

*Ceutorrhynchidius hassicus* Schultze (*barnevilli* Reitt.) (Col., Curc.). Van dit snuitkevertje, dat, voor zover mij bekend is, nog slechts eenmaal in Nederland was aangetroffen, ving ik op 20 en 22-VIII-'49 te Geulhem (Z.L.) een exemplaar door afkloppen van bloeiende *Achillea millefolium* L. In de literatuur vindt men *Cirsium*-soorten als voedselplant opgegeven. Of dit op soortsverwarring berust?

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## On the distribution of certain Coleoptera living in the first range of dunes on the island of Terschelling (A preliminary note)

by

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As a result of a quantitative inventory of the first range of dunes on the Island of Terschelling, one of the West Frisian Islands in the Northern part of the Netherlands, interesting facts on the distribution of four species of Coleoptera became evident.

**Mode of inventory:** A transect was drawn through the outermost range of dunes at right angles to the coast line and divided into sectors of about  $5 \times 5 = 25 \text{ m}^2$ , some being smaller, others bigger than the average, adapted to the configuration of the ground. These sectors have been investigated thoroughly and the insects living in the area were collected.

**Description of the four species of Coleoptera:**

1. *Demetrias monostigma* Sam., a small Carabid beetle with a very weak carapax; probably, it is easily desiccated. It is never seen at daytime in the open, but is always hiding in the damp sand between the roots of *Ammophila arenaria* Link.

2. *Dromius linearis* Ol., also a small Carabid. This beetle has the same habitus and way of living as the previous species.

3. *Aegialia arenaria* F. belongs to the family Scarabaeidae. Contrary to the two former species it has a sturdy coriaceous carapax and without doubt is fit to resist desiccation. Corresponding with these facts, these insects are living in very exposed places, where vegetation is scarce. They are busily walking about at daytime in the blazing sun and on the hot sand in search of food, which consists of droppings of various animals and decaying animal and vegetable matter.

4. *Phylan gibbus* F., a Tenebrionid, too, has a sturdy carapax and seems to stand desiccation very well. This species also shows itself at daytime, about the hot sandy patches in the dunes.

**Discussion:** As may be seen in the graph, the distribution of the four species, from a biocoenological point of view, is very much in correlation with the facts already mentioned. *Demetrias monostigma* and *Dromius linearis* are totally absent on the barren sands of the outer dunes or in the scarce vegetation of the *Agropyretum boreo-atlanticum*, (with one exception: one individual of *D. monostigma* in sector 7, the transition to the *Ammophiletum* association).

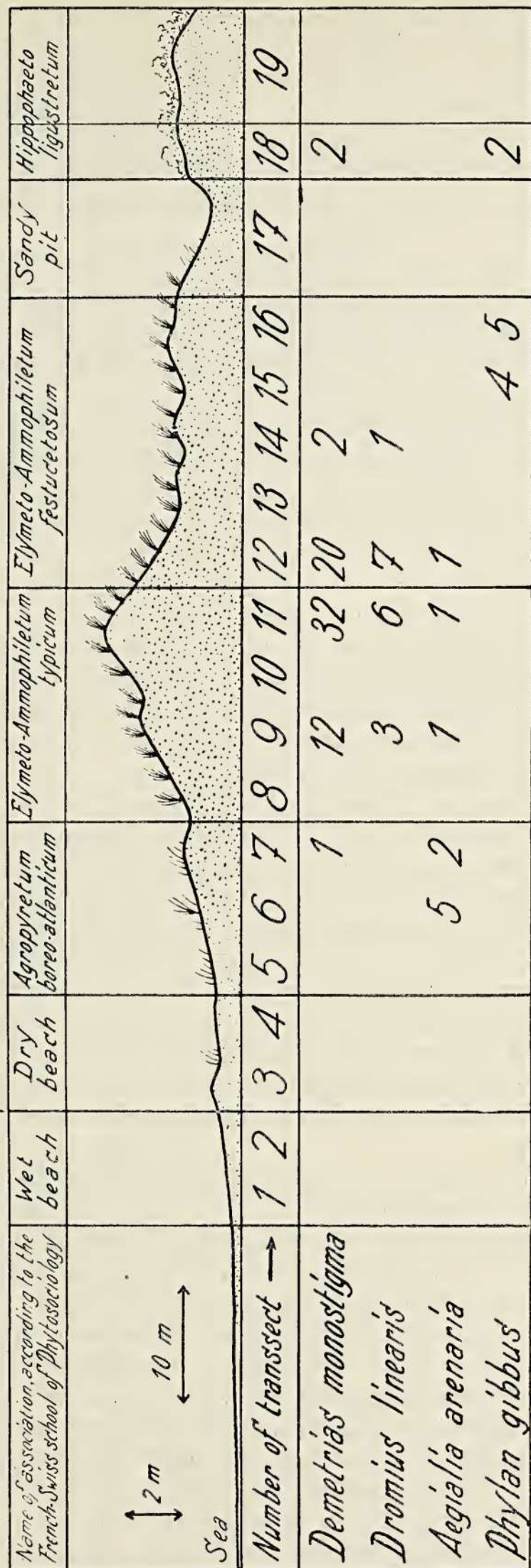
However, in the *Elymeto-Ammophiletum typicum* and the *E-A. festucetosum*, where the vegetation is fairly dense and the abundant growth

of *Ammophila arenaria* gives good accomodation for these small and weak Carabids, their numbers tend to rise considerably and they are outnumbering all other insect species in these areas.

*Aegialia arenaria* behaves just the other way, as may be read from the graph. This insect, adapted to very dry, desertlike conditions, is only observed on the bare sandy patches of the *Agropyretum boreo-atlanticum* with its scanty vegetation. On the other hand, *Phylan gibbus* does not seem to frequent the outmost range of dunes, but shows a preference for a habitat at a certain distance from the sea, where the vegetation becomes scarce again near a sandy pit, blown out by the wind.

These data show a clear relation between vegetation and animal populations. There can be no doubt, that the quantitative inventory of a certain area will go a long way towards helping biologists to understand the distribution of living beings, plants as well as animals. On plants much work has already been done, but it will be clear that where animals are concerned, our goal is still a long way off and will need intensive investigations in the future.

February 1950.



Beach-Dune-Zonation of the North Sea Coast; Terschelling, Boschplaat near "paal 20". Transect first range of Dunes, August 1947.