

c.1.3 Amphibians

Several artificial ponds originating from surface water, occur on the excavated ground in southern and southwestern parts of the proposed site. These water bodies, related with dry stream beds and irrigation channel create habitats for frogs. The ponds are temporary water bodies and survive in winter and spring but dry up in summer. As a result of field observations 3 frog species have been identified in the proposed site. These are ordered according to systematic classification as follows.

Family	Species
Bufonidae	<i>Bufo bufo</i>
	<i>Bufo vulgaris</i>
Hylidae	<i>Hyla arborea</i>

c.1.4 Reptiles

The proposed site and vicinity have suitable habitats for reptiles. The reptile species identified in the site are classified in 3 groups as turtles, lizards and snakes. These are not dependent on the site for their life cycles, but many of them adopted the habitats particularly in fire pine stands, macchie thickets, cultivated lands, ponds and channel sides. Systematic classification of the reptile fauna is as follows.

Family	Species
Testudinidae	<i>Testudo graeca</i>
Emydidae	<i>Emys orbicularis</i>
Agamidae	<i>Agama stellio</i>
Lacertidae	<i>Ophisops elegans</i>
Chamaeleonidae	<i>Chamaeleon chamaeleon</i>
Colubridae	<i>Coluber jugularis</i>
	<i>Natrix natrix</i>
Typhlopidae	<i>Typhlops vermicularis</i>
Viperidae	<i>Vipera ursinii</i>

c.2 Flora

c.2.1 Floristic Aspect of the Proposed Site

During the floristic field observations, in spring 1999, 63 plant taxa were identified. *Compositae* is the richest one in terms of species diversity among the plant families identified in the proposed site. *Graminae*, *Labiatae*, *Leguminosae* and *Cruciferae* families have also high species diversity in comparison with general aspect.

Flora of the proposed site contains a high number of herbaceous taxa. However, fire pine stands and macchie thickets, located in the vicinity, enrich the number of woody species. Perennials consist of both groups, has a rate of 59 % in terms of life cycle. Most of the herbaceous taxa are annuals (*therophytes*) adopted to ruderal habitats. Most of the taxa are widely distributed in terms of phytogeographical origins. Those were classified as "VR" (various regions) in the following systematic list. The rate of taxa originated from Mediterranean (including; *eurimedit.*, *omni-medit.* and *eastmedit.*) is 38 %. These characteristics are shown in Figure 14-28, Figure 14-29 and Figure 14-30. No endemic taxa was found in the proposed site.

