7%)</b>	+( <b>&lt;1%</b> )
<i>Helichrysum sanguineum</i>	-	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-

Transect	Transect 20 (T20) - south western mountain – above E'in A'mdan spring- a divergent path from path 1 towards E'in A'mdan			Transect 21 (T21) –north eastern mountain – above E'in A'mdan spring –a divergent path from path 1 towards E'in A'mdan	Transect 22 (T22) AL Koulia Stone is in the middle of the two quadrats of this transect- on path 1 –Middle of the valley	
	Q1	Q2	Q3	Q1	Q1	Q2
Soil type	Rendzina	Rendzina	Rendzina	Rendzina	Rendzina	Rendzina
Habitat	Mixed Oak and Pine forest supporting batha association – succession more than 25 years	Mixed Oak and Pine forest supporting batha association – succession more than 25 years	Batha association	Mixed Oak and Pine forest supporting batha association - Succession more than 25 years	Batha - Garrigue association	Olive groves and fallow land
Plant cover	75% plants	77% plants	57% plants	69% plants	73% plants	65% plants
Elevations above sea level	695m	693m	690m	701m	659m	657m
Slope	Steep	Very steep	Flat	Steep	Steep	Flat
Species	<b>Braun and Blanquet scale</b>					
<i>Hirschfeldia incana</i>	-	-	+(<1%)	-	-	-
<i>Iris vartanii</i>	-	-	-	-	1(<5%)	+(<1%)
<i>Lamium amplexicaule</i>	-	-	-	-	-	+(<1%)
<i>Lonicera etrusca</i>	-	+(<1%)	-	-	-	-
<i>Malva parviflora</i>	-	-	-	-	-	+(<1%)
<i>Majorana syriaca</i> ( <i>Origanum syriacum</i> )	-	-	-	-	+(<1%)	-
<i>Micromaria nervosa</i>	-	-	-	-	+(<1%)	-
<i>Notobasis syriaca</i>	-	-	+(<1%)	-	-	-
<i>Olea europaea</i>	1(5%)	2(5%)	-	1(5%)	1(<5%)	3(37%)

Transect	Transect 20 (T20) - south western mountain – above E'in A'mdan spring- a divergent path from path 1 towards E'in A'mdan			Transect 21 (T21) –north eastern mountain – above E'in A'mdan spring –a divergent path from path 1 towards E'in A'mdan	Transect 22 (T22) AL Koulia Stone is in the middle of the two quadrats of this transect- on path 1 –Middle of the valley	
	Q1	Q2	Q3	Q1	Q1	Q2
<b>Soil type</b>	Rendzina	Rendzina	Rendzina	Rendzina	Rendzina	Rendzina
<b>Habitat</b>	Mixed Oak and Pine forest supporting batha association – succession more than 25 years	Mixed Oak and Pine forest supporting batha association – succession more than 25 years	Batha association	Mixed Oak and Pine forest supporting batha association - Succession more than 25 years	Batha - Garrigue association	Olive groves and fallow land
<b>Plant cover</b>	75% plants	77% plants	57% plants	69% plants	73% plants	65% plants
<b>Elevations above sea level</b>	695m	693m	690m	701m	659m	657m
<b>Slope</b>	Steep	Very steep	Flat	Steep	Steep	Flat
<b>Species</b>	<b>Braun and Blanquet scale</b>					
<i>Onobrychis caput-galli</i>	-	-	+(<1%)	-	-	-
<i>Phagnalon rupestre</i>	1(<5%)	+(<1%)	-	+(<1%)	1(<5%)	-
<i>Phlomis viscosa</i>	-	-	+(<1%)	-	1(5%)	-
<i>Pinus halepensis</i>	2(10%)	-	-	1(<5%)	-	+(<1%)
<i>Pistacia Palaestina</i>	2(15%)	2(5%)	1(5%)	1(<5%)	+(<1%)	+(<1%)
<i>Poa bulbosa</i>	-	-	+(<1%)	-	+(<1%)	-
<i>Podonosma orientalis</i>	-	-	-	-	+(<1%)	-
<i>Prasium majus</i>	+(<1%)	+(<1%)	1(5%)	-	-	-
<i>Pyrus communis</i>	-	-	+(<1%)	-	-	-

Transect	Transect 20 (T20) - south western mountain – above E'in A'mdan spring- a divergent path from path 1 towards E'in A'mdan			Transect 21 (T21) –north eastern mountain – above E'in A'mdan spring –a divergent path from path 1 towards E'in A'mdan	Transect 22 (T22) AL Koulia Stone is in the middle of the two quadrats of this transect- on path 1 –Middle of the valley	
	Q1	Q2	Q3	Q1	Q1	Q2
Soil type	Rendzina	Rendzina	Rendzina	Rendzina	Rendzina	Rendzina
Habitat	Mixed Oak and Pine forest supporting batha association – succession more than 25 years	Mixed Oak and Pine forest supporting batha association – succession more than 25 years	Batha association	Mixed Oak and Pine forest supporting batha association - Succession more than 25 years	Batha - Garrigue association	Olive groves and fallow land
Plant cover	75% plants	77% plants	57% plants	69% plants	73% plants	65% plants
Elevations above sea level	695m	693m	690m	701m	659m	657m
Slope	Steep	Very steep	Flat	Steep	Steep	Flat
Species	<b>Braun and Blanquet scale</b>					
<i>Quercus calliprinos</i>	3(45%)	2(20%)	1(5%)	2(12%)	1(<5%)	1(<5%)
<i>Rhamnus lycioides</i> ( <i>Rhamnus palaestinus</i> )	-	-	-	-	+(<1%)	-
<i>Rubia tenuifolia</i>	1(<5%)	-	+(<1%)	+(<1%)	+(<1%)	-
<i>Rumex dentatus</i>	-	-	-	-	+(<1%)	-
<i>Sarcopoterium spinosum</i>	-	2(15%)	+(<1%)	2(7%)	3(35%)	1(<5%)
<i>Smilax aspera</i>	+(<1%)	+(<1%)	+(<1%)	1(<5%)	+(<1%)	+(<1%)
<i>Senecio vernalis</i>	-	+(<1%)	+(<1%)	-	-	+(<1%)
<i>Silene aegyptiaca</i>	-	-	-	-	-	+(<1%)

Transect	Transect 20 (T20) - south western mountain – above E'in A'mdan spring- a divergent path from path 1 towards E'in A'mdan			Transect 21 (T21) –north eastern mountain – above E'in A'mdan spring –a divergent path from path 1 towards E'in A'mdan	Transect 22 (T22) AL Koulia Stone is in the middle of the two quadrats of this transect- on path 1 –Middle of the valley	
	Q1	Q2	Q3	Q1	Q1	Q2
Soil type	Rendzina	Rendzina	Rendzina	Rendzina	Rendzina	Rendzina
Habitat	Mixed Oak and Pine forest supporting batha association – succession more than 25 years	Mixed Oak and Pine forest supporting batha association – succession more than 25 years	Batha association	Mixed Oak and Pine forest supporting batha association - Succession more than 25 years	Batha - Garrigue association	Olive groves and fallow land
Plant cover	75% plants	77% plants	57% plants	69% plants	73% plants	65% plants
Elevations above sea level	695m	693m	690m	701m	659m	657m
Slope	Steep	Very steep	Flat	Steep	Steep	Flat
Species	<b>Braun and Blanquet scale</b>					
<i>Sinapis arvensis</i>	-	-	+(<1%)	-	-	-
<i>Spartium junceum</i>	-	-	+(<1%)	-	-	-
<i>Teucrium capitatum</i>	+(<1%)	-	-	-	+(<1%)	-
<i>Teucrium divaricatum</i>	-	-	-	-	+(<1%)	-
<i>Trifolium clypeatum</i>	-	-	-	-	+(<1%)	+(<1%)
<i>Trifolium purpureum</i>	-	-	-	-	+(<1%)	+(<1%)
<i>Thrinicia tuberosa</i>	-	-	-	-	+(<1%)	+(<1%)
<i>Umbilicus intermedius</i>	-	-	1(5%)	-	+(<1%)	-

Transect	Transect 23 (T23) – Middle of the valley at the sha'ab one – path 1			Transect 24 (T24) Middle of the valley at the sha'ab one – path 1	Transect 25 (T25)- Middle of the valley opposite sha'ab one – path 1
	Q1	Q2	Q3	Q1	Q1
Soil type	Brown Rendzina	Light Rendzina	Light Rendzina	Brown and light Rendzina	Light Rendzina
Habitat	Mixed habitat of oak forest and olive groves and fallow land with wide terraces	Mixed Oak and Pine forest	Mixed Pine and Oak forest	Olive groves and fallow land	Mixed Oak and Pine forest supporting batha association with many terraces
Plant cover	65% plants	67% plants	70% plants	62% plants	60% plants
Elevations above sea level	689m	692m	693m	680m	675m
Slope	Flat	Steep	Very Steep	Flat	Very Steep
Species	<b>Braun and Blanquet scale</b>				
<i>Amygdalus communis</i>	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )	-	-
<i>Ancbusa undulata (hybrid)</i>	-	-	-	+( $<1\%$ )	-
<i>Andropogon distachyos</i>	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )
<i>Anemone coronaria</i>	-	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )
<i>Arum Palaestinum</i>	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )	-
<i>Asparagus aphyllus</i>	-	-	-	1( $<5\%$ )	-
<i>Asphodelus ramosus (microcarpus)</i>	-	-	-	-	1( $<5\%$ )
<i>Calicotome villosa</i>	1( $<5\%$ )	+( $<1\%$ )	1( $5\%$ )	1( $<5\%$ )	-
<i>Carlina hispanica</i>	+( $<1\%$ )	-	-	+( $<1\%$ )	-
<i>Carthamus tenuis</i>	+( $<1\%$ )	-	-	+( $<1\%$ )	-
<i>Chiliadenus iphionoides</i>	-	+( $<1\%$ )	+( $<1\%$ )	-	-



Transect	Transect 23 (T23) – Middle of the valley at the sha'ab one – path 1			Transect 24 (T24) Middle of the valley at the sha'ab one – path 1	Transect 25 (T25)- Middle of the valley opposite sha'ab one – path 1
	Q1	Q2	Q3	Q1	Q1
Soil type	Brown Rendzina	Light Rendzina	Light Rendzina	Brown and light Rendzina	Light Rendzina
Habitat	Mixed habitat of oak forest and olive groves and fallow land with wide terraces	Mixed Oak and Pine forest	Mixed Pine and Oak forest	Olive groves and fallow land	Mixed Oak and Pine forest supporting batha association with many terraces
Plant cover	65% plants	67% plants	70% plants	62% plants	60% plants
Elevations above sea level	689m	692m	693m	680m	675m
Slope	Flat	Steep	Very Steep	Flat	Very Steep
Species	<b>Braun and Blanquet scale</b>				
<i>Cistus salvifolius</i>	1(<5%)	1(5%)	1(<5%)	1(<5%)	1(<5%)
<i>Cistus creticus</i>	1(<5%)	1(5%)	1(<5%)	1(<5%)	1(<5%)
<i>Coridothymus capitatus</i>	+(<1%)	+(<1%)	+(<1%)	-	1(5%)
<i>Crataegus aronia</i>	-	+(<1%)	-	-	-
<i>Cyclamen persicum</i>	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)
<i>Daucus carota</i>	+(<1%)	-	-	-	-
<i>Euphorbia helioscopia</i>	+(<1%)	-	-	-	-
<i>Fumana arabica</i>	-	-	-	-	1(<5%)
<i>Gagea commutata</i>	+(<1%)	+(<1%)	+(<1%)	-	-
<i>Helichrysum sanguineum</i>	+(<1%)	-	-	+(<1%)	-
<i>Olea europaea</i>	1(5%)	-	-	3(35%)	-

Transect	Transect 23 (T23) – Middle of the valley at the sha'ab one – path 1			Transect 24 (T24) Middle of the valley at the sha'ab one – path 1	Transect 25 (T25)- Middle of the valley opposite sha'ab one – path 1
	Q1	Q2	Q3	Q1	Q1
<b>Soil type</b>	Brown Rendzina	Light Rendzina	Light Rendzina	Brown and light Rendzina	Light Rendzina
<b>Habitat</b>	Mixed habitat of oak forest and olive groves and fallow land with wide terraces	Mixed Oak and Pine forest	Mixed Pine and Oak forest	Olive groves and fallow land	Mixed Oak and Pine forest supporting batha association with many terraces
<b>Plant cover</b>	65% plants	67% plants	70% plants	62% plants	60% plants
<b>Elevations above sea level</b>	689m	692m	693m	680m	675m
<b>Slope</b>	Flat	Steep	Very Steep	Flat	Very Steep
<b>Species</b>	<b>Braun and Blanquet scale</b>				
<i>Ononis natrix</i>	-	-	-	+( $<1\%$ )	-
<i>Phagnalon rupestre</i>	+( $<1\%$ )	1( $<5\%$ )	+( $<1\%$ )	-	-
<i>Pinus halepensis</i>	1( $<5\%$ )	2(15%)	2(25%)	+( $<1\%$ )	2(7%)
<i>Pistacia Palaestina</i>	+( $<1\%$ )	+( $<1\%$ )	1( $<5\%$ )	+( $<1\%$ )	-
<i>Podonosma orientalis</i>	-	+( $<1\%$ )	-	-	-
<i>Quercus calliprinos</i>	2(15%)	2(20%)	2(20%)	1( $<5\%$ )	2(22%)
<i>Rhamnus lycioides</i> ( <i>Rhamnus palaestinus</i> )	-	+( $<1\%$ )	+( $<1\%$ )	-	-
<i>Sarcopoterium spinosum</i>	1(5%)	1(5%)	2(5%)	2(7%)	2(20%)
<i>Smilax aspera</i>	+( $<1\%$ )	-	+( $<1\%$ )	-	+( $<1\%$ )
<i>Senecio vernalis</i>	-	+( $<1\%$ )	-	-	-
<i>Silene aegyptiaca</i>	-	-	-	+( $<1\%$ )	-
<i>Sinapis arvensis</i>	-	+( $<1\%$ )	-	+( $<1\%$ )	-

