

## The European Carabidologist Meeting after 40 years back in the Netherlands

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Research on ground beetles at the Biological Station in Wijster, the Netherlands, started in 1959, resulting in the theory of 'Spreading of Risk'. According to this theory large populations are stabilized by a high number of local populations. In these local populations the numbers of individuals heterogeneously fluctuate through time and individuals disperse between those local populations. The wish for discussion on this theme with colleagues resulted in the first European Carabidologist Meeting (ECM) at Wijster in 1969. As the exchange of knowledge in the field of carabidology was regarded as very useful, many meetings followed. Starting as more or less a German / Dutch discussion group, nowadays the ECM is visited by people from more than 20 nationalities and, despite its name, it is no longer restricted to Europeans. This year after 40 years, the 14<sup>th</sup> ECM will be held again at its origin; the Netherlands. It takes place in Westerbork, close to Wijster, from 13 until 18 September. The central theme will be: 'Carabid beetles as bioindicators - The use of ground beetles in ecological and environmental studies; the usefulness and threats of methods used for monitoring species and populations'. All contributions on carabidology are welcome, but we hope to have many contributions about: the role and usefulness of pitfall trapping, what we can learn of the presence/absence of certain species in different kinds of area and the knowledge derived from and applications of long-term samplings regarding environmental change and management. During the field excursion, the permanent sampling sites at the Dwingelderveld will be visited. Registration can be done by the website [www.biological-station.com/ecm/](http://www.biological-station.com/ecm/).

Key words: European Carabidologists Meeting, Carabidology, Carabid beetles, ground beetles, pitfall traps, bio-indicators, environmental changes, climat change, nature management

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### INTRODUCTION

The first European Carabidologist Meeting was organised in 1969 at the biological station in Wijster, the Netherlands. The appeal for such meeting was one of the results of conclusions

drawn from the ground beetles research, started here 10years before. Since then, at different intervals and spread out over different countries in East- and Western Europe, 12 more European ground beetle meetings have been organized. Apart from these meetings 2 other meetings

concerning carabid beetles were organized as well. The proceedings of all these meetings show a large variety of investigated subjects. 40 years passed since first the meeting in Wijster, so a reason to organize a jubilee meeting again in the Netherlands. In this contribution the special relation between the Netherlands and the *European Carabidologist Meeting* (ECM) will be explained.

#### **The first four meetings at Wijster and in Germany.**

Piet den Boer, zoölogist at the Biological Station in Wijster, started in 1959 pitfall trapping at several locations in the Dwingelderveld, a large area of heathland, to test the population theory postulated by Andrewartha and Birch (1954). This theory, the concept of metapopulations, stated that natural populations consist of many local populations or colonies. By using ground beetles as a tool, Piet was able to show that in a large area many local populations or interactions groups heterogeneously fluctuated in numbers of individuals, in time and space. From these results his theory, “spreading of risk”, was derived (Den Boer 1968). According to this theory species in a large area can survive more easily, because the reproduction success of each separate interaction group differs at different places and at the same place but in different years. Dispersal movements between those interaction groups are supposed stabilize the number of individuals in the whole population through time. In this way local extinction might occur, but the chances of extinction for the entire population are minimized.

This theory assumed an important role for dispersal and settlement of populations in the survival of species in a certain area (Den Boer 1970). Piet den Boer eagerly wanted to discuss this topic with some other ground beetle specialists, in particular with Carl Lindroth from Sweden, who investigated the importance of dispersal processes and Hans-Ulrich Thiele from Germany who was preliminary interested in the reproduction processes of these animals.

In 1969 Professor Venema, at the time head of the biological Station, became retired. For Piet this was an great opportunity to invite several well-known carabidologists from Europe to Wijster; an *European Carabidologist Meeting* was born in honour of Venema. A select company of research workers (Fig. 1) had talks and discussions for three days on the topic Piet liked to discuss about: dispersal and dispersal power of carabid beetles (Den Boer 1971)

The follow-up of this meeting took place in 1973. Thiele called a number of carabidologists to his laboratory at Rees-Grietherbush, a fieldstation of the university of Cologne. This second ECM appeared to be an informal one. Therefore no proceedings were published. However, this second meeting resulted in a -now official- third one, also at Rees-Grietherbush and organized by Thiele and Friedrich Weber in 1978. Although almost all participants were German or Dutch, an Italian (Brandmayr) and a Frenchman (Jubertie) guaranteed the European character. The proceedings, ‘On the evolution of behaviour in Carabid beetles’, published by the Agracultural University Wageningen in 1979, were dedicated to Lindroth, who had passed away in 1979. In 1981 Weber took over the initiative and organised in ‘Haus Rothenberge’, Münster, fourth ECM with as theme ‘The synthesis of field study and laboratory experiments’. Thiele did present a lecture at the time of the meeting, but a contribution for the proceedings was never received. The proceedings were published after his death in 1983. They were dedicated to him.