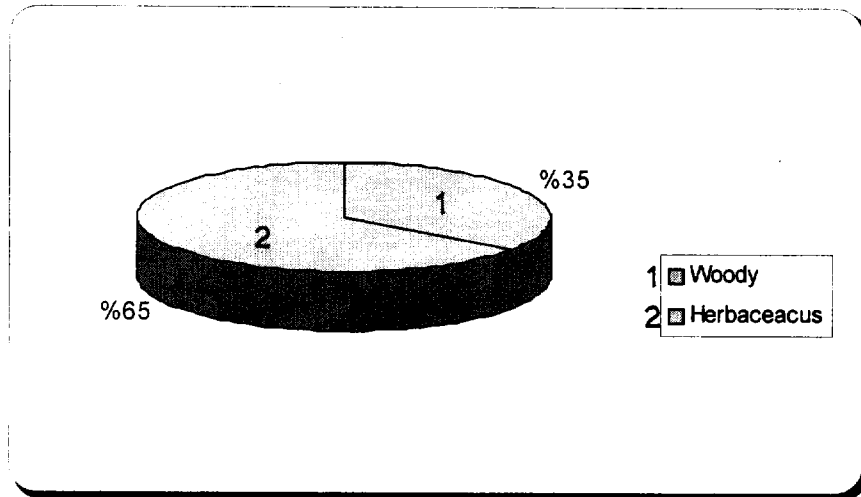


Figure 14-28: Percentage of Woody and Herbaceous Taxa in the Proposed Site

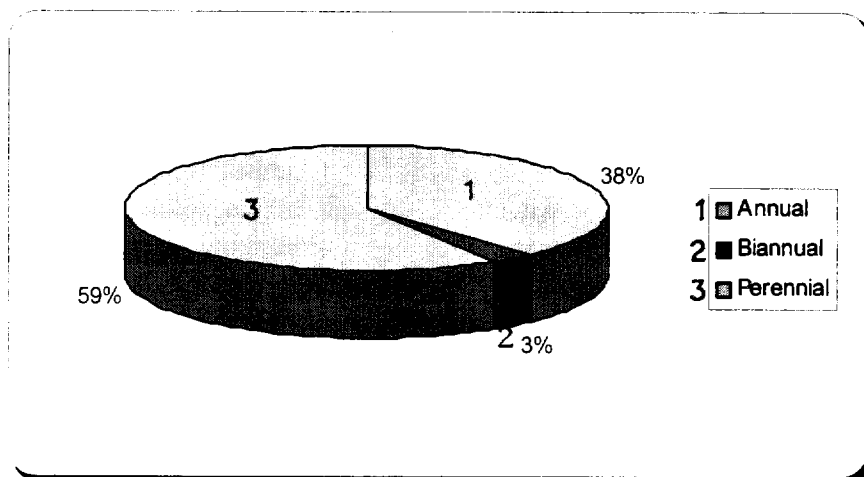


Figure 14-29: Percentage of Annual, Biannual and Perennial Taxa in the Proposed Site

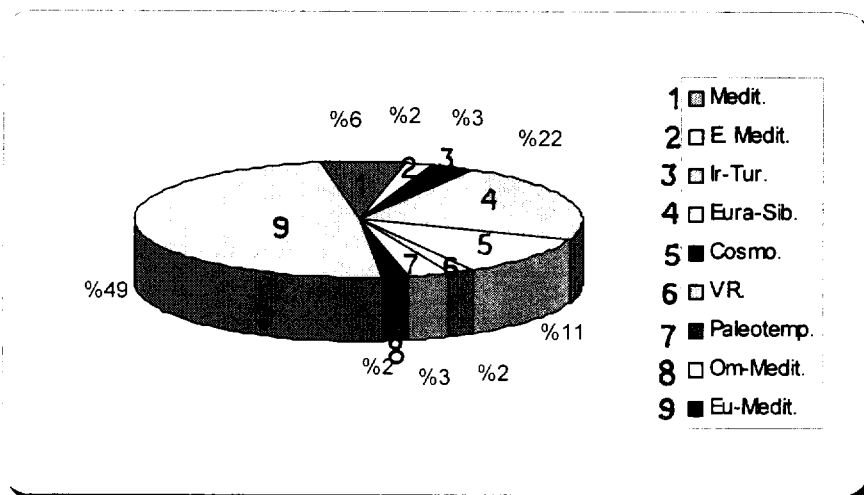


Figure 14-30: Percentage of Species and Subspecies Belonging to Various Phytogeographical Elements in the Proposed Site

c.2.2 The List of Vascular Plant Taxa in the Proposed Site (in Alphabetic Order)

ANACARDIACEAE

- Pistacia lentiscus* L. (Perennial, shrub, Medit.)
Pistacia terebinthus L. (Perennial, shrub, E. Medit.)

BORAGINACEAE

- Echium angustifolium* Miller. (Perennial, weed, E. Medit.)
Lithodora hispidula (Sm.) Griseb (Perennial, shrub, E. Medit.)

CISTACEAE

- Cistus creticus* L. (Perennial, shrub, Omni-Medit.)
Helianthemum aegyptiacum (L.) Miller (Annual, weed, VR.)
Fumana arabica (L.) Spach (Perennial, shrub, VR.)

COMPOSITAE

- Anthemis cotula* L. (Annual, weed, VR.)
Carduus pychocephalus L. (Annual, weed, Med.)
Conyza canadensis (L.) Chronquist (Annual, weed, VR.)
Echinops ritro L. (Biennial, weed, Paleotemp.)
Inula viscosa (L.) Aiton. (Perennial, weed, Eu. Medit.)
Lactuca serriola L. (Perennial, weed, Euro- Sib.)
Picnomon acarna L. Cass. (Annual, weed, Medit.)
Senecio vernalis waldst. &Kit. (Annual, weed, VR.)
Silybum marianum (L.) Gaertner (Perennial, weed, Medit.)

CONCOLVULACEAE

- Convolvulus arvensis* L. (Perennial, weed, Cosmo.)

CRASSULACEAE

- Sedum hispanicum* L. (Perennial, weed, Paleotemp.)

CRUCIFERAE

- Alyssum alyssoides* (Annual, weed, VR.)
Biscutella didyma L. (Annual, weed, Eu.Medit.)
Sinapis alba L. (Annual, weed, Paleotemp.)
Sinapis arvensis L. (Annual, weed, VR.)

ERICACEAE

- Erica manipuliflora* Salisb. (Perennial, shrub, E. Medit.)

EUPHORBIACEAE

- Mercurialis annua* L. (Annual, weed, VR.)

FAGACEAE

- Quercus coccifera* L. (Perennial, shrub, Medit.)

GERANIACEAE

- Erodium malacoides* (L.) Herit. (Annual, weed, Medit)

GRAMINEAE

- Arundo donax* L. (Perennial, shrub, VR.)
Avena sterilis L. (Annual, weed, VR.)
Hordeum marinum L. (Annual, weed, VR.)