Transect	Transect 23 (T23) – Middle of the valley at the sha'ab one – path 1			Transect 24 (T24) Middle of the valley at the sha'ab one – path 1	Transect 25 (T25)- Middle of the valley opposite sha'ab one – path 1
	Q1	Q2	Q3	Q1	Q1
Soil type	Brown Rendzina	Light Rendzina	Light Rendzina	Brown and light Rendzina	Light Rendzina
Habitat	Mixed habitat of oak forest and olive groves and fallow land with wide terraces	Mixed Oak and Pine forest	Mixed Pine and Oak forest	Olive groves and fallow land	Mixed Oak and Pine forest supporting batha association with many terraces
Plant cover	65% plants	67% plants	70% plants	62% plants	60% plants
Elevations above sea level	689m	692m	693m	680m	675m
Slope	Flat	Steep	Very Steep	Flat	Very Steep
Species	<b>Braun and Blanquet scale</b>				
<i>Teucrium capitatum</i>	+( $<1\%$ )	1( $<5\%$ )	-	+( $<1\%$ )	1( $<5\%$ )
<i>Teucrium divaricatum</i>	+( $<1\%$ )	1( $<5\%$ )	+( $<1\%$ )	-	+( $<1\%$ )
<i>Thrinia tuberosa</i>	-	+( $<1\%$ )	+( $<1\%$ )		
<i>Thymbra spicata</i>	-	1( $<5\%$ )	-	-	-
<i>Verbascum sinuatum</i>	-	+( $<1\%$ )	-	-	-



**Maps 3.4: Presents the distribution and geo-location of the studied transects T26, T27, T28, T29, T30, T31, T32, and T33 and their quadrats at MKV- (West Battir Village).**

Transect	Transect 26 (T26) – Eastern side of path 3		Transect 27 (T27)- Eastern side of path 3	Transect 28 (T28) –Eastern side of path 3	
	Q1	Q2	Q1	Q1	Q2
<b>Soil type</b>	Terra Rossa	Mixed Terra Rossa and Rendzina (more humidity)	Mixed Terra Rossa and Rendzina	Terra Rossa	Terra Rossa
<b>Habitat</b>	Olive groves supporting batha association with terraces	Olive groves supporting batha association with terraces	Olive groves supporting Garrigue- batha association with terraces	Mixed Olive groves, Oak and Pine trees supporting batha association (Pine cultivation 40-50years)	Olive groves supported with Oak and Pine trees
<b>Plant cover</b>	60% plants	65%	82%	80% plants	69% plants
<b>Elevations above sea level</b>	584m	597m	601m	584m	593m
<b>Slope</b>	Steep	Steep	Steep	Steep	Steep
<b>Species</b>	<b>Braun and Blanquet scale</b>				
<i>Allium neapolitanum</i>	-	-	+(<1%)	-	-
<i>Amaranthus blitoides</i>	+(<1%)	-	-	-	-
<i>Amygdalus communis</i>	1(<5%)	-	+(<1%)	-	-
<i>Anchusa strigosa</i>	-	+(<1%)	-	-	-
<i>Andrachne telephioides</i>	-	+(<1%)	-	-	-
<i>Andropogon distachyos</i>	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)
<i>Anemone coronaria</i>	-	-	+(<1%)	+(<1%)	-
<i>Arenaria leptoclados</i>	-	1(<5%)	-	-	-
<i>Arisarum vulgare</i>	-	-	-	+(<1%)	+(<1%)
<i>Arum Palaestinum</i>	-	-	-	+(<1%)	+(<1%)
<i>Asparagus aphyllus</i>	1(5%)	-	1(<5%)	+(<1%)	-

Transect	Transect 26 (T26) – Eastern side of path 3		Transect 27 (T27)- Eastern side of path 3	Transect 28 (T28) –Eastern side of path 3	
	Q1	Q2	Q1	Q1	Q2
<b>Soil type</b>	Terra Rossa	Mixed Terra Rossa and Rendzina (more humidity)	Mixed Terra Rossa and Rendzina	Terra Rossa	Terra Rossa
<b>Habitat</b>	Olive groves supporting batha association with terraces	Olive groves supporting batha association with terraces	Olive groves supporting Garrigue- batha association with terraces	Mixed Olive groves, Oak and Pine trees supporting batha association (Pine cultivation 40-50years)	Olive groves supported with Oak and Pine trees
<b>Plant cover</b>	60% plants	65%	82%	80% plants	69% plants
<b>Elevations above sea level</b>	584m	597m	601m	584m	593m
<b>Slope</b>	Steep	Steep	Steep	Steep	Steep
<b>Species</b>	<b>Braun and Blanquet scale</b>				
<i>Asphodeline lutea</i>	1(<5%)	+(<1%)	+(<1%)	-	-
<i>Asphodelus ramosus (microcarpus)</i>	-	-	+(<1%)	+(<1%)	-
<i>Asteriscus aquaticus</i>	-	-	-	-	-
<i>Ballota saxatilis</i>	-	-	+(<1%)	-	-
<i>Bellis sylvestris</i>	-	1(<5%)	+(<1%)	+(<1%)	-
<i>Calicotome villosa</i>	-	-	-	1(<5%)	-
<i>Capparis spinosa</i>	-	+(<1%)	-	-	-
<i>Carlina hispanica</i>	-	-	-	+(<1%)	+(<1%)
<i>Carlina curetum</i>	-	-	-	+(<1%)	+(<1%)

Transect	Transect 26 (T26) – Eastern side of path 3		Transect 27 (T27)- Eastern side of path 3	Transect 28 (T28) –Eastern side of path 3	
	Q1	Q2	Q1	Q1	Q2
<b>Soil type</b>	Terra Rossa	Mixed Terra Rossa and Rendzina (more humidity)	Mixed Terra Rossa and Rendzina	Terra Rossa	Terra Rossa
<b>Habitat</b>	Olive groves supporting batha association with terraces	Olive groves supporting batha association with terraces	Olive groves supporting Garrigue- batha association with terraces	Mixed Olive groves, Oak and Pine trees supporting batha association (Pine cultivation 40-50years)	Olive groves supported with Oak and Pine trees
<b>Plant cover</b>	60% plants	65%	82%	80% plants	69% plants
<b>Elevations above sea level</b>	584m	597m	601m	584m	593m
<b>Slope</b>	Steep	Steep	Steep	Steep	Steep
<b>Species</b>	<b>Braun and Blanquet scale</b>				
<i>Carthamus tenuis</i>	-	+(<1%)	-	-	-
<i>Ceterach officinarum</i>	-	-	-	-	+(<1%)
<i>Chiliadenus iphionoides</i>	-	1(<5%)	+(<1%)	+(<1%)	-
<i>Cistus salvifolius</i>	-	1(5%)	+(<1%)	1(<5%)	1(5%)
<i>Cistus creticus (incanus)</i>	-	+(<1%)	+(<1%)	+(<1%)	1(<5%)
<i>Clematis Cirrhosa</i>	+(<1%)	-	-	-	-
<i>Colchicum hierosolymitanum</i>	-	+(<1%)	-	-	+(<1%)
<i>Coridothymus capitatus</i>	-	1(5%)	1(<5%)	+(<1%)	-
<i>Crataegus aronia</i>	-	+(<1%)	-	-	-
<i>Cupressus sempervirens</i>	+(<1%)	-	-	-	-

Transect	Transect 26 (T26) – Eastern side of path 3		Transect 27 (T27)- Eastern side of path 3	Transect 28 (T28) –Eastern side of path 3	
	Q1	Q2	Q1	Q1	Q2
<b>Soil type</b>	Terra Rossa	Mixed Terra Rossa and Rendzina (more humidity)	Mixed Terra Rossa and Rendzina	Terra Rossa	Terra Rossa
<b>Habitat</b>	Olive groves supporting batha association with terraces	Olive groves supporting batha association with terraces	Olive groves supporting Garrigue- batha association with terraces	Mixed Olive groves, Oak and Pine trees supporting batha association (Pine cultivation 40-50years)	Olive groves supported with Oak and Pine trees
<b>Plant cover</b>	60% plants	65%	82%	80% plants	69% plants
<b>Elevations above sea level</b>	584m	597m	601m	584m	593m
<b>Slope</b>	Steep	Steep	Steep	Steep	Steep
<b>Species</b>	<b>Braun and Blanquet scale</b>				
<i>Cyclamen persicum</i>	2(15%)	2(15%)	1(<5%)	+(<1%)	+(<1%)
<i>Daucus carota</i>	-	-	-	+(<1%)	-
<i>Ecbium judaeum</i>	-	-	(<1%)	-	-
<i>Erodium gruinum</i>	-	+(<1%)	-	-	-
<i>Euphorbia hierosolymitana</i>	-	-	-	+(<1%)	-
<i>Ficus carica</i>	+(<1%)	-	-	-	-
<i>Fumana arabica</i>	+(<1%)	+(<1%)	-	-	-
<i>Gagea commutate</i>	+(<1%)	+(<1%)	+(<1%)	-	+(<1%)
<i>Helicbrysum sanguineum</i>	-	-	-	+(<1%)	+(<1%)
<i>Lactuca tuberosa</i>	-	-	-	-	+(<1%)



Transect	Transect 26 (T26) – Eastern side of path 3		Transect 27 (T27)- Eastern side of path 3	Transect 28 (T28) –Eastern side of path 3	
	Q1	Q2	Q1	Q1	Q2
<b>Soil type</b>	Terra Rossa	Mixed Terra Rossa and Rendzina (more humidity)	Mixed Terra Rossa and Rendzina	Terra Rossa	Terra Rossa
<b>Habitat</b>	Olive groves supporting batha association with terraces	Olive groves supporting batha association with terraces	Olive groves supporting Garrigue- batha association with terraces	Mixed Olive groves, Oak and Pine trees supporting batha association (Pine cultivation 40-50years)	Olive groves supported with Oak and Pine trees
<b>Plant cover</b>	60% plants	65%	82%	80% plants	69% plants
<b>Elevations above sea level</b>	584m	597m	601m	584m	593m
<b>Slope</b>	Steep	Steep	Steep	Steep	Steep
<b>Species</b>	<b>Braun and Blanquet scale</b>				
<i>Lamium amplexicaule</i>	-	-	-	+( $<1\%$ )	-
<i>Lonicera etrusca</i>	-	+( $<1\%$ )	-	-	-
<i>Majorana syriaca</i> ( <i>Origanum syriacum</i> )	-	+( $<1\%$ )	-	-	-
<i>Malva parviflora</i>	1( $<5\%$ )	-	-	-	-
<i>Micromeria nervosa</i>	-	+( $<1\%$ )	+( $<1\%$ )	-	+( $<1\%$ )
<i>Olea europaea</i>	3(25%)	3(25%)	2(25%)	2(20%)	2(25%)
<i>Onobrychis caput-galli</i>	-	+( $<1\%$ )	+( $<1\%$ )	-	-
<i>Paronychia argentea</i>	-	-	-	+( $<1\%$ )	-
<i>Phagnalon rupestre</i>	+( $<1\%$ )	-	+( $<1\%$ )	+( $<1\%$ )	+( $<1\%$ )
<i>Phlomis viscosa</i>	-	+( $<1\%$ )	1( $<5\%$ )	-	-
<i>Pinus halepensis</i>	+( $<1\%$ )	1( $<5\%$ )	-	2(7%)	2(5%)

Transect	Transect 26 (T26) – Eastern side of path 3		Transect 27 (T27)- Eastern side of path 3	Transect 28 (T28) –Eastern side of path 3	
	Q1	Q2	Q1	Q1	Q2
<b>Soil type</b>	Terra Rossa	Mixed Terra Rossa and Rendzina (more humidity)	Mixed Terra Rossa and Rendzina	Terra Rossa	Terra Rossa
<b>Habitat</b>	Olive groves supporting batha association with terraces	Olive groves supporting batha association with terraces	Olive groves supporting Garrigue- batha association with terraces	Mixed Olive groves, Oak and Pine trees supporting batha association (Pine cultivation 40-50years)	Olive groves supported with Oak and Pine trees
<b>Plant cover</b>	60% plants	65%	82%	80% plants	69% plants
<b>Elevations above sea level</b>	584m	597m	601m	584m	593m
<b>Slope</b>	Steep	Steep	Steep	Steep	Steep
<b>Species</b>	<b>Braun and Blanquet scale</b>				
<i>Pistacia lentiscus</i>	-	+(<1%)	-	2(5%)	1(5%)
<i>Pistacia Palaestina</i>	+(<1%)	+(<1%)	-	-	-
<i>Podonosma orientalis</i>	-	-	-	+(<1%)	-
<i>Prasium majus</i>	+(<1%)	-	-	-	-
<i>Quercus calliprinos</i>	+(<1%)	1(5%)	1(<5%)	2(10%)	2(10%)
<i>Rhamnus lycioides</i>	-	+(<1%)	-	-	+(<1%)
<i>Rubia tenuifolia</i>	+(<1%)	-	-	-	+(<1%)
<i>Sarcopoterium spinosum</i>	2(7%)	1(<5%)	2(25%)	2(25%)	2(10%)
<i>Securigera securidaca</i>	-	-	-	-	+(<1%)
<i>Smilax aspera</i>	+(<1%)	-	+(<1%)	+(<1%)	+(<1%)

