Table 1. Main characteristics of study areas.

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| Site | Geographical coordinates | Altitude,m a.s.l. | Habitat |
| Ras Injla | 37°20' 23.55" N 9°44' 54.05" E | 14 | It is located in northern Tunisia, only 8 km to the south-east of the city of Bizerte, near to the sea. The site is characterized by forest plantations (*Acacia Cyclops* A. Cunn. ex G. Don*,* 1832, *Acacia cyanophylla* Lindl, 1839*, Pinus pinaster* **Aiton, 1789***, Pinus pinea* Linnaeus, 1753*, Pinus halepensis* **Mill. 1768** and *Eucalyptus* sp*.* **Hook, 1844).** Existing and especially shrubs and herbaceous vegetation, found mostly Juniper, whether Phoenician, or oxycedre (*Juniperus Phoenicia* **Linnaeus, 1753,** *Juniperus oxycedrus* **Linnaeus, 1753**, *Ephedra fragilis* Moris, 1828 and *Matthiola tricuspidata* **R.Br. 1812**.)  |
| Sidi Nsir | 36°53'671''N 009°26'648'' E | 218  | Located in the northern part of Tunisia, breeding ground wheat (*Triticum aestivum* Linnaeus, 1753) on the main road Beja-Mateur, crossed by a permanent watercourse. This environment is characterized by forest plantations of Acacia and Eucalyptus, including *Eucalyptus* sp*.* **Hook, 1844 and *Acacia*** *Cyclops* **A.Cunn.ex G.Don, 1832***.* |

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| Site | Geographical coordinates | Altitude,m a.s.l. | Habitat |
| Ain Draham | 36°47'17.14"N 8°40'47.72" E | 800 | This region is the most humid area of Tunisia for holding the national rainfall record with 1,534 millimeters of precipitation per year.Plantation: Forest cork oak or oak Zen (we usually at Tribeted to *Quercus suber* Linnaeus, 1753 and *Quercus mirbecki* Durieu ex Bory, 1846). Without limestone soils, is presented with characteristic soils leached mull. In the litter including forming a continuous sheets cork oak and oak litter Zen, is light textured topsoil, blackish, heavily penetrated by the roots, with a richness organic substances declining with depth |
| Cap Serrat | 37°14'25"N 9°12'33.50"E | 108 | This region is characterized by an alternation of sandy areas and steep areas. Ecosystem Cap Serrat is belonging to the field of Montado vegetation cork oak. They are in the form of forests, matorral of varying height and grassy erme (thermo-Mediterranean Cork Oak Landscapes floor includes bass altitude where the lentisk is abundant and Montado his matorral and ermes used for grazing livestock farmers). At the level of interdunal depressions evolve hydromorphic gley soils and permanent water shallow. The vegetation is characterized by *Cutandia maritime* **Barbey, 1885***, Crucianella maritime* **Linnaeus, 1753**,  |