

## **Report on medium-term effects of the habitat protection and restoration activities of the LIFE Project “Maintenance of the habitats of the Macalube of Aragona” (Sicily, S Italy)**

Salvatore Pasta<sup>1</sup>, S. Livreri Console<sup>2</sup>, D. Gucciardo<sup>2</sup>, M. Interlandi<sup>2</sup>, F. Beer<sup>1</sup>, T. La Mantia<sup>1</sup>

<sup>1</sup>Dipartimento SAF – Università di Palermo – Viale delle Scienze Ed.4, Ingr. H, 90128 Palermo (Italia) – [salvatore.pasta@alice.it](mailto:salvatore.pasta@alice.it), [mmaso.lamantia@unipa.it](mailto:mmaso.lamantia@unipa.it)

<sup>2</sup>Legambiente Comitato Regionale Siciliano – Dip. Conservazione Natura - Via Tripoli 3, 90138 Palermo (Italia) - [livreri@legambienteriserve.it](mailto:livreri@legambienteriserve.it)

The Site of Community Importance (SCI) “Macalube di Aragona” is prone to severe desertification risk. In fact, its vegetation is disturbed not only by cyclic soil movements resulting from sedimentary volcanism, but it is strongly influenced by the hostile properties of the clayey substratum (prone to intense linear erosion, badly aired, rich in salts, etc.), the long drought period (ca. 4 months) and by the long-lasting history of human pressure. Both stress and disturbance factors influence progressive succession processes, so that the most “mature” local plant communities are ( ) the chenopod shrublands referred to *Salsolo-Peganion* (habitat 1430 according to 92/43 EU Directive) and the halo-xerophilous grasslands ascribed to *Moricandio-Lygeion sparti* (priority habitat 1510). The SCI hosts several dozens of plants figuring within the National Plant Red List. Most of them grow in the grasslands and nearly 10 in fallows and dry cereal crops (Pasta, 2001). Till some 10 years ago agricultural practices caused erosion increase and habitat degradation and loss, with strong damages to the local network of temporary ponds (Pasta & La Mantia, 2001). Therefore, the main aim of “Macalife” Project LIFE 04/NAT/IT/00182 was either to overcome the contrasts with local people or to adopt the most effective agronomic techniques in order to reduce land degradation. The effects of the combined ceasing of agro-pastoral activities on both habitat and species conservation have been investigated. With this purpose, some plot areas with opposite aspect (N vs S) have been selected in order to monitor during a 5 years period several parameters such as species number, species coverage rate (%), demography, distribution pattern, etc., in order to assess the trend of nitrophilous plants, life forms spectrum, threatened plants. Field data collection through seasonal phytosociological relevés allowed not only to record land use and habitat changes, but also the path and the speed of ongoing progressive succession processes. The survival rate of plant propagules has been regularly monitored as well. As many temporary ponds have been restored, also the evolution of the fauna linked to water bodies (birds and invertebrates) was taken in consideration. Macalife Project has shown that, much better than “classic” afforestation, the propagation and the planting of autochthonous plants such as *Tamarix africana*, *Suaeda vera*, *Salsola agrigentina*, *Salsola oppositifolia*, *Aster* (= *Tripolium*) *sorrentinii* and *Lygeum spartum* is not only effective in restoring more long-lasting environmental services but also favours local sustainable economy. In fact, many the planned activities (i.e. propagation, planting, education, etc.) have been and are still on the behalf of local farmers, so that they still continue to work in, with and for their own land.

### References

- Pasta S. (2001) Recenti acquisizioni floristico-vegetazionali sull'area delle Macalube di Aragona. - *Naturalista sicil.*, s. IV, XXV (suppl.): 155-196.
- Pasta S., La Mantia T. (2001) L'impatto dell'attività agricola e la gestione delle aree protette: il caso della Riserva Naturale "Macalube di Aragona". *Naturalista siciliano*, s. IV, XXV (suppl.): 197-215.