Transect	Transect 26 (T26) – Eastern side of path 3		Transect 27 (T27)- Eastern side of path 3	Transect 28 (T28) –Eastern side of path 3	
	Q1	Q2	Q1	Q1	Q2
<b>Soil type</b>	Terra Rossa	Mixed Terra Rossa and Rendzina (more humidity)	Mixed Terra Rossa and Rendzina	Terra Rossa	Terra Rossa
<b>Habitat</b>	Olive groves supporting batha association with terraces	Olive groves supporting batha association with terraces	Olive groves supporting Garrigue- batha association with terraces	Mixed Olive groves, Oak and Pine trees supporting batha association (Pine cultivation 40-50years)	Olive groves supported with Oak and Pine trees
<b>Plant cover</b>	60% plants	65%	82%	80% plants	69% plants
<b>Elevations above sea level</b>	584m	597m	601m	584m	593m
<b>Slope</b>	Steep	Steep	Steep	Steep	Steep
<b>Species</b>	<b>Braun and Blanquet scale</b>				
<i>Silene aegyptiaca</i>	-	-	-	+( <b>&lt;1%</b> )	-
<i>Silybum marianum</i>	+( <b>&lt;1%</b> )	-	-	-	-
<i>Sinapis arvensis</i>	+( <b>&lt;1%</b> )	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Solanum nigrum</i>	-	+( <b>&lt;1%</b> )	-	-	-
<i>Teucrium capitatum</i>	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	-
<i>Teucrium divaricatum</i>	-	-	1( <b>&lt;5%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Thrinicia Tuberosa</i>	-	+( <b>&lt;1%</b> )	-	-	-
<i>Tolpis virgata</i>	-	-	-	-	+( <b>&lt;1%</b> )
<i>Trigonella foenum-graecum</i>	-	-	-	+( <b>&lt;1%</b> )	-
<i>Urtica urens</i>	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-



Transect	Transect 26 (T26) – Eastern side of path 3		Transect 27 (T27)- Eastern side of path 3	Transect 28 (T28) –Eastern side of path 3		
	Q1	Q2	Q1	Q1	Q2	
<b>Soil type</b>	Terra Rossa	Mixed Terra Rossa and Rendzina (more humidity)	Mixed Terra Rossa and Rendzina	Terra Rossa	Terra Rossa	
<b>Habitat</b>	Olive groves supporting batha association with terraces	Olive groves supporting batha association with terraces	Olive groves supporting Garrigue- batha association with terraces	Mixed Olive groves, Oak and Pine trees supporting batha association (Pine cultivation 40-50years)	Olive groves supported with Oak and Pine trees	
<b>Plant cover</b>	60% plants	65%	82%	80% plants	69% plants	
<b>Elevations above sea level</b>	584m	597m	601m	584m	593m	
<b>Slope</b>	Steep	Steep	Steep	Steep	Steep	
<b>Species</b>	<b>Braun and Blanquet scale</b>					
<b>Species</b>	<b>Braun and Blanquet scale</b>					
<i>Anacamptis pyramidalis</i> ( <i>Orchid pyramidalis</i> )	-	+(<1%)	+(<1%)	-	-	-
<i>Andrachne telephioides</i>	-	-	-	+(<1%)	-	-
<i>Andropogon distachyos</i>	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)
<i>Anemone coronaria</i>	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)
<i>Arenaria leptoclados</i>	-	-	-	-	+(<1%)	+(<1%)
<i>Arum Palaestinum</i>	-	+(<1%)	-	-	-	-
<i>Asphodeline lutea</i>	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)
<i>Asphodelus ramosus</i> ( <i>microcarpus</i> )	-	+(<1%)	+(<1%)	-	-	-
<i>Bellis sylvestris</i>	+(<1%)	-	-	+(<1%)	+(<1%)	+(<1%)
<i>Calicotome villosa</i>	1(5%)	1(<5%)	1(<5%)	1(5%)	1(<5%)	1(<5%)

Transect	Transect 26 (T26) – Eastern side of path 3		Transect 27 (T27)- Eastern side of path 3	Transect 28 (T28) –Eastern side of path 3	
	Q1	Q2	Q1	Q1	Q2
<b>Soil type</b>	Terra Rossa	Mixed Terra Rossa and Rendzina (more humidity)	Mixed Terra Rossa and Rendzina	Terra Rossa	Terra Rossa
<b>Habitat</b>	Olive groves supporting batha association with terraces	Olive groves supporting batha association with terraces	Olive groves supporting Garrigue- batha association with terraces	Mixed Olive groves, Oak and Pine trees supporting batha association (Pine cultivation 40-50years)	Olive groves supported with Oak and Pine trees
<b>Plant cover</b>	60% plants	65%	82%	80% plants	69% plants
<b>Elevations above sea level</b>	584m	597m	601m	584m	593m
<b>Slope</b>	Steep	Steep	Steep	Steep	Steep
<b>Species</b>	<b>Braun and Blanquet scale</b>				
<i>Carlina hispanica</i>	+(<1%)	+(<1%)	+(<1%)	+(<1%)	-
<i>Carlina curretum</i>	+(<1%)	+(<1%)	+(<1%)	+(<1%)	-
<i>Chiliadenus iphionoides</i>	+(<1%)	+(<5)	+(<5)	+(<1%)	-
<i>Centaurea hyalolepis</i>	-	-	-	-	+(<1%)
<i>Ceratonia siliqua</i>	-	+(<1%)	+(<1%)	-	-
<i>Cistus salvifolius</i>	1(5%)	1(5%)	1(5%)	1(5%)	2(7%)
<i>Cistus creticus</i>	1(5%)	1(5%)	1(5%)	1(5%)	1(5%)
<i>Colchicum hierosolymitanum</i>	-	-	-	-	+(<1%)
<i>Coridothymus capitatus</i>	1(5%)	-	-	1(5%)	1(<5%)
<i>Crataegus aronia</i>	-	+(<1%)	+(<1%)	-	-
<i>Crocus hyemalis</i>	+(<1%)	-	-	+(<1%)	-

Transect	Transect 26 (T26) – Eastern side of path 3		Transect 27 (T27)- Eastern side of path 3	Transect 28 (T28) –Eastern side of path 3		
	Q1	Q2	Q1	Q1	Q2	
<b>Soil type</b>	Terra Rossa	Mixed Terra Rossa and Rendzina (more humidity)	Mixed Terra Rossa and Rendzina	Terra Rossa	Terra Rossa	
<b>Habitat</b>	Olive groves supporting batha association with terraces	Olive groves supporting batha association with terraces	Olive groves supporting Garrigue- batha association with terraces	Mixed Olive groves, Oak and Pine trees supporting batha association (Pine cultivation 40-50years)	Olive groves supported with Oak and Pine trees	
<b>Plant cover</b>	60% plants	65%	82%	80% plants	69% plants	
<b>Elevations above sea level</b>	584m	597m	601m	584m	593m	
<b>Slope</b>	Steep	Steep	Steep	Steep	Steep	
<b>Species</b>	<b>Braun and Blanquet scale</b>					
<i>Cyclamen persicum</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Erodium gruinum</i>	-	-	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Erodium acuale</i>	-	-	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Eryngium creticum</i>	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Fumana arabica</i>	+( <b>&lt;1%</b> )	-	-	+( <b>&lt;1%</b> )	-	-
<i>Gagea commutata</i>	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Helichrysum sanguineum</i>	-	-	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Lonicera etrusca</i>	-	-	+( <b>&lt;1%</b> )	-	-	-
<i>Majorana syriaca</i> ( <i>Origanum syriacum</i> )	+( <b>&lt;1%</b> )	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Micromeria nervosa</i>	+( <b>&lt;1%</b> )	-	-	+( <b>&lt;1%</b> )	-	-
<i>Olea europaea</i>	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	<b>1(5%)</b>	<b>1(5%)</b>

Transect	Transect 26 (T26) – Eastern side of path 3		Transect 27 (T27)- Eastern side of path 3	Transect 28 (T28) –Eastern side of path 3		
	Q1	Q2	Q1	Q1	Q2	
<b>Soil type</b>	Terra Rossa	Mixed Terra Rossa and Rendzina (more humidity)	Mixed Terra Rossa and Rendzina	Terra Rossa	Terra Rossa	
<b>Habitat</b>	Olive groves supporting batha association with terraces	Olive groves supporting batha association with terraces	Olive groves supporting Garrigue- batha association with terraces	Mixed Olive groves, Oak and Pine trees supporting batha association (Pine cultivation 40-50years)	Olive groves supported with Oak and Pine trees	
<b>Plant cover</b>	60% plants	65%	82%	80% plants	69% plants	
<b>Elevations above sea level</b>	584m	597m	601m	584m	593m	
<b>Slope</b>	Steep	Steep	Steep	Steep	Steep	
<b>Species</b>	<b>Braun and Blanquet scale</b>					
<i>Osyris alba</i>	-	-	-	+(<1%)	-	-
<i>Phagnalon rupestre</i>	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)
<i>Pinus halepensis</i>	2(15%)	2(15%)	2(15%)	2(15%)	2(7%)	2(7%)
<i>Pistacia lentiscus</i>	1(5%)	+(<1%)	+(<1%)	1(5%)	-	-
<i>Pistacia Palaestina</i>	-	+(<1%)	+(<1%)	-	+(<1%)	+(<1%)
<i>Quercus calliprinos</i>	2(10%)	2(15%)	2(15%)	2(10%)	2(5%)	2(7%)
<i>Rbus coriaria</i>	-	-	+(<1%)	-	-	-
<i>Rubia tenuifolia</i>	-	+(<1%)	+(<1%)	-	-	-
<i>Sarcopoterium spinosum</i>	2(7%)	2(20%)	2(20%)	2(7%)	2(12%)	2(10%)
<i>Sedum sediforme</i>	+(<1%)	+(<1%)	-	-	-	-
<i>Senecio leucanthemifolius subsp vernalis</i>	+(<1%)	-	-	+(<1%)	-	-



Transect	Transect 26 (T26) – Eastern side of path 3			Transect 27 (T27)- Eastern side of path 3	Transect 28 (T28) –Eastern side of path 3	
	Q1	Q2		Q1	Q1	Q2
<b>Soil type</b>	Terra Rossa	Mixed Terra Rossa and Rendzina (more humidity)		Mixed Terra Rossa and Rendzina	Terra Rossa	Terra Rossa
<b>Habitat</b>	Olive groves supporting batha association with terraces	Olive groves supporting batha association with terraces		Olive groves supporting Garrigue- batha association with terraces	Mixed Olive groves, Oak and Pine trees supporting batha association (Pine cultivation 40-50years)	Olive groves supported with Oak and Pine trees
<b>Plant cover</b>	60% plants	65%		82%	80% plants	69% plants
<b>Elevations above sea level</b>	584m	597m		601m	584m	593m
<b>Slope</b>	Steep	Steep		Steep	Steep	Steep
<b>Species</b>	<b>Braun and Blanquet scale</b>					
<i>Smilax aspera</i>	+( <b>&lt;1%</b> )	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Silene aegyptiaca</i>	+( <b>&lt;1%</b> )	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Silybum marianum</i>	-	-	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Solanum nigrum</i>	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	-	-
<i>Taraxacum cyprium</i>	-	-	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Teucrium capitatum</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Teucrium divaricatum</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Thrinicia Tuberosa</i>	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	-	-
<i>Thymbra spicata</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Trigonella arabica</i>	-	-	+( <b>&lt;1%</b> )	-	-	-

Transect	Transect 29(T29)		Transect 30 (T30)		Transect 31 (T31)	
	Q1	Q2	Q1	Q2	Q1	Q2
<b>Soil type</b>	Mixed patches of Terra Rossa and Rendzina	Terra Rossa	Terra Rossa	Mixed patches of Terra Rossa and Rendzina	Mixed patches of Terra Rossa and Rendzina	Mixed patches of Terra Rossa and Rendzina
<b>Habitat</b>	Mixed man made Pine forest and Oak trees supporting garrigue-batha association	Mixed man made Pine forest and Oak trees supporting batha association	Mixed man made Pine forest and Oak trees supporting batha association	Mixed man made Pine forest and Oak trees supporting garrigue-batha association	Oak forest supporting Batha association with excess of Pine reseeding	Oak forest supporting Batha association with excess of Pine reseeding
<b>Plant cover</b>	78% plants	75% plants	75% plants	80% plants	60% plants	58%
<b>Elevations above sea level</b>	579m	586m	579m	582m	565m	569m
<b>Slope</b>	Steep	Steep	Steep	Steep	Steep	Steep
<b>Species</b>	<b>Braun and Blanquet scale</b>					
<i>Amaranthus blitoides</i>	-	+(<1%)	+(<1%)	-	-	-
<i>Anacamptis pyramidalis (Orchid pyramidalis)</i>	-	+(<1%)	+(<1%)	-	-	-
<i>Andrachne telephioides</i>	-	-	-	+(<1%)	-	-
<i>Andropogon distachyos</i>	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)
<i>Anemone coronaria</i>	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)
<i>Arenaria leptoclados</i>	-	-	-	-	+(<1%)	+(<1%)
<i>Arum Palaestinum</i>	-	+(<1%)	-	-	-	-
<i>Asphodeline lutea</i>	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)
<i>Asphodelus ramosus (microcarpus)</i>	-	+(<1%)	+(<1%)	-	-	-
<i>Bellis sylvestris</i>	+(<1%)	-	-	+(<1%)	+(<1%)	+(<1%)
<i>Calicotome villosa</i>	1(5%)	1(<5%)	1(<5%)	1(5%)	1(<5%)	1(<5%)