<i>Hyparrhenia hirta</i> (L.) Stapf.	(Perennial, weed, VR.)
<i>Piptatherum miliaceum</i> (L.) Cosson	(Perennial, weed, Medit.)
LABIATE	
<i>Marrubium vulgare</i> L.	(Perennial, shrub, VR.)
<i>Rosmarinus officinalis</i> L.	(Perennial, shrub,)
<i>Salvia viridis</i> L.	(Annual, weed, Medit.)
<i>Teucrium polium</i> L.	(Perennial, shrub, VR.)
<i>Ziziphora capitata</i> L.	(Annual, weed, Ir- Tur.)
LEGUMINOSAE	
<i>Calycotome villosa</i> (Poiret) Link	(Perennial, shrub, Medit.)
<i>Lathyrus cicera</i> L.	(Annual, weed, VR.)
<i>Trifolium campestre</i> Schreb.	(Annual, weed, VR.)
<i>Vicia cracca</i> L.	(Perennial, weed, VR.)
LILIACEAE	
<i>Smilax aspera</i> L.	(Perennial, shrub, VR.)
<i>Urgenia maritima</i> (L.) Baker.	(Perennial, weed, Medit.)
MORACEAE	
<i>Ficus carica</i> L.	(Perennial, tree, VR.)
MYRTACEAE	
<i>Myrtus communis</i> L. subsp. communis	(Perennial, shrub, VR.)
OLEACEA	
<i>Phyllirea latifolia</i> L.	(Perennial, shrub, Medit.)
PAPAVERACEAE	
<i>Fumaria officinalis</i> L.	(Annual, weed, VR.)
<i>Papaver roheas</i> L.	(Annual, weed, VR.)
PINACEAE	
<i>Pinus brutia</i> Ten.	(Perennial, tree, E. Medit.)
PLANTAGINACEAE	
<i>Plantago lagopus</i> L.	(Perennial, weed, Medit.)
POLYGALACEAE	
<i>Polygala supina</i> Schreb.	(Perennial, weed, VR.)
POLYGONACEAE	
<i>Polygonum aviculare</i> L.	(Annual, weed, Medit.)
<i>Rumex conglomeratus</i> Murray.	(Perennial, weed, VR.)
PRIMULACEAE	
<i>Anagallis arvensis</i> L.	(Annual, weed, VR.)
<i>Anagallis foemina</i> Miller	(Annual, weed, Paleotemp.)
RECEDACEAE	
<i>Receda lutea</i> L.	(Perennial, weed, VR.)
RHAMNACEAE	
<i>Paliurus spina-christi</i> Miller.	(Perennial, shrub, VR)

<i>Rhamnus hirtellus</i> Boiss.	(Perennial, shrub, VR.)
ROSACEAE	
<i>Rubus sanctus</i> Schreber	(Perennial, shrub, VR.)
<i>Sangiosorba minor</i> Scob.	(Perennial, weed, VR.)
<i>Sarcopoterium spinosum</i> L.	(Perennial, shrub, VR.)
SANTALACEAE	
<i>Osyris alba</i> L.	(Perennial, shrub, Medit.)
SCROPHULARIACEAE	
<i>Verbascum sinuatum</i> L.	(Biannual, weed, E. Medit.)
UMBELLIFERAE	
<i>Ainsworthia trachycarpa</i> Boiss.	(Annual, weed, E.Medit.)

Abbreviations:

E.Medit.	: East Mediterranean element	Medit.	: Mediterranean element
Ir-Tur.	: Irano-Turanien element	Euro-Sib.	: Euro-Siberian element
Paleotemp.	: Paleotemperate	Cosmo.	: Cosmopolit
VR.	: Various regions		

c.2.3 Vegetation

The area examined has various types of vegetation (Figure 14-31). Sclerophyllous forest dominated by *Quercus coccifera* and coniferous forest by *Pinus brutia* represent the natural vegetation types in the vicinity of the proposed site. However, these vegetation types were degraded by human influences and replaced by cushion-shaped xeromorphic dwarf shrub communities called *phrygana*. Cultivation is the prevalent land use type in the area. Grain fields and vineyards occupy a large area on the slopes and stream beds. At the field margins and particularly in fallow fields segetal communities, consisting of a significant number of weeds, are common. The excavation site occurs as an extreme man-made habitat and vegetation of this site contains large number of weeds which are almost ruderals. Here in this chapter, the principal vegetation type are indicated briefly on the base of species of particular interest for each community.

