MONITORING OF THE ORTHOPTERA FAUNA IN THE GREEN AREAS OF VENICE MARCO POLO AIRPORT (ITALY)

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A bird strike is a collision between an aircraft and a bird. The damage caused is often extensive, so much so that since 1910, 350 military deaths and 250 civilian deaths have been recorded due to this phenomenon. The presence of birds near airports can be caused by the presence of insects in the green areas typically found at the edges of runways, which therefore provide a food source for many bird species. Managing these insects is therefore crucial. In the case of Venice, it is Orthoptera that in recent years have developed populations large enough to attract insectivorous birds of prey. The most worrying species from this perspective has been *Calliptamus italicus* (Linnaeus, 1758), which has been producing small outbreaks in several locations in Northern Italy for several years. Venice's Marco Polo Airport is a very special case because its runways border the Venice Lagoon, a unique habitat in the Mediterranean that hosts a biodiversity as unique as it is complex. The company that manages the airport (SAVE Group S.p.A.) has therefore commissioned GIMAS s.r.l. of Bolzano, Italy, to identify solutions compatible with safeguarding the lagoon's biodiversity. The World Biodiversity Association Project s.r.l. was consulted to propose sustainable solutions for controlling these insects and to develop a method for monitoring their populations, considering the challenges of operating within airport runways. Pitfall traps suitable for intercepting Orthoptera were developed and deployed along the runway from 2023 until 2025. In the areas outside the runways, collection with an entomological net was adopted.

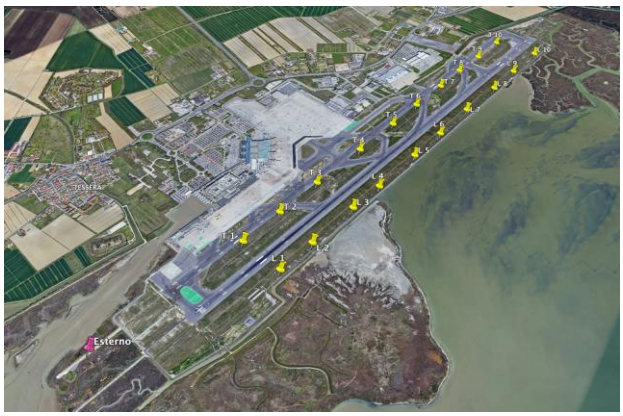

Figure 1. Aerial photo with the monitoring scheme: positioning of the traps (yellow dots) and definition of the monitoring areas using an entomological net (red dot) in the area outside the runways

The monitoring allowed us to intercept about 35 species of Orthoptera and to identify the most frequent ones: *Calliptamus italicus* (Linnaeus, 1758), *Aiolopus thalassinus* (Fabricius, 1781), *Euchorthippus declivus* (Brisout, 1848), *Omocestus rufipes* (Zetterstedt, 1821) and *Acrida ungarica mediterranea* Dirsh, 1949. Furthermore, the presence of species typical of the lagoon environment was verified, such as *Roeseliana brunneri* Ramme, 1951, *Chrysochraon dispar giganteus* Harz, 1975 and *Epacromius c. coerulipes* (Ivanov, 1887).

Based on the ecology of the most abundant species, some critical issues inherent in green areas and their vegetative state have been identified.

Key Words: Airport, Venice, Italy, Orthoptera