Transect	Transect 29(T29)		Transect 30 (T30)		Transect 31 (T31)	
	Q1	Q2	Q1	Q2	Q1	Q2
<b>Soil type</b>	Mixed patches of Terra Rossa and Rendzina	Terra Rossa	Terra Rossa	Mixed patches of Terra Rossa and Rendzina	Mixed patches of Terra Rossa and Rendzina	Mixed patches of Terra Rossa and Rendzina
<b>Habitat</b>	Mixed man made Pine forest and Oak trees supporting garrigue-batha association	Mixed man made Pine forest and Oak trees supporting batha association	Mixed man made Pine forest and Oak trees supporting batha association	Mixed man made Pine forest and Oak trees supporting garrigue-batha association	Oak forest supporting Batha association with excess of Pine reseeding	Oak forest supporting Batha association with excess of Pine reseeding
<b>Plant cover</b>	78% plants	75% plants	75% plants	80% plants	60% plants	58%
<b>Elevations above sea level</b>	579m	586m	579m	582m	565m	569m
<b>Slope</b>	Steep	Steep	Steep	Steep	Steep	Steep
<b>Species</b>	<b>Braun and Blanquet scale</b>					
<i>Carlina hispanica</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	-
<i>Carlina curetum</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	-
<i>Chiliadennus iphionoides</i>	+( <b>&lt;1%</b> )	+( <b>&lt;5</b> )	+( <b>&lt;5</b> )	+( <b>&lt;1%</b> )	-	-
<i>Centaurea hyalolepis</i>	-	-	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Ceratonia siliqua</i>	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	-	-
<i>Cistus salvifolius</i>	<b>1(5%)</b>	<b>1(5%)</b>	<b>1(5%)</b>	<b>1(5%)</b>	<b>2(7%)</b>	<b>2(7%)</b>
<i>Cistus creticus</i>	<b>1(5%)</b>	<b>1(5%)</b>	<b>1(5%)</b>	<b>1(5%)</b>	<b>1(5%)</b>	<b>1(5%)</b>
<i>Colchicum hierosolymitanum</i>	-	-	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Coridothymus capitatus</i>	<b>1(5%)</b>	-	-	<b>1(5%)</b>	<b>1(&lt;5%)</b>	<b>1(&lt;5%)</b>

Transect	Transect 29(T29)		Transect 30 (T30)		Transect 31 (T31)	
	Q1	Q2	Q1	Q2	Q1	Q2
<b>Soil type</b>	Mixed patches of Terra Rossa and Rendzina	Terra Rossa	Terra Rossa	Mixed patches of Terra Rossa and Rendzina	Mixed patches of Terra Rossa and Rendzina	Mixed patches of Terra Rossa and Rendzina
<b>Habitat</b>	Mixed man made Pine forest and Oak trees supporting garrigue-batha association	Mixed man made Pine forest and Oak trees supporting batha association	Mixed man made Pine forest and Oak trees supporting batha association	Mixed man made Pine forest and Oak trees supporting garrigue-batha association	Oak forest supporting Batha association with excess of Pine reseeding	Oak forest supporting Batha association with excess of Pine reseeding
<b>Plant cover</b>	78% plants	75% plants	75% plants	80% plants	60% plants	58%
<b>Elevations above sea level</b>	579m	586m	579m	582m	565m	569m
<b>Slope</b>	Steep	Steep	Steep	Steep	Steep	Steep
<b>Species</b>	<b>Braun and Blanquet scale</b>					
<i>Crataegus aronia</i>	-	+(<1%)	+(<1%)	-	-	-
<i>Crocus hyemalis</i>	+(<1%)	-	-	+(<1%)	-	-
<i>Cyclamen persicum</i>	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)
<i>Erodium gruinum</i>	-	-	-	-	+(<1%)	+(<1%)
<i>Erodium acuale</i>	-	-	-	-	+(<1%)	+(<1%)
<i>Eryngium creticum</i>	-	+(<1%)	+(<1%)	-	+(<1%)	+(<1%)
<i>Fumana arabica</i>	+(<1%)	-	-	+(<1%)	-	-
<i>Gagea commutata</i>	-	+(<1%)	+(<1%)	-	+(<1%)	+(<1%)
<i>Helichrysum sanguineum</i>	-	-	-	-	+(<1%)	+(<1%)
<i>Lonicera etrusca</i>	-	-	+(<1%)	-	-	-

Transect	Transect 29(T29)		Transect 30 (T30)		Transect 31 (T31)	
	Q1	Q2	Q1	Q2	Q1	Q2
<b>Soil type</b>	Mixed patches of Terra Rossa and Rendzina	Terra Rossa	Terra Rossa	Mixed patches of Terra Rossa and Rendzina	Mixed patches of Terra Rossa and Rendzina	Mixed patches of Terra Rossa and Rendzina
<b>Habitat</b>	Mixed man made Pine forest and Oak trees supporting garrigue-batha association	Mixed man made Pine forest and Oak trees supporting batha association	Mixed man made Pine forest and Oak trees supporting batha association	Mixed man made Pine forest and Oak trees supporting garrigue-batha association	Oak forest supporting Batha association with excess of Pine reseeding	Oak forest supporting Batha association with excess of Pine reseeding
<b>Plant cover</b>	78% plants	75% plants	75% plants	80% plants	60% plants	58%
<b>Elevations above sea level</b>	579m	586m	579m	582m	565m	569m
<b>Slope</b>	Steep	Steep	Steep	Steep	Steep	Steep
<b>Species</b>	<b>Braun and Blanquet scale</b>					
<i>Majorana syriaca</i> ( <i>Origanum syriacum</i> )	+( <b>&lt;1%</b> )	-	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Micromeria nervosa</i>	+( <b>&lt;1%</b> )	-	-	+( <b>&lt;1%</b> )	-	-
<i>Olea europaea</i>	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	<b>1(5%)</b>	<b>1(5%)</b>
<i>Osyris alba</i>	-	-	-	+( <b>&lt;1%</b> )	-	-
<i>Phagnalon rupestre</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Pinus halepensis</i>	<b>2(15%)</b>	<b>2(15%)</b>	<b>2(15%)</b>	<b>2(15%)</b>	<b>2(7%)</b>	<b>2(7%)</b>
<i>Pistacia lentiscus</i>	<b>1(5%)</b>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	<b>1(5%)</b>	-	-
<i>Pistacia Palaestina</i>	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )	-	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Quercus calliprinos</i>	<b>2(10%)</b>	<b>2(15%)</b>	<b>2(15%)</b>	<b>2(10%)</b>	<b>2(5%)</b>	<b>2(7%)</b>
<i>Rhus coriaria</i>	-	-	+( <b>&lt;1%</b> )	-	-	-



Transect	Transect 29(T29)		Transect 30 (T30)		Transect 31 (T31)	
	Q1	Q2	Q1	Q2	Q1	Q2
<b>Soil type</b>	Mixed patches of Terra Rossa and Rendzina	Terra Rossa	Terra Rossa	Mixed patches of Terra Rossa and Rendzina	Mixed patches of Terra Rossa and Rendzina	Mixed patches of Terra Rossa and Rendzina
<b>Habitat</b>	Mixed man made Pine forest and Oak trees supporting garrigue-batha association	Mixed man made Pine forest and Oak trees supporting batha association	Mixed man made Pine forest and Oak trees supporting batha association	Mixed man made Pine forest and Oak trees supporting garrigue-batha association	Oak forest supporting Batha association with excess of Pine reseeding	Oak forest supporting Batha association with excess of Pine reseeding
<b>Plant cover</b>	78% plants	75% plants	75% plants	80% plants	60% plants	58%
<b>Elevations above sea level</b>	579m	586m	579m	582m	565m	569m
<b>Slope</b>	Steep	Steep	Steep	Steep	Steep	Steep
<b>Species</b>	<b>Braun and Blanquet scale</b>					
<i>Tolips virgata</i>	-	+(<1%)	+(<1%)	-	+(<1%)	+(<1%)
<i>Thrinicia Tuberosa</i>	-	+(<1%)	+(<1%)	-	-	-
<i>Thymbra spicata</i>	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)	+(<1%)
<i>Trigonella arabica</i>	-	-	+(<1%)	-	-	-

Transect	Transect 32(T32) –southern side of path 3	Transect 33 (T33) – southern side of path 3
	Q1	Q1
Soil type	Terra Rossa	Terra Rossa
Habitat	Olive Groves and Fallow Land	Olive Groves and Fallow Land
Plant cover	58% plants	57% plants
Elevations above sea level	550m	551m
Slope	Flat	Flat
Species	<b>Braun and Blanquet scale</b>	
<i>Andropogon distachyos</i>	+(<1%)	+(<1%)
<i>Anemone coronaria</i>	+(<1%)	+(<1%)
<i>Arum Palaestinum</i>	+(<1%)	+(<1%)
<i>Asparagus aphyllus</i>	+(<1%)	+(<1%)
<i>Bellis sylvestris</i>	+(<1%)	+(<1%)
<i>Calicotome villosa</i>	+(<1%)	+(<1%)
<i>Carlina hispanica</i>	+(<1%)	+(<1%)
<i>Carlina curetum</i>	+(<1%)	+(<1%)
<i>Carthamus tenuis</i>	1(<5%)	1(<5%)
<i>Cyclamen persicum</i>	+(<1%)	+(<1%)



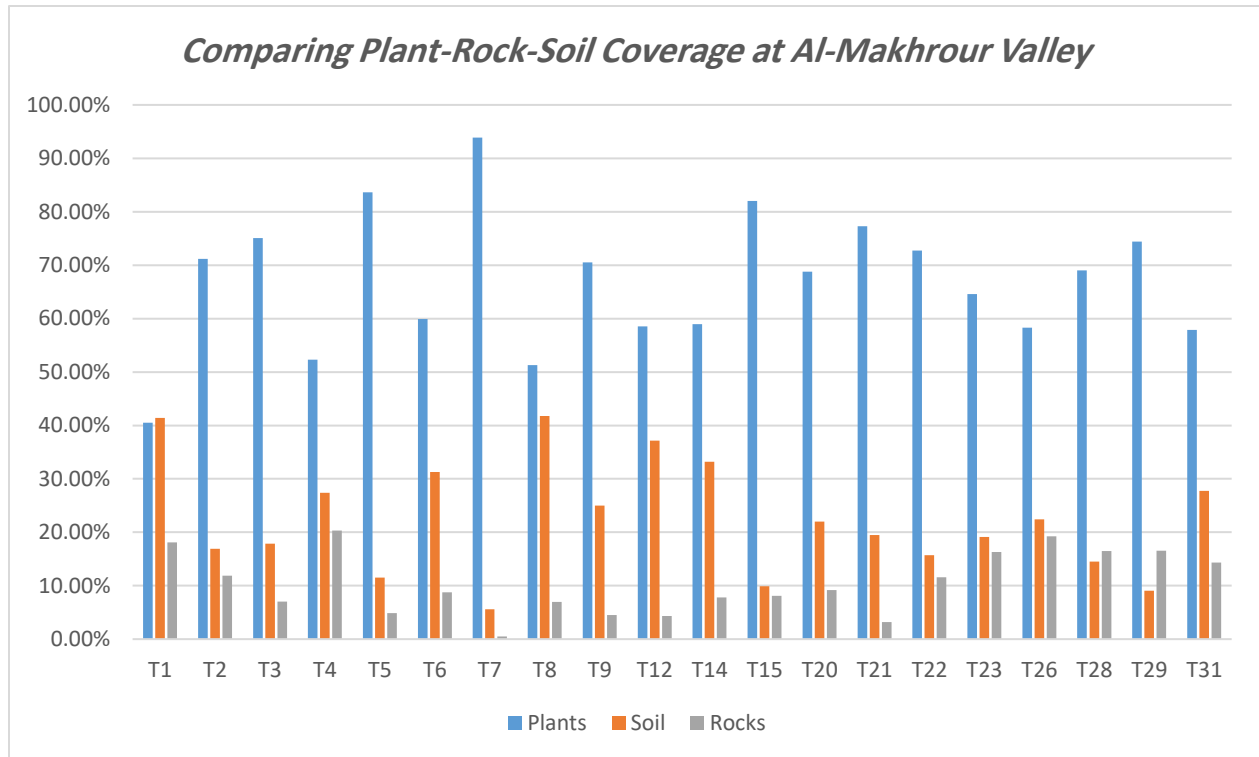
Transect	Transect 32(T32) –southern side of path 3	Transect 33 (T33) – southern side of path 3
	Q1	Q1
Soil type	Terra Rossa	Terra Rossa
Habitat	Olive Groves and Fallow Land	Olive Groves and Fallow Land
Plant cover	58% plants	57% plants
Elevations above sea level	550m	551m
Slope	Flat	Flat
Species	<b>Braun and Blanquet scale</b>	
<i>Erodium gruinum</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Helichrysum sanguineum</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Lonicera etrusca</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Olea europaea</i>	<b>3(35%)</b>	<b>3(40%)</b>
<i>Onobrychis caput-galli</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Phagnalon rupestre</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Pistacia Palaestina</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Salvia hierosolymitana</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Sarcopoterium spinosum</i>	<b>1(5%)</b>	<b>1(5%)</b>
<i>Smilax aspera</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Silene aegyptiaca</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Tolips virgata</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Thrinicia Tuberosa</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )
<i>Verbascum sinuatum</i>	+( <b>&lt;1%</b> )	+( <b>&lt;1%</b> )

### 3.2.3 Results of the Line Transect Survey done at Al Makhrou Valley

PCC team has conducted line transect methodology on 20 transects. Transects that were selected for conducting this methodology were the ones that were easy to access while the other transects (13 transects) were mainly very steep or very dense transects, where line transect as a methodology is not feasible. All transects showed plant coverage higher than 40% of the land cover. The average plant coverage at the whole valley has reached up to 67.05%, while the soil reach up to 22.45% and the rocks / terraces coverage reached up to 10.51% at Al Makhour valley in general. The highest plant coverage was 93.9% of total land coverage in Transect 7, followed by 82.03% in Transect 15, while the highest soil coverage was 41.74% in Transect 8, followed by 41.40% in Transect 1. The rocks and terraces were mainly concentrated in Transect 4 where 20.3% of the transect was covered with rocks, followed with Transect 1 with 18.06% rock coverage (Table 3.5 , Figure 3.2).

