

Insect surveying during Prespa excursions, May 2012

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Abstract: *Carabid beetles, bees, butterflies and a small number of other beetle taxa were sampled during excursions to sites in the Prespa region, Greece, during the Ninth European Dry Grasslands Meeting. Sampling was mainly by hand-searching and netting, and also a small number of pitfall traps. A considerable number of carabid beetles were caught and that material is currently being identified. Records of some bee and butterfly species, as well as the neuropteran owlfly Libelloides lacteus, for the sites Mount Devas, Mount Triklario and Psarades are presented. Further information on the species recorded during these excursions will be presented in the next edition of the bulletin.*

Keywords: bee, butterfly, carabid beetle, endemism, ground beetle, hand search, scarab.

As a working group, the EDGG has constantly strived to not just facilitate the dissemination of research findings on the theme of dry grasslands but to also conduct data collection from representative grassland habitats in poorly studied regions. Whilst many such grasslands contain high levels of species richness and endemism, it is generally possible to apply a systematic sampling strategy over a short sampling period for vascular plants and produce valuable data on their species richness and coverages. For other taxa, this is considerably more challenging. Whilst there are certainly a number of entomologists in Europe who do possess the necessary expertise and species recognition skills to conduct multitaxa surveys and produce species lists for a broad range of taxa, I cannot include myself amongst them. Carabid beetles (*Coleoptera*, *Carabidae*), also known as ground beetles, the arthropod taxon with which I am personally most familiar, include many sub-genera with species pairs that are difficult to distinguish even with the use of a microscope, let alone in the field. Amongst the smaller carabid beetles, a number of genera, such as *Amara* spp and *Bembidion* spp, contain large numbers of extremely similar species, and even amongst the largest of ground beetles, *Carabus* spp, there are numerous sub species and regional variation within the same true species. The normal procedure for surveying this taxon is to use an appropriately large number of pitfall traps for a full season (Spring to Autumn) to ensure sampling of species that are active at different times of the year. However, as a trapping method pitfalls are not perfect and certainly trap some taxa more effectively than others. It has been suggested, for instance, that some small species can withdraw from the edge of the pitfall trap and also the different behaviour of different species influences their susceptibility to pitfall trapping. The traps are emptied every two to four weeks, the trapped arthropods sorted into taxonomic groups, and only then begins the challenging task of identification using microscopes and regional identification keys, which is, to say the least, a time-consuming process. To achieve a reasonably comprehensive list of the species present requires additional sampling methods, such as hand

searching, to ensure the inclusion of species that are less susceptible to pitfall trapping.

There has been discussion for some time about the possibility of collecting entomological data during the EDGG excursions and the Prespa meeting, during May 2012, saw to my knowledge the first foray in this direction, with the permission of the Prespa National Forest Management Body. Anselm Kratochwil from the University of Osnabrück, Germany, used hand-netting to sample the butterfly and bee fauna of the sites visited during the three excursions, and the author used a small number of pitfall traps, maintained for five days (18.5-23.5.2012) and hand searching at the excursion sites, as well as an additional study visit to Mt. Devas. The catch from the pitfall traps was relatively scant, due to their small number and the short duration of trapping. The main part of the carabid samples were thus collected by hand sampling. The effort at the different sites was not standardized and the catches of beetles from the different sites were also influenced by the availability of searchable microhabitats and habitat features, so the catches cannot be considered comparable but rather indicative of a part of the carabid fauna of each site. In addition to carabid beetles, a small number of individuals of other coleopteran and insect taxa were also sampled.

The main advantage of pitfall trapping, is that it can be applied systematically, with standardization of sampling effort to allow comparison of samples from different sites and empirical analysis of such samples. Hand-sampling can also be standardized, for instance, by standardizing the time spent searching in different sites and using a protocol of dividing the time spent at a site amongst the microhabitats present. The majority of carabid species are nocturnally active and spend the daytime under stones and pieces of wood, within leaf litter, in holes in the ground and amongst the roots of plants. This is reasonably controllable at sites with similarity of vegetation and physical structure however, the variety of grassland sites visited at Prespa had considerable differences. Mount Triklario, the site of our final excursion, yielded a rather poor catch of beetles from the

hand-searching until we encountered a 1.5 l lemonade bottle which some previous visitor to the site had apparently left laying around with its lid open. The bottle now contained several dozens of beetles, including scarab beetles and carabids, which thereby provided me with a very respectable sample for that site.