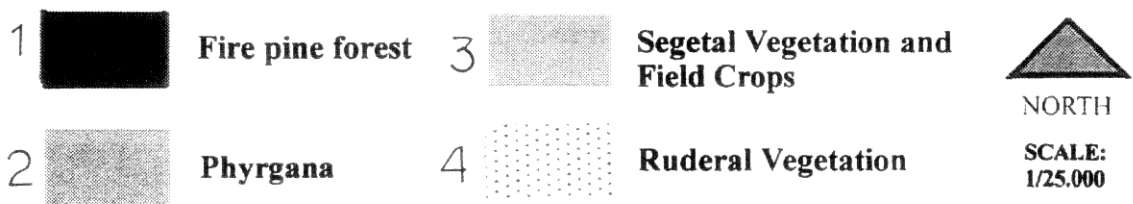
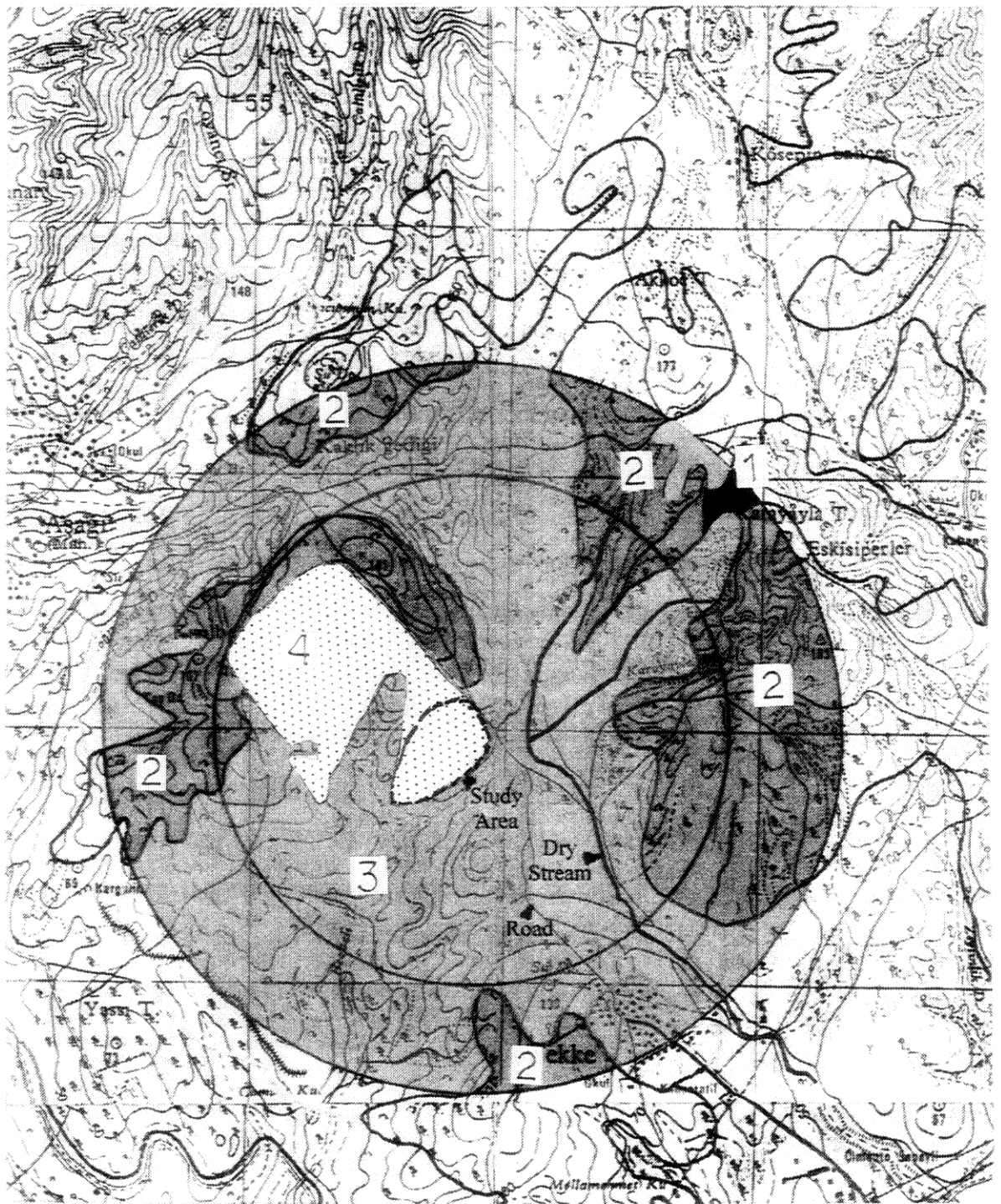


Figure 14-31: Vegetation Types of Cimsa Site and its Vicinity