**Table 3.5: Comparison between plant coverage versus soil and rock coverage per studied transect at Al Makhrou Valley**

Transect Number	Plants	Soil	Rocks
T1	40.50%	41.40%	18.10%
T2	71.19%	16.91%	11.90%
T3	75.10%	17.85%	7.05%
T4	52.30%	27.40%	20.30%
T5	83.64%	11.50%	4.86%
T6	59.92%	31.30%	8.78%
T7	93.90%	5.60%	0.50%
T8	51.27%	41.74%	6.99%
T9	70.49%	24.99%	4.52%
T12	58.52%	37.14%	4.34%
T14	58.98%	33.21%	7.81%
T15	82.03%	9.89%	8.10%
T20	68.78%	22.02%	9.20%
T21	77.30%	19.50%	3.20%
T22	72.73%	15.69%	11.59%
T23	64.60%	19.11%	16.29%
T26	58.32%	22.41%	19.27%
T28	69.03%	14.50%	16.47%
T29	74.40%	9.05%	16.55%
T31	57.90%	27.75%	14.35%
<b>Average</b>	<b>67.05%</b>	<b>22.45%</b>	<b>10.51%</b>



**Figure 3.2: Comparison between Plants vs. Soil vs. Rocks coverage at Al Makhrour Valley**

Regarding the plant species coverage it was found that Oak trees, olive trees, Pine trees, Thorny Burnet, rockrose and Arabian Cistus, and headed thyme, and spiny broom were the dominant plant species covering the measured transects (see Table 3.6). For more details regarding the results of the line transect see Annex 3.4.

**Table 3.6: Al Makhrour habitats and their dominant plant species**

Habitat	Transect	Name of Dominant plant species	Percentage
Mature Maquis Oak forest	T7	<i>Quercus calliprinos</i>	50.58%
		<i>Cistus creticus and cistus salviifolius</i>	10.28%
Maquis oak forest supporting bath and garrigue association	T1	<i>Cistus salviifolius</i>	26%
		<i>Sarcopoterium spinosum</i>	22.5%
		<i>Quercus calliprinos</i>	17.5%
		<i>Coridothymus capitatus</i>	16.5%
	T4	<i>Cistus salviifolius</i>	41.24%
		<i>Coridothymus capitatus</i>	26.14%
	T5	<i>Cistus salviifolius</i>	39.28%
		<i>Coridothymus capitatus</i>	27.30
		<i>Quercus calliprinos</i>	17.05%
	T29	<i>Cistus creticus and cistus salviifolius</i>	25.68%

	T31	<i>Sarcopoterium spinosum</i>	25.34%
		<i>Quercus calliprinos</i>	12.03%
		<i>Cistus creticus and cistus salviifolius</i>	34.92%
		<i>Sarcopoterium spinosum</i>	20.78%
Mixed Oak , Pine forests supporting batha associations	T21	<i>Quercus calliprinos</i>	15.09%
		<i>Cistus creticus and cistus salviifolius</i>	23.15%
		<i>Calicotome spinosum</i>	22.38%
Mixed habitats of maquis oak forest and olive groves	T2	<i>Coridothymus capitatus</i>	12.55%
		<i>Olea Europea</i>	29.08%
	T9	<i>Quercus calliprinos</i>	13.13%
		<i>Cistus creticus and cistus salviifolius</i>	27.8%
		<i>Sarcopoterium spinosum</i>	24.68%
	T15	<i>Quercus calliprinos</i>	15.21%
		<i>Quercus calliprinos</i>	34.44%
		<i>Olea Europea</i>	17.04%
	T23	<i>Cistus creticus and cistus salviifolius</i>	18.64%
		<i>Quercus calliprinos</i>	20.43%
<i>Sarcopoterium spinosum</i>		15.52%	
Mixed Oak, Pine forests and olive groves	T28	<i>Cistus creticus and cistus salviifolius</i>	10.52%
		<i>Olea Europea</i>	27.39%
		<i>Sarcopoterium spinosum</i>	23.23%
Olive groves, fallow land supporting batha and garrigue association	T3	<i>Pinus halepensis</i>	12.39%
		<i>Sarcopoterium spinosum</i>	38.61%
	T6	<i>Pomme and stone fruit trees</i>	13.32%
		<i>Olea Europea</i>	29.79%
	T8	<i>Sarcopoterium spinosum</i>	13.02%
		<i>Olea Europea</i>	60.02%
	T14	<i>Sarcopoterium spinosum</i>	7.67%
		<i>Sarcopoterium spinosum</i>	56.68
		<i>Olea Europea</i>	10%
	T26	<i>Calicotome villosa</i>	9.03%
<i>Olea Europea</i>		16.48%	
		<i>Sarcopoterium spinosum</i>	13.48%

### Annex 3.1: Plant species identified during the plant inventory surveys at Al Makhrou Valley

It includes the list of Species according to its type, status, and uses (GF = Growth Form, Abd 1 = Abundance in Palestine, Abd 2 = Abundance at global level according to IUCN Red List, End = Endemism, CD = Climate Distribution)

Family Name	Species Scientific Name	Species English Name	Species Arabic Name	GF	Occurrence in Nature	Status		End	CD
						Abd 1	Abd 2		
Amaranthaceae	<i>Amaranthus blitoides</i>	Prostrate Pigweed	بقلة يمانية كاذبة، شدخ كاذب	Annual	Wild	CC	-	IM	MTD
Amaryllidaceae	<i>Allium neapolitanum</i>	Naple's Garlic	ثوم بري	Perennial	Wild	C	DD	-	M
	<i>Allium israeliticum</i> ( <i>Allium orientale</i> )	Oriental Garlic	ثوم شرقي	Perennial	Wild	F	-	-	T
	<i>Vagaria parviflora</i>	Small- Flowered Pancratium	زنبقية الفناء/رجل الحمامة البيضاء	Perennial	Wild	R	LC	ES	M
Anacardiaceae	<i>Pistacia palaestina</i> ( <i>terebinthus</i> )	Terebinth Tree	بطم فلسطيني	Tree	Wild	CC	-	-	M
	<i>Pistacia lentiscus</i>	Lentisk	سريس	Sub-Shrubs	Wild	CC	LC	-	M
	<i>Rhus coriaria</i>	Sumach	سماق	Tree	Wild	F (LD)	LC	-	M
Araceae	<i>Arum Palaestinum</i>	Solomon's lily	لوف فلسطيني	Annual	Wild	C	-	-	MTD
	<i>Arisarum vulgare</i>	Friar's cowl	الصميعة	Perennial	Wild	C	-	-	M
	<i>Biarum angustatum</i>	Narrow Biarum	مكحلة الغول	Perennial	Wild	F	-	ET	MTD
	<i>Eminium spiculatum</i>	Thick Friar's cowl	صميعة ثخينة	Perennial	Wild	F	-	-	MTD
Araliaceae	<i>Hedera helix</i>	Common Ivy	عشقة متسلقة	Shrub	Wild	RP	-	-	M
Aspleniaceae	<i>Ceterach officinarum</i>	Scaly Spleenwort	شوكية نجمية	Perennial	Wild	C	-	-	MTD
Boraginaceae	<i>Alkanna strigosa</i>	Strigose Alkanet	حنائية شعرية	Sub-Shrubs	Wild	C	-	ET	MT

	<i>Anchusa aegyptiaca</i>	Egyptian Alkanet	حنائية مصرية (حمحم مصري)	Annual	Wild	CC	-	-	MTD
	<i>Anchusa undulata</i> ( <i>Anchusa hybrida</i> )	Common Alkanet	لسان الثور/ حنائية هجينة	Perennial	Wild	R(COE)	-	-	M
	<i>Anchusa strigosa</i>	strigose bugloss	حمحم	Perennial	Wild	CC	-	-	MT
	<i>Echium judaeum</i>	Judean Viper's Bugloss	دبوس الراعي (دبابيس الراعي) /حسنة الضبع	Annual	Wild	CC	-	ES	MT
	<i>Nonea obtusifolia</i>	Blunt nonea	نونيا كليلة الورق/نونيا بليده	Annual	Wild	CC	-	-	MT
	<i>Podonosma orientalis</i>	Golden Drop	لسان الكلب، لزيقة صخور، مصيص	Perennial	Wild	CC	-	-	MT
	<i>Symphytum brachycalyx</i>	Palestine Comfrey	ملتصقة فلسطينية/سمفاي تا قصيرة الكأس	Perennial	Wild	F	-	-	M
Caesalpiniaceae	<i>Ceratonia siliqua</i>	carob, St. John's-Bread	خروب	Tree	Wild	F	LC	-	MT
Capparaceae	<i>Capparis spinosa</i>	Common Caper	كبار شوكي	Shrub	Wild	C	-	-	MTD
Caprifoliceae	<i>Lonicera etrusca</i>	Italian Honeysuckle	علندة/ سلطان الجيل	Annual	Wild	C	-	-	M
Caryophyllaceae	<i>Arenaria leptoclados</i>	Lesser Thyme – leaved Sandwort	اريناريا رملية، رملية ناعمة	Annual	Wild	C	-	-	MTD
	<i>Cerastium dichotomum</i>	mouse-ear chickweed	قرناء ثنائية التشعب	Annual	Wild	F	-	-	MTD
	<i>Cerastium glomeratum (viscosum)</i>	Sticky Mouse-Ear Chickweed	قرناء مجمعة	Annual	Wild	R (LD)	-	-	M
	<i>Herniaria glabra</i>	Smooth Rupture-Wort	نورمان امرد	Annual	Wild	R	-	-	M
	<i>Paronychia argentea</i>	Silvery Whitlow Wort	عصا الراعي، رجل الحمامة الصخرية	Sub-shrubs	Wild	CC	-	-	MT

	<i>Silene aegyptiaca</i>	Egyptian Champion	عين البنت	Annual	Wild	CC	-	-	MT
Cistaceae	<i>Cistus creticus (incanus)</i>	Soft-hairy Rockrose	اللباد الوردي (هنبل)	Sub-shrubs	Wild	CC	-	-	MDX
	<i>Cistus salvifolius</i>	Sage-leaved rockrose	ليبد ابيض	Sub-shrubs	Wild	CC	-	-	MDX
	<i>Fumana thymifolia</i>	Clammy Cistus	فومانيا/ دخانية زعترية	Sub-shrubs	Wild	C	-	-	MT
	<i>Fumana arabica</i>	Arabian Cistus	فومانيا عربية/دخانية عربية	Sub-shrubs	Wild	C	-	-	M
	<i>Helianthemum ventosum</i>	Egyptian sunrose	زهرة الشمس	Annual	Wild	C	-	-	MT
Colchicaceae	<i>Colchicum hierosolymitanum</i>	Jerusalem Colchicum	الودع المقدس	Annual	Wild	R	-	-	M
Compositae	<i>Anthemis bornmuelleri</i>	-----	اقحوان تقليدي	Annual	Wild	CC	-	ES	M
	<i>Anthemis pseudocotula</i>	Common Chamomile	اقحوان كاذب	Annual	Wild	CC	-	-	MTD
	<i>Artemisia arborescens</i>	Shrubby Wormwood	شبيهه (شبح شجيري)	Sub-shrubs	Wild	RR	-	II	M
	<i>Asteriscus aquaticus</i>	Sweet Scented Oxeye	قصاص طويلة	Annual	Wild	F	-	-	MT
	<i>Bellis sylvestris</i>	Southern Daisy	عروس الغابة/حنونة البور	Perennial	Wild	C	-	-	M
	<i>Calendula arvensis</i>	Field Marigold	اذريون الحقول	Annual	Wild	CC	-	-	MTD X
	<i>Calendula palaestina</i>	Palestine Marigold	ذريون فلسطيني (عين القط)	Annual	Wild	C (LD)	-	EL	M
	<i>Carduus argentatus</i>	Silvery Thistle	كردوس فضي/شوك عنتر/خرفيش صغير	Annual	Wild	CC	-	-	MTD

