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The Return of the Blue Butterfly

Anabela Santos
Escola Básica de Sernancelhe- Portugal (ana26santos@gmail.com)

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The English writer Charles Dickens once wrote: "I only ask to be free. The butterflies are free". But are they really?

The work that I performed with a group of students from 8th grade, had a starting point of climate change and the implications it has on ecosystems. Joining the passion I have for butterflies, I realized that they are also in danger of extinction due to these climatic effects. Thus, it was easy to seduce my students wanting to know more. Luckily I found Dr. Paula Seixas Arnaldo, a researcher at the University of Trás-os-Montes and Alto Douro, who has worked on butterflies and precisely investigated this issue.
Portugal is the southern limit of butterfly-blue (Phengaris alcon), and has been many years in the red book of endangered species. Butterfly-blue is very demanding of their habitat, and disappears very easily if ideal conditions are not satisfied. Increased fragmentation of landscapes and degradation of suitable habitats, are considered the greatest challenges of the conservation of Phengaris butterfly in Portugal. In recent decades, climate change has also changed butterfly-blue spatial distribution with a movement of the species northward to colder locations, and dispersion in latitude. Butterflies of Europe must escape to the North because of the heat.
Dr. Paula Seixas Arnaldo and her research team began a project, completed in December 2013, wanted to preserve and restore priority habitats recognized by the European Union to help species in danger of disappearing with increasing temperature. The blue butterfly is extremely important because it is a key indicator of the quality of these habitats. In the field, the butterflies are monitored to collect all possible data in order to identify the key species. Butterflies start flying in early July and cease in late August. Mating takes about an hour and occurs in the first days of life. The gentian-peat (Gentiana pneumonanthe) serves as the host plant for laying eggs. Each female lays an average of 60 eggs. Larva must grow in a plant near an anthill of Myrmica aloba species. This is important because butterfly larvae are myrmecophilous, living with ants that feed the butterfly larvae for 11 months, because the ants think the butterfly larvae are ant larvae. In early summer the larvae pupate in the nest of ants. Before expanding their wings, they have to leave quickly to avoid being killed by ants when the ants discover have been deceived.
My students became aware of this research; we studied and prepared in order to carry out fieldwork. Thus students learn the content and curricular in a scientifically fun way, first with group work in the classroom with my guidance and in a second stage carry knowledge to the field under the guidance of Drª Paula Seixas Arnaldo.

We know where we started ... where we arrives is success!