Another remarkable event during my expeditions arose as a by product of the official excursion to Mt. Varnous, during which I shared a lift with Jan Jordan and Julian Hoffman. On hearing of my entomological interest, they told me of an intriguing parasitic plant that was very rare but which should be flowering at that time and was almost invariably attended by an insect which could have been either a bee or a beetle. It was known to be hairy, though then again, most pollinating insects are! We agreed that it would be interesting to investigate the matter further if there would be any opportunity during the meeting and continued our drive up the rainy Mount Varnous. A short time later, we were informed that the expedition was being aborted, as several participants had gotten soaked through, so we returned to the village of Ag. Germanos and decided to reconvene in the afternoon. At that point we decided to use the extra couple of hours to go and investigate the plant and insect mystery at a site on Mt. Devas. After arriving at the site, it didn't take us long to find the plant, *Phelypaea (Diphelypaea) coccinea* Poir., a parasitic member of the *Orobanchaceae*, distributed in SE-Europe, only living on *Centaurea* sp, and collect several specimens of what actually was a

beetle from the family Scarabaeoidea, from the flowers. The beetle has not yet been identified to species, and when it is, then that might provide its own story for a future edition of the bulletin.

As yet I am unable to give concrete results for the surveys of carabid beetles carried out during the Prespa excursions during May 2012 beyond the facts that there are a considerable number of them, of which approximately half are now pinned and awaiting identification. The Greek carabid fauna is known to be rich with 962 recorded species in 138 genera, of which an impressive 219 species (23%) are endemic to Greece. A number of genera are currently under revision, so the number of species, and possibly that of endemics too, could well increase in the near future. I anticipate that most of the material I collected in May will be identified this Autumn and that I will be able to provide at least a provisional species list by the time of the next bulletin. Fortunately Anselm Kratochwil has made good progress with his specimens and provided the following records.

Some insect species detected during the excursions (Anselm Kratochwil)

Devas Mountain Area (20.05.2012)

- The wild-bee species *Megachile parietina* (Geoffroy in Fourcroy, 1758) ("Mason-bee of the Walls") was observed collecting pollen on *Helianthemum oelandicum*



Polyommatus s. semiargus. Photo: Angelika Schwabe, Prespes, 23.05.2012

(L.) DC. This univoltine, polylectic Mediterranean species mainly feeds on pollen resources from *Lamiaceae* and *Fabaceae*. The nests are built in hollows in stones. After selecting a pebble, the female bee comes back with a little ball of mortar in the mandibles and arranges it in a circular pad on the surface of the stone. Flight period: from April to June.

Lepidoptera:

- *Anthocharis g. gruneri* Herrich-Schaeffer, 1851, *Pieridae*, male and female
- *Callophrys r. rubi* (Linnaeus, 1758), *Lycaenidae*, female
- *Issoria lathonia* (Linnaeus, 1758), *Nymphalidae*, male
- *Leptidea duponcheli lorkovici* Pfeiffer, [1932], *Pieridae*, male

Triklario Mountain Area (23.05.2012)

- Longhorn bee *Eucera pollinosa* Smith, 1854 (male), nectar foraging on *Geranium macrostylum* Boiss. This univoltine, polylectic Mediterranean species flies from May to July.
- The owlfly *Libelloides lacteus* (Brullé, 1832) is a member of the neuropteran (family *Ascalaphidae*). Owlflies are diurnal or crepuscular predators of other flying insects. This species has an Anatolian-Pontomediterranean distribution (Southeast France, Italy, Balkans).
- *Coenonympha pamphilus* (Linnaeus, 1758), *Satyridae*, male.

Surroundings of Psarades (19.-23.05.2012)

- *Osmia apicata* Smith, 1853; male observed in nectar foraging on *Carduus tenuiflorus* Curt. in Psarades (20.05.2012). The females of this East Mediterranean bee species are oligolectic (pollen collecting on *Onosma*, *Boraginaceae*). In the surroundings *Onosma heterophylla* Griseb. was growing.

Lepidoptera:

- *Coenonympha pamphilus* (Linnaeus, 1758), *Satyridae*, 3 males (20.-23.05.2012)
- *Colias alfacariensis* Ribbe, 1905, *Pieridae*, male (23.05.2012)
- *Cupido minimus* (Fuessly, 1775), *Lycaenidae*, four males (19.05.2012)
- *Glaucopsyche alexis* (Poda, 1761), *Lycaenidae*, male (19.05.2012)
- *Polyommatus i. icarus* (Rottemburg, 1775), *Lycaenidae*, 2 males (20.05.2012, 23.05.2012)
- *Polyommatus s. semiargus* (Rottemburg, 1775), *Lycaenidae*, 11 males, one female (23.05.2012). This species forms congregations, rich in individuals, on humid spots (primarily males) important for gathering mineral salts and electrolytes (see photo).
- *Scolitantides orion lariana* (Fruhstorfer, 1910), *Lycaenidae*, male (22.05.2012).



Libelloides lacteus. Photo: Andras Kelemen



Flowers of *Phelypaea coccinea* with an as yet unidentified chafer beetle. Photo: Stephen Venn