<i>Carduus australis</i>	Italian thistle	خرفيش استرالي، لسان غليظ الرأس	Annual	Wild	RR	-	-	M
<i>Carlina curretum</i>	Involucrate Carline Thistle	شوك البان الأخضر	Perennial	Wild	CC	-	-	M
<i>Carlina hispanica</i>	Spanish Carline Thistle	شوك البان الأحمر	Perennial	Wild	CC	-	-	MTD
<i>Carthamus tenuis</i>	Slender safflower	قوص	Annual	Wild	CC	-	-	MT
<i>Centaurea hyalolepis</i>	Knapweed, Cornflower	مرار شفاف	Annual	Wild	CC	-	-	MTD
<i>Chiladenus iphionoides</i>		كتيله	Annual	Wild	CC	-	-	MTD
<i>Conyza albida</i>	White Horseweed	نشاش ابيض	Annual	Wild	C	-	IM	MT
<i>Conyza bonariensi</i>	Horseweed	نشاش صادق	Annual	Wild	CC	-	IM	MTD
<i>Conyza canadensis</i>	Canadian Fleabane	نشاش كندي	Annual	Wild	C	-	IM	MTD
<i>Crepis sancta</i>	hawkbeard	خفية مقدسة	Annual	Wild	CC	-	-	MTD X
<i>Dittrichia viscosa (Inula viscosa)</i>	Clammy Inula	طيون	Sub-shrubs	Wild	CC	-	-	MTD
<i>Echinops polyceras</i>	Blanche Globe-Thistle	شوك الجمال	Perennial	Wild	CC	-	-	DX
<i>Logfia gallica (Filago gallica)</i>	Narrow Leaved Cudweed	قطينة فرنسية	Annual	Wild	F	-	-	M
<i>Glebionis coronarium (Chrysanthemum coronarium)</i>	Crown Daisy	اقحوان تاجي	Annual	Wild	CC	-	-	MTD X
<i>Hedypnois rhagadioloides</i>	Cretanweed or scaly hawkbit	شفيرة	Annual	Wild	CC	-	-	MTD
<i>Helichrysum sanguineum</i>	Red Everlasting	دم الغزال، دم المسيح	Perennial	Wild	C	-	-	M
<i>Helminthotheca echioides</i>	Bristly Ox-Tongue	دويده وخرازه	Annual	Wild	C (LD)	-	-	M
<i>Ifloga spicata</i>	-----	كريشة الجدي	Annual	Wild	NR	-	-	MTD X
<i>Lactuca tuberosa</i>	Tuberous Lettuce	خس أكل	Perennial	Wild	C	-	-	-



	<i>Lactuca undulata</i>	Wild Lettuce	خس متموج	Annual	Wild	RR	-	-	M
	<i>Notobasis syriaca</i>	Syrian Thistle	خرفيش داكن	Annual	Wild	CC	-	-	MT
	<i>Pallenis spinosa (Asteriscus spinosus)</i>	Starwort	دبوه شوكية	Perennial	Wild	C	-	-	MTD
	<i>Phagnalon rupestre</i>	African Fleabane	صوفان	Sub-shrub	Wild	C	-	-	MTD
	<i>Picnomon acarna</i>	Yellow Plume Thistle	شوك الفأر	Annual	Wild	C	-	-	MT
	<i>Pulicaria arabica</i>	Arabian Fleabane	رعاية عربية/أبو عين اصفر جلاويل	Annual	Wild	F	LC	-	MT
	<i>Reichardia tingitana</i>	Poppy -Leaved Reichardia	جلاويل	Annual	Wild	CC	-	-	DX
	<i>Rhagadiolus stellatus</i>	Star Hawkbit	رغدة نجمية	Annual	Wild	CC	-	-	MTD
	<i>Senecio leucanthemifolius subsp vernalis</i>	Spring Groundsel	صفيبر /بيسوم ربيعي /شرونه ربيعية	Annual	Wild	CC	-	-	OMT
	<i>Silybum marianum</i>	Holy Thistle	خرفيش	Annual	Wild	CC	-	-	MT
	<i>Sonchus oleraceus</i>	Common Sow-Thistle	جعضيض	Annual	Wild	CC	-	-	MTD X
	<i>Taraxacum cyprium</i>	Fall Dandelion	سلطة الرهبان	Perennial	Wild	F	-	-	M
	<i>Thrinicia tuberosa</i>	Bulbous Dandelion	كتيمه	Perennial	Wild	CC	-	-	MT
	<i>Tolpis virgata</i>	Rush Hawkweed	فيقوع قضيبي	Perennial	Wild	CC	-	-	OMT
	<i>Tragopogon coelesyriacus</i>	Long-Beaked Goat's Beard	لحية التيس الطويلة	Sub-shrubs	Wild	C	-	-	MT
Convolvulaceae	<i>convolvulus althaeoides</i>	Mallow-Leaved Bindweed	مداده مهبولة	Perennial	Wild	C	-	-	MTD
Crassulaceae	<i>Umbilicus intermedius</i>	Common Pennywort	مخلدة	Perennial	Wild	F	-	-	MTD, hard rocks
	<i>Sedum sediforme</i>	Tall Stonecrop	عنب سيدي موسى	Sub-shrubs	Wild	F	-	-	M

Cruciferae	<i>Aethionema heterocarpum</i>	Burnt Candytuft	اثيونيمة متغايرة الثمر	Annual	Wild	C	-	-	MT
	<i>Biscutella didyma</i>	Buckler Mustard	بسكوتية مزدوجة	Annual	Wild	CC	-	-	MTD
	<i>Diplotaxis erucoides</i>	White Wall Rocket	خفج جرجيري	Annual	Wild	C	-	-	MTD X
	<i>Erucaria hispanica</i>	Spanish Pink Mustard	سليح اسباني	Annual	Wild	C	-	-	MT
	<i>Hirschfeldia incana</i>	Hoary Mustard	لفيته	Annual	Wild	CC	-	-	MT
	<i>Leptaleum filifolium</i>	-----	حولية	Annual	Wild	NR	-	-	DX
	<i>Lobularia arabica</i>	-----	فصيفصية عربية	Annual	Wild	F	-	-	DX
	<i>Nasturtium officinale</i>	True Water-Cress	جرجير الماء	Perennial	Wild	R(COE)	-	-	MT
	<i>Neslia apiculata</i>	Ball Mustard	نيسيلية مسترقة	Annual	Wild	F	-	-	MT
	<i>Sinapis alba</i>	White Mustard	خردل ابيض	Annual	Wild	CC	-	-	MT
	<i>Sinapis arvensis</i>	Charlock	خردل بري	Annual	Wild	CC	-	-	MT
	<i>Sisymbrium irio</i>	London rocket	جرجير/سمارة رثة	Annual	Wild	R(COE)	-	-	MTD X
Cucurbitaceae	<i>Bryonia syriaca</i>	Syrian Bryony	بطيخ افاعي سوري	Annual	Wild	C	-	-	M
Cupressaceae	<i>Cupressus sempervirens</i>	Cypress	سرو	Tree	Wild	C	LC		M
Ephedraceae	<i>Ephedra aphylla</i>	Leafy Shrubby-Horsetail	عقد لاورقي	Shrub	Wild	C	LC	-	TDX
Ericaceae	<i>Arbutus andrachne</i>	Eastern Strawberry tree	قطلب او قاتل ابيه	Tree	Wild	C	LC	-	M
Euphorbiaceae	<i>Andrachne telephioides</i>	Bastard Orpine	نباده، كماش	Sub- shrub	Wild	F	-	-	MTD
	<i>Euphorbia belioscopia</i>	Sun Spurge	ام اللبن الشمية/ام اللبن الفجر	Annual	Wild	C	-	-	MT
	<i>Euphorbia hierosolymitana</i>	Woody Spruge	ام اللبن المقدسية	Sub-Shrub	Wild	C	-	-	MTX

Fagaceae	<i>Quercus calliprinos</i>	Kermes Oak	بلوط	Tree	Wild	CC	-	-	M
Fumariaceae	<i>Fumaria parviflora</i>	Small-Flowered Fumitory	شاهترج حقول	Annual	Wild	R(COE)	-	-	M
Geraniaceae	<i>Erodium acaule</i>	Roman Stork's-Bill	ابرة عجوز مستدقة (صغيرة)	Perennial	Wild	R	-	-	M
	<i>Erodium ciconium</i>	Long- Beaked Stork's Bill	مسلة العجوز	Annual	Wild	R (COE)	-	-	MTD
	<i>Erodium gruinum</i>	Crane Stork's Bill	ابرة العجوز الكبيرة	Annual	Wild	CC	-	-	MT
	<i>Erodium malacoides</i>	Mallow Stork's - Bill	ابرة العجوز الصغيرة	Annual	Wild	CC	-	-	MT
	<i>Geranium molle</i>	Doves's-Foot Crane's-Bill	ابرة صغيرة لينة	Annual	Wild	CC	-	-	MT
	<i>Geranium robertianum</i>	Purple Crane's-Bill	ابرة الراهب	Annual	Wild	C	-	-	M
Gramineae	<i>Aegilops geniculata</i>	Ovate Goatgrass	ثرغول كوكشي	Annual	Wild	CC	LC	-	MTD
	<i>Aegilops peregrina</i>	Goatgrass	ثرغول رجال	Annual	Wild	CC	LC	-	MT
	<i>Andropogon distachyos</i>	Two-spiked beard-grass	سنام	Perennial	Wild	C	-	-	M
	<i>Avena sterilis</i>	Wild Oat	شوفان عقيم	Annual	Wild	CC	LC	-	MTD X
	<i>Bromus scoparius</i>	Twiggy brome	خافورة مكنسية	Annual	Wild	C	-	-	MTD
	<i>Bromus sterilis</i>	Barren Brome	خافورة عقيمة	Annual	Wild	C	-	-	M
	<i>Bromus tectorum</i>	Wall Brome Grass	خافورة متدلية	Annual	Wild	C	-	-	MTD X
	<i>Dactylis glomerata</i>	Rough Cock's-foot	إصبعية عنقودية (مجتمعة)	Perennial	Wild	CC	-	-	MT
	<i>Hordeum bulbosum</i>	Bulbous Barley	شعير معمر، شعير بصلي	Perennial	Wild	CC	LC	-	MT
	<i>Hordeum glaucum</i>	Wall Barley	شعير زغبي	Annual	Wild	CC	-	-	MTD
	<i>Hordeum spontaneum</i>	Wild Barley	شعير ابليس/شعير بري	Annual	Wild	CC	-	-	OMT DX

	<i>Hyparrhenia hirta</i>	Hairy Breard-Grass	حمرور أشعر (حجر زغبى)	Perennial	Wild	CC	-	-	MTD X
	<i>Phalaris aquatica (tuberosa)</i>	Tuberous Canary Grass	قرا، حشيشة الكناري المعمرة	perennial	Wild	F	-	-	MT
	<i>Poa bulbosa</i>	Bulbous Meadow Grass	نزع، زعاع	Perennial	Wild	CC	-	-	MT
	<i>Poa trivialis</i>	Rough Meadow Grass	نزع مبذول (زعاع مبذول)	Perennial	Wild	RR	-	-	MT
	<i>Polygonum viridis</i>	Waterbent	شعر الفأر الأخضر	Perennial	Wild	F	LC	-	MTD
Iridaceae	<i>Crocus hyemalis</i>	Winter crocus	زعفران	Annual	Wild	R	LC	-	M
	<i>Iris vartanii</i>	Vartan'sv Iris	سوسن المسطرة	Perennial	Wild	R	VU	EP	MT
Labiatae	<i>Ajuga chamaepitys</i>	Chian Bugle	عرصف محلي	Sub-shrub	Wild	CC	-	-	MTD
	<i>Ballota saxatilis</i>	Rock horehound	الدانة الصخرية	Sub-shrub	Wild	C	-	-	M
	<i>Coridothymus capitatus</i>	Headed Thyme	زجيف	Sub-shrub	Wild	CC	-	-	M
	<i>Eremostachys laciniata</i>	Desert Spike	صوفية	Perennial	Wild	F	-	-	MTD
	<i>Lamium amplexicaule</i>	Henbit dead-nettle	مقاصيص الجارية/رأس المهر	Annual	Wild	C	-	-	MT
	<i>Lamium moschatum</i>	Musk Deadnettle	خوذبة بيضاء/برج الحمام	Annual	Wild	F	-	-	M
	<i>Majorana syriaca</i> ( <i>Origanum syriacum</i> )	Wild Marjoram	زعتري بري	Sub-shrub	Wild	CC	-	-	MTD
	<i>Mentha longifolia</i>	Horse mint	نعنع طويل	Perennial	Wild	R(COE)	LC	-	MTD X
	<i>Micromeria nervosa</i>	Round-leaved mint	شمسية معرقة، زعتري عراق، زعتري ناعم	Perennial	Wild	C	-	-	MT
	<i>Moluccella spinosa</i>	Prickly Molucca Balm	ذنبية شائكة	Annual	Wild	C (LD)	-	-	M

<i>Nepeta curviflora</i>	Syrian Cantip	قطرم مقوس الزهر	Sub-shrubs	Wild	C (LD)	-	-	M
<i>Phlomis viscosa</i>	Shrubby Phlomis	ضرس الشايب الاصفر	Shrub	Wild	C	-	-	M
<i>Prasium majus</i>	Great Hedge-Nettle	فرسيون كبير	Annual	Wild	CC	-	-	M
<i>Salvia ceratophylla</i>	Horn-Leaved Sage	مرمية قرنية، قصعين قرني الاوراق	Perennial	Wild	RR	-	-	D
<i>Salvia dominica</i>	Dominica sage	ميرمية سائدة	Sub-shrub	Wild	C	-	-	MT
<i>Salvia fruticosa</i>	Three-Leafed Sage	مرمية لبنان، قصعين لبنان، قصعين مخشوشب	Sub-shrub	Wild	CC	-	-	M
<i>Salvia hierosolymitana</i>	Jerusalem Sage	قصعين مقدسي ، مرمية مقدسة	Perennial	Wild	C (LD)	-	ES	M
<i>Salvia indica</i>	Large Flowered Sage (Blue Sage)	قصعين هندي	Perennial	Wild	R	-	-	M
<i>Salvia judaica</i>	Judean sage	ميرمية جبال القدس	Perennial	Wild	C	-	ES	M
<i>Salvia Palaestina</i>	Palestine sage	ورق اللسان (اللسيطة)	Perennial	Wild	RP	-	-	MTD
<i>Salvia pinnata</i>	Cut-Leaved Sage	قصعين ريشي	Perennial	Wild	C(LD)	-	ET	MT
<i>Salvia verbenaca</i>	Vervain Sage	لسان الثور حمامي	Annual	Wild	C	-	-	M
<i>Teucrium capitatum</i>	Cat Thyme Germander	جعدة شائعة	Sub-shrub	Wild	CC	-	-	MTD
<i>Teucrium creticum</i>	Cretan Germander	جعدة قمية	Sub-shrubs	Wild	C(LD)	-	-	M
<i>Teucrium divaricatum</i>	Hedge Germander	كمندرة	Sub-shrubs	Wild	C	-	-	M
<i>Thymbra spicata</i>	Spiked Thymbra	زعر سبل	Sub-shrubs	Wild	F	-	-	M

Liliaceae	<i>Asphodeline lutea</i>	King's spear	عنصل كبير	Annual	Wild	R (COE)	-	-	MTD
	<i>Asphodelus ramosus</i>	Yellow Asphodel	عنصل صغير	Perennial	Wild	CC	-	-	MD
	<i>Asparagus aphyllus</i>	Prickly Asparagus	هليون الحرش (الاورقي)	Perennial	Wild	CC	LC	-	MT
	<i>Allium trifoliatum</i> ( <i>Allium subhirsutum</i> )	Hirsute Garlic	ثوم صخري	Perennial	Wild	C (LD)	-	-	M
	<i>Bellevalia eigii</i>	Eig's Roman Squill	بصيلة ايج	Perennial	Wild	F	-	EE	TD
	<i>Bellevalia flexuosa</i>	Common Roman Squill	بصيلة الفأر	Perennial	Wild	CC	-	ES	M
	<i>Gagea commutata</i>	Star of Bethlehem	ذهبية شائعة/نجمة بيت لحم	Perennial	Wild	C	LC		MT
	<i>Muscari neglectum</i>	Common Grape Hyacinth	بلبوس جميل	Perennial	Wild	F	-	-	MT
	<i>Smilax aspera</i>	Rough Binweed	عليق	Perennial	Wild	CC	-	-	M
	<i>Urginea maritima</i>	Sea Squill	بصيل الفار	Perennial	Wild	CC	-	-	MTD X
Linaceae	<i>Linum bienne</i>	Pale-Flowered Flax	كتان محول	Annual	Wild	F	-	-	M
Malvaceae	<i>Alcea acaulis</i>	Stemless hollyhock	خطمية شوكية	Annual	Wild	C	-	-	MTD
	<i>Malva parviflora</i>	Small- Flowered Mallow	خبيزة الحقول	Annual	Wild	CC	-	-	TDX
Moraceae	<i>Ficus carica</i>	Fig tree	شجرة التين	Tree	Planted	C	LC	-	MTD
Oleaceae	<i>Olea europaea</i>	Olive tree	زيتون	Tree	Planted (some reseeding)	C(LD)	-	-	M
Orchidaceae	<i>Anacamptis papilionacea</i> ( <i>Orchis papilionacea</i> )	Pink Butterfly Orchid	سحلبية فراشية	Perennial	Wild	C	-	-	M
	<i>Anacamptis pyramidalis</i>	Pyramidal orchid	سحلب هرمي	Perennial	Wild	F	-	-	M
	<i>Neotinea maculata</i>	Dense-Spiked Orchid	سحلبية بيضاء	Perennial	Wild	RR	LC	-	M

	<i>Ophrys iricolor</i>	Iris Coloured Bee Orchid	نحلة زرقاوية/حاجبية زرقاء	Perennial	Wild	RP	-	-	M
	<i>Ophrys israelitica (Ophrys fleischmannii)</i>	Tawny Bee-Orchid	حاجبية سمراء	Perennial	Wild	F(LD)	-	-	M
	<i>Orchis anatolica</i>	Anatolian Orchid	سحلب الاناضول	Perennial	Wild	F(LD)	LC	-	M
	<i>Orchis galilaea</i>	Galilee Orchid	سحلب الجليل	Perennial	Wild	RP	LC	-	M
	<i>Orchis punctulata</i>	Punctate Orchid	اوركيده هرمي	Perennial	Wild	NR (RR)	-	-	M
Oxalidaceae	<i>Oxalis pes-caprae</i>	Nodding Wood-Sorrel	عرف الليمون	Perennial	Wild	C (LD) - exotic	-	-	M
Ranunculaceae	<i>Adonis microcarpa</i>	Small Pheasant's Eye	ادونيس صغير الثمر	Annual	Wild	C	-	-	MT
	<i>Anemone coronaria</i>	Crown Anemone	شقانق النعمان	Perennial	Wild	CC	-	-	MTD
	<i>Clematis Cirrbosa</i>	Virgin's-Bower	حبل المسك	Annual	Wild	C	-	-	M
	<i>Clematis flammula</i>	Fragrant Clematis	عبق الملك (معلى)	Annual	Wild	R	-	-	M
	<i>Ranunculus arvensis</i>	Corn Buttercup	برقوق الحقول (برواق الحقول)	Annual	Wild	C	-	-	MT
	<i>Ranunculus asiaticus</i>	Turban Buttercup	كف الضبع (حنون احمر شائع) /برقوق	Perennial	Wild	CC	-	-	MTD
	<i>Ranunculus scandinavicus</i>	Shepherd's- needle buttercup, Crowfoot	برواق اصفر/برواق هامش	Annual	Wild	C	-	-	M
Resedaceae	<i>Reseda alba</i>	White mignonette	ذيل الخروف / البليحاء البيضاء	Annual	Wild	C	-	-	MT
Rhamnaceae	<i>Rhamnus lycoides (palaestinus)</i>	Palestine Buckthorn	سويد فلسطيني	Shrub	Wild	C	-	-	MTD
Rosaceae	<i>Amygdalus communis</i>	Common Almond	لوز بري	Tree	Planted (some reseeded)	C	-	-	MT

	<i>Crataegus aronia</i>	Spiny Hawthorn	زعرور أصفر	Tree	wild	C	LC	-	MDX
	<i>Sarcopoterium spinosum</i>	Prickly Burnet	النتش، البلان	Sub-shrub	Wild	CC	-	-	MT
	<i>Pyrus syriaca</i>	Syrian pear	انجاص بري (كمثرى سورية)	Tree	Wild	F(LD)	LC	-	M
	<i>Pyrus communis</i>	Common Pear, European Pear	اجاص الاوروبي، الكمثرى	Tree	Planted	-	-	-	M
	<i>Rosa canina</i>	Dog Rose	نسرين/ورد الكلاب/ورد السياج	Shrub	Wild	RP	-	-	M
	<i>Rubia tenuifolia</i>	Narrow – Leaved Madder	الفوية	Shrub	Wild	C	-	-	MT
Rubiaceae	<i>Galium murale</i>	Wall Bedstraw	لزيقة الحقول/دبيقه الحقول	Annual	Wild	C	-	-	MT
Papilionaceae	<i>Anagyris foetida</i>	Bean Trefoil	خروب الكلاب	Shrub	Wild	F	-	-	MT
	<i>Astragalus bamosus</i>	Dwarf Yellow Milk- Vetch	كدس حمص	Annual	Wild	C	-	-	MT
	<i>Astragalus pelecinus</i> ( <i>Biserrula pelecinus</i> )	Common Hatched Vetch	العنان	Annual	Wild	F	-	-	MT
	<i>Astragalus caprinus</i>	Beer-sheva Milk- Vetch	كدس الماعز	Perennial	Wild	R	-	-	D
	<i>Calicotome villosa</i>	Spiny Broom	قنديل (قندول)	Shrub	Wild	CC	-	-	MT
	<i>Hymenocarpus circinnatus</i>	Spanish Medick	خبز ملحق (حولي)	Annual	Wild	CC	-	-	MT
	<i>lathyrus aphaca</i>	Yellow Vetchling	البازيلاء البرية، جلبان عفقة	Annual	Wild	CC	-	-	MT
	<i>Lathyrus hierosolymitanus</i>	Jerusalem Vetchling	سعيسة مقدسية	Annual	Wild	C	-	-	M
	<i>Lotus peregrinus</i>	Flat – Podded Bird's Foot Trefoil	قرن الغزال أصفر لوتوس رحال	Annual	Wild	CC	-	-	MT



<i>Medicago monspeliaca</i> ( <i>Trigonella monspeliaca</i> )	Trailing Fenugreek	حلبة وحيد السداة	Annual	Wild	CC	-	-	MT
<i>Medicago orbicularis</i>	Flat – Podded Medick	نفل مستدير، خبز الراعي	Annual	Wild	F	-	-	MT
<i>Onobrychis caput-galli</i>	Cock's Head Sainfoin	دريس، ضرس العجوز	Annual	Wild	F	-	-	MT
<i>Onobrychis squarrosa</i>	----	جريس قائم العنقود	Annual	Wild	C	-		MTD
<i>Ononis natrix</i>	Shrubby Rest - Harrow	شبرق دبق	Sub-shrub	Wild	C	-	-	MTD
<i>Pisum elatius</i>	Purple Wild Pea	بريد	Annual	Wild	F	-	-	M
<i>Pisum fulvum</i>	Yellow Wild Pea	سبلة كهرمانية	Annual	Wild	C			MT
<i>Pisum sativum</i>	Wild Peas	بازيلاء برية	Annual	Wild	F	-	-	MT
<i>Securigera securidaca</i>	Crownvetch	سعيسة، صبيره	Annual	Wild	F	-	-	M
<i>Spartium junceum</i>	Spanish broom	وزال	Shurb	Wild	R	-	-	M
<i>Tetragonolobus palaestinus</i>	Four-winged pea	جلثون فلسطيني/اصابع العروس	Annual	Wild	C	-		M
<i>Trifolium campestre</i>	Hop Clover	برسيم الحقول	Annual	Wild	CC	-	-	MT
<i>Trifolium clypeatum</i>	Helmet Clover	برسيم ترسي ابيض	Annual	Wild	C	-	-	M
<i>Trifolium purpureum</i>	Purple Clover	برسيم فراولة /أرجواني	Annual	Wild	CC	-	-	MT
<i>Trifolium resupinatum</i>	Reversed Trefoil	برسيم متقلب	Annual	Wild	CC	LC	-	MT
<i>Trifolium stellatum</i>	Star Clover	برسيم نجمي الثمرة	Annual	Wild	C	-	-	MT
<i>Trigonella arabica</i>	Arabian Fenugreek	حلبة عربية	Annual	Wild	CC	-	-	DX

	<i>Trigonella berythea</i>	Beirut Fenugreek	حلبة شائعة/حلبة الاكل حلبة العطارين / الحلبة المزروعة	Annual	Wild	F	-	ET	M
	<i>Trigonella foenum-graecum</i>	Fenugreek	الحلبة التبنية اليونانية	Annual	Wild	R	-	-	M
	<i>Vicia galeata</i>	Helmeted Vetch	بيقيا عديسية	Annual	Wild	F	LC	-	M
	<i>Vicia palaestina</i>	Palestine Vetch	بيستيا فلسطينية	Annual	Wild	C	-	-	M
	<i>Vicia peregrina</i>	Rambling Vetch	جلبانة رحالة	Annual	Wild	CC	-	-	MT
	<i>Vicia sativa</i>	Common vetch	بيقيا شائعة	Annual	Wild	CC	-	-	MTD
Pinaceae	<i>Pinus halepensis</i>	Aleppo pine	صنوبر حليبي (قريش)	Tree	planted	-	LC	-	-
	<i>Pinus Pinnae</i>	Pine	صنوبر الطعام	Tree	planted	-	-	-	-
Plantaginaceae	<i>Plantago afra</i>	Clammy Plantain	لسان الحمل الافريقي	Annual	Wild	CC	-	-	MTD X
Plumbaginaceae	<i>Plumbago europaea</i>	European Leadwort	رصاصية أوروبية	Perennial	Wild	C(LD)	-	-	M
Polygonaceae	<i>Emex spinosa</i>	Spiny Dock	ضرس العجوز	Annual	Wild	R(COE)	-	-	MTD X
	<i>Polygonum argyrocoleum</i>	Knotweed, Knotgrass	الحماضة، القظاب	Annual	Wild	R	-	-	MT
	<i>Rumex dentatus</i>	Dentate Dock, Sorrel	الحماض المسنن أو ضرس العجوز	Annual	Wild	R (LD)	LC	-	MT
Portulacaceae	<i>Portulaca oleracea</i>	Garden Purslane	بقلة	Annual	Wild	NR (R)	-	-	MTD X
Primulaceae	<i>Anagallis arvensis</i>	Scarlet Pimpernel	عين القط	Annual	Wild	CC	-	-	MTD X
	<i>Cyclamen persicum</i>	Persian Cyclamen	قرن الغزال	Perennial	Wild	CC	-	-	MT

	<i>Samolus valerandi</i>	Brookweed	صابون العرب/لبين الماء	Perennial	Wild	R (LD)	LC	-	MTD
Santalaceae	<i>Osyris alba</i>	Poet's Cassia	صندل ابيض	Sub-shrub	Wild	C	-	-	MT
Scrophulariaceae	<i>Scrophularia peyronii</i>	Figwort	خنازيرية بيرون	Perennial	Wild	F	-	-	MT
	<i>Scrophularia rubicaulis</i>	Red Stemmed Figwort	برواك خنازيرية، جرطم	Perennial	Wild	F	-	ES	M
	<i>Verbascum sinuatum</i>	Scallop- Leaved Mullein	عورور	Perennial	Wild	CC	-	-	MT
Solanaceae	<i>Mandragora autumnalis</i>	Autumn Mandrake, Pomme D'amour	تفاح النجم	perennial	Wild	R	LC	-	M
	<i>Nicotiana glauca</i>	Tobacco Tree	تبغ بري	Tree	Wild	R	-	IM	MD
	<i>Solanum nigrum</i>	Black nightshade	عنب الديق الاسود	Annual	Wild	C	-	-	MTD
Styracaceae	<i>Styrax officinalis</i>	Officinal Storax	عبر	Tree	Wild	C	LC	-	M
Umbelliferae	<i>Apium nodiflorum</i>	Fool's-water-cress	كرفس بري	Aquatic plants	Wild	R (LD)	LC	-	M
	<i>Chaetosciadium trichospermum</i>	Hairy-Seeded Chervil	مشعرة ثلاثية البذور	Annual	Wild	CC	-	ES	MTD
	<i>Conium maculatum</i>	Mother Die	سكيكران	Perennial	Wild	C(LD)	-	-	M
	<i>Daucus carota</i>	Wild Carrot	جزر بري	Annual	Wild	CC	DD	-	MT
	<i>Eryngium cretium</i>	Field Eryngio	قرصنة	Perennial	Wild	F	-	-	M
	<i>Ferula communis</i>	Common Giant Fennel	كلح (شرش زلوع محلي)	Perennial	Wild	C	LC	-	MT
	<i>Foeniculum vulgare</i>	Common Fennel	شومر شائع	Perennial	Wild	CC	-	-	MT
	<i>Ridolfia segetum</i>	Bishop's weed	خلة الحقول/ شومر الحقول	Annual	Wild	CC	-	-	MT
	<i>Scandix verna</i>	Venus' Comb	مشطية ايبيريا	Annual	Wild	CC	-	-	M
	<i>Turgenia latifolia</i>	Greater Bur Parsley	فرنجية عريضة الأوراق	Annual	Wild	RR	-	-	OT

Urticaceae	<i>Parietaria alsinifolia</i>	Sandwort-Leaved Pellitory	حشيشة الزجاج الرملية	Annual	Wild	C	-	-	TDX
	<i>Parietaria judaica</i>	Wall Pellitory	حشيشة الزجاج الجدارية	Sub-Shrub	Wild	CC	-	-	MTD
	<i>Parietaria lusitanica</i>	Rock Pellitory	حشيشة الزجاج الصخرية	Annual	Wild	C(LD)	-	-	MTD
	<i>Urtica urens</i>	Burning nettle	قراص حارق	Annual	Wild	C	-	-	MT
Verbenaceae	<i>Verbena supina</i>	Trailing Vervain	رعي الحمة المفرقش	Annual	Wild	R	-	-	M
Violaceae	<i>Viola modesta</i>	Humble Viola	بنفسج متواضع	Annual	Wild	RR	-	-	OMT
	<i>Viola occulta</i>	Sweet Viola	بنفسج محبوب	Annual	Wild	RR	-	-	OMT

- Ad1 (abundance at local level, according to Checklist and Ecological Database<sup>18</sup>): CC=Very common species, C=Common species, F=Frequent species, R=somewhat rare species, RP=Rare species with 31-100 surviving sites, RR=Very rare species with only 4-30 surviving sites, C(LD)= Common with limited distribution, CC(LD)= Very common with limited distribution, R(COE)= Rare but common in other ecosystem, NR= Not Registered in the study area before but found during surveys, R(LD)= Rare with limited distribution, F(LD)= Frequent species with limited distribution
- Abd2 (abundance at global level, according to IUCN RED List<sup>19</sup>): LC= Least Concern, DD= Data Deficient, VU= Vulnerable - decreasing
- End= Endemism, EP=Endemic to Palestine, ET=Endemic to Palestine and Turkey, EL=Endemic to Palestine and Lebanon, ES=Endemic to Palestine and Syria, IF= Introduced originating in Africa, IM=Introduced originating in America.
- CD= Climate Distribution. M= The Mediterranean Zone, T=Transitional zone (between Mediterranean and desert zone), D=Semi-desert, X=extreme desert, O=Montane Mediterranean zone.

<sup>18</sup> Ori F., Uzi P., David H., Avi S. (1999). Checklist and Ecological Data-Base of the Flora of Israel and its Surroundings. Hebrew University, Jerusalem.

<sup>19</sup> <http://www.iucnredlist.org/search>

### Annex 3.2: Coordinates of the Studied Transects at Al Makhrouf Valley

<b>T1</b>	T1C1 31°42'52.30"N 35°10'13.40"E	T1C2 31°42'55.30"N 35°10'13.00"E	T1C3 31°42'54.10"N 35°10'15.10"E	T1C4 31°42'49.84"N 35°10'17.42"E
<b>T2</b>	T2C1 31°42'52.08"N 35°10'17.16"E	T2C2 31°42'49.60"N 35°10'14.75"E	T2C3 31°42'51.86"N 35°10'14.38"E	T2C4 31°42'49.84"N 35°10'17.42"E
<b>T3</b>	T3C1 31°42'49.68"N 35°10'9.72"E	T3C2 31°42'46.56"N 35°10'10.86"E	T3C3 31°42'48.66"N 35°10'12.08"E	T3C4 31°42'47.70"N 35°10'8.52"E
<b>T4</b>	T4C1 31°42'55.70"N 31°42'55.70"E	T4C2 31°42'58.50"N 35°10'3.50"E	T4C3 31°42'57.76"N 35°10'5.99"E	T4C4 31°42'56.54"N 35°10'2.27"E
<b>T5</b>	T5C1 31°42'59.70"N 35° 9'59.10"E	T5C2 31°43'2.78"N 35° 9'58.84"E	T5C3 31°43'1.42"N 35°10'1.00"E	T5C4 31°43'1.80"N 35° 9'56.49"E
<b>T6</b>	T6C1 31°42'58.93"N 35° 9'56.70"E	T6C2 31°42'56.34"N 35° 9'59.26"E	T6C3 31°42'58.46"N 35° 9'59.36"E	T6C4 31°42'56.60"N 35° 9'56.78"E
<b>T7</b>	T7C1 31°42'59.92"N 35° 9'55.45"E	T7C2 31°43'1.58"N 35° 9'51.28"E	T7C3 31°43'1.61"N 35° 9'53.74"E	T7C4 31°42'59.78"N 35° 9'52.75"E
<b>T8</b>	T8C1 31°43'5.16"N 35° 9'47.75"E	T8C2 31°43'5.14"N 35° 9'43.83"E	T8C3 31°43'4.05"N 35° 9'45.64"E	T8C4 31°43'6.62"N 35° 9'45.88"E
<b>T9</b>	T9C1 31°42'44.27"N 35°10'7.41"E	T9C2 31°42'46.84"N 35°10'5.04"E	T9C3 31°42'44.63"N 35°10'4.81"E	T9C4 31°42'46.52"N 35°10'7.31"E
<b>T10</b>	T10C1 31°42'50.47"N 35°10'6.63"E	T10C2 31°42'51.43"N 35°10'3.20"E	T10C3 31°42'49.33"N 35°10'4.49"E	T10C4 31°42'52.27"N 35°10'5.80"E
<b>T11</b>	T11C1 31°42'53.70"N 35° 9'58.40"E	T11C2 31°42'53.80"N 35°10'2.11"E	T11C3 31°42'52.15"N 35°10'0.36"E	T11C4 31°42'55.11"N 35°10'0.26"E
<b>T12</b>	T12C1 31°42'55.40"N 35° 9'40.02"E	T12C2 31°42'55.28"N 35° 9'43.80"E	T12C3 31°42'56.88"N 35° 9'42.40"E	T12C4 31°42'53.48"N 35° 9'41.41"E
<b>T13</b>	T13C1 31°42'57.00"N	T13C2 31°42'58.82"N	T13C3 31°42'58.79"N	T13C4 31°43'0.56"N

	35° 9'39.01"E	35° 9'37.47"E	35° 9'40.35"E	35° 9'38.77"E
<b>T14</b>	T14C1 31°42'56.32"N 35° 9'22.33"E	T14C2 31°42'57.57"N 35° 9'25.80"E	T14C3 31°42'58.24"N 35° 9'23.73"E	T14C4 31°42'55.40"N 35° 9'24.70"E
<b>T15</b>	T15C1 31°43'1.60"N 35° 9'6.51"E	T15C2 31°43'0.96"N 35° 9'2.57"E	T15C3 31°43'0.02"N 35° 9'4.89"E	T15C4 31°43'2.61"N 35° 9'4.03"E
<b>T16</b>	T16C1 31°43'26.20"N 35° 8'53.80"E	T16C2 31°43'25.41"N 35° 8'50.33"E	T16C3 31°43'27.37"N 35° 8'52.01"E	T16C4 31°43'24.55"N 35° 8'51.95"E
<b>T17</b>	T17C1 31°43'38.95"N 35° 8'46.43"E	T17C2 31°43'37.71"N 35° 8'50.08"E	T17C3 31°43'37.05"N 35° 8'48.51"E	T17C4 31°43'39.98"N 35° 8'47.82"E
<b>T18</b>	T18C1 31°43'27.92"N 35° 9'1.66"E	T18C2 31°43'30.40"N 35° 8'59.55"E	T18C3 31°43'30.24"N 35° 9'1.46"E	T18C4 31°43'28.06"N 35° 9'0.07"E
<b>T19</b>	T19C1 31°43'28.91"N 35° 8'57.72"E	T19C2 31°43'26.73"N 35° 9'0.24"E	T19C3 31°43'26.82"N 35° 8'58.30"E	T19C4 31°43'28.43"N 35° 8'59.62"E
<b>T20</b>	T20C1 31°43'11.74"N 35° 9'3.78"E	T20C2 31°43'11.24"N 35° 9'0.35"E	T20C3 31°43'9.23"N 35° 9'2.56"E	T20C4 31°43'13.25"N 35° 9'1.44"E
<b>T21</b>	T21C1 31°43'11.53"N 35° 9'4.15"E	T21C2 31°43'11.49"N 35° 9'6.88"E	T21C3 31°43'9.64"N 35° 9'4.60"E	T21C4 31°43'13.71"N 35° 9'6.35"E
<b>T22</b>	T22C1 31°43'14.26"N 35° 9'14.53"E	T22C2 31°43'15.89"N 35° 9'18.98"E	T22C3 31°43'14.01"N 35° 9'17.77"E	T22C4 31°43'16.09"N 35° 9'15.62"E
<b>T23</b>	T23C1 31°43'13.58"N 35° 9'32.58"E	T23C2 31°43'10.52"N 35° 9'32.98"E	T23C3 31°43'11.63"N 35° 9'34.71"E	T23C4 31°43'13.37"N 35° 9'29.94"E

<b>T24</b>	T24C1 31°43'13.00"N 35° 9'34.00"E	T24C2 31°43'16.44"N 35° 9'32.50"E	T24C3 31°43'14.33"N 35° 9'31.79"E	T24C4 31°43'15.12"N 35° 9'35.01"E
<b>T25</b>	T25C1 31°43'16.60"N 35° 9'33.50"E	T25C2 31°43'17.71"N 35° 9'35.47"E	T25C3 31°43'18.57"N 35° 9'33.08"E	T25C4 31°43'15.49"N 35° 9'35.85"E
<b>T26</b>	T26C1 31°43'50.37"N 35° 8'18.12"E	T26C2 31°43'49.58"N 35° 8'15.08"E	T26C3 31°43'53.08"N 35° 8'16.44"E	T26C4 31°43'47.68"N 35° 8'17.10"E
<b>T27</b>	T27C1 31°43'58.30"N 35° 8'14.88"E	T27C2 31°44'0.94"N 35° 8'12.36"E	T27C3 31°44'1.58"N 35° 8'14.31"E	T27C4 31°43'58.27"N 35° 8'12.30"E
<b>T28</b>	T28C1 31°44'6.55"N 35° 8'13.60"E	T28C2 31°44'6.63"N 35° 8'10.12"E	T28C3 31°44'8.08"N 35° 8'11.07"E	T28C4 31°44'5.04"N 35° 8'12.27"E
<b>T29</b>	T29C1 31°44'5.44"N 35° 7'56.27"E	T29C2 31°44'2.01"N 35° 7'54.31"E	T29C3 31°44'4.18"N 35° 7'53.50"E	T29C4 31°44'3.16"N 35° 7'57.46"E
<b>T30</b>	T30C1 31°44'1.03"N 35° 7'48.98"E	T30C2 31°43'57.78"N 35° 7'48.57"E	T30C3 31°43'59.41"N 35° 7'46.93"E	T30C4 31°43'59.19"N 35° 7'50.14"E
<b>T31</b>	T31C1 31°43'57.76"N 35° 7'43.43"E	T31C2 31°43'55.65"N 35° 7'44.80"E	T31C3 31°43'55.24"N 35° 7'42.22"E	T31C4 31°43'57.49"N 35° 7'45.80"E
<b>T32</b>	T32C1 31°43'56.90"N 35° 7'39.20"E	T32C2 31°43'52.82"N 35° 7'37.14"E	T32C3 31°43'55.65"N 35° 7'36.45"E	T32C4 31°43'53.92"N 35° 7'40.02"E
<b>T33</b>	T33C1 31°43'44.64"N 35° 7'38.58"E	T33C2 31°43'40.31"N 35° 7'38.80"E	T33C3 31°43'42.83"N 35° 7'37.08"E	T33C4 31°43'42.58"N 35° 7'40.65"E