#### **Increasing interest in ground beetles**

The first four meetings were followed up by meetings organized all over Europe. The attention and research for ground beetles became increasingly popular for a number of reasons. It appeared that ground beetles, as a group often indicated as ‘polyphageous predators’, were exceptional useful in nature conversation, agricultural ecology or pest control. They normally can be split up in groups characteristic for several kinds of habitat to a certain degree, or

to feeding strategy (carnivore, polyphage or mainly herbivore). The different species have a wide variety of dispersal capacities, ranging from fully winged good flyers to unwinged inhabitants of stable environments. In this respect ground beetles can be used to study the effects of isolation and fragmentation. Furthermore, the group harbours a large taxonomical variety (many genera, many species) and, in taxonomical sense, is well investigated, from larvae to adult. The ground beetles can be easily sampled by pitfall-, window- and light traps. A lot of species can be bred under laboratory conditions. This makes ground beetles a very suitable group for both field- and laboratory research. Faunal data collected over long periods are stored in databases all over Europe. These historical data sets might give insight in the causes of fauna changes, such as changes of the environment by management or climatic changes.

In many parts of Europe the interest was originally in the field of taxonomical, faunistic and bio-geographical. However, affected by the research done by Lindroth, den Boer and the German schools later the interest sifted more and more towards (population)biological and dispersal ecological investigations. The results of that ground beetle research became of increasingly importance for nature management and conservation of diversity.

### **European meetings**

Since the political changes in Eastern Europe, after 1990, the meetings got a more 'complete' European character. Not only was it easier for east European to join the meetings but also easier to organize it. Even more noticeable, at the last two meetings research workers from outside Europe started to participate in the carabidologists meeting, from close to Europe (Israel, Algeria) as well as from further away (US, Canada). Apparently the ECM's nowadays are attracting the interest of a broader public than only the European carabidologists.

Besides the official European ones there have been more ground beetle meetings in Europe

(table 1). Two of them did not get the indication ECM (Hamburg, 1984 and Kauniainen, 1995), but as they consisted of the same group of research workers as the ECM's. As both resulted in proceedings with only ground beetle articles, they are mentioned here. The fourteen proceedings that appeared either as book or as 'special issue' in a journal (fig. 2) together comprises more than 400 articles (box 1). Half of these proceedings had an introduction and/or summary provided by the editors. These proceedings show that the contents of the meetings without exception were very diverse. We will try to supply the proceedings of the 2009 meeting with a separate extensive chapter, that looks back at the results of the last 40 years ground beetle research.

### **Jubilee meeting**

In 2009 the European Carabidologists Meeting will be in the Netherlands again, 40 years after the first meeting in Wijster. At least four of the original participants, Piet den Boer, Jaap Haeck, Rob Hengeveld and Theo van Dijk, are involved in this meeting, in different ways. We still hope to attract some more of these long term survivors. Since 1998 The Biological Station Wijster does not exist anymore but a suitable location in the direct surrounding was found in Westerbork. The foundation, stichting Willem Beijerinck Biological Station (WBBS) in Loon, founded by employees of the former Biological Station at Wijster, takes care of the data collected since 1959 and still does go on collecting data at the original sampling sites. In fact, the foundation regards itself as a continuation of the Biological Station and therefore organizes the 14<sup>th</sup> meeting, 50 years after the first traps went into the ground and 40 years after the first meeting. The meeting carries the title 'Carabid beetles as bioindicators- the use of ground beetles in ecological and environmental studies; the usefulness and threats of methods used for monitoring species and populations'. We encouraged contributions about the advantages and disadvantages of the use of pitfall traps as this appears to be an ever returning item, we will pay extra attention to this method of catching, both at the meeting and in

the proceedings. Furthermore, we will stimulate contributions dealing with the presence or absence of particular ground beetle species in certain areas, combined with the quality of those areas and/or the kind of management applied or desired there. Also contributions in which the results of long term monitoring are examined, for instance in the light of the long term management, changes in that, as well as changes in the quality of environment and climate, are mostly welcomed. The meeting is planned from 13 to 18 September 2009 and it is easy to register for this meeting by [www.biological-station.com/ecm/](http://www.biological-station.com/ecm/). During meeting an excursion is planned to the Dwingerderveld and Mantingerveld, both in the neighbourhood of Westerbork. These areas are unique in ground beetle studies. At these sites Piet started his permanent pitfall sampling. 50 years later the weekly sampling with the same traps is still going on. It shows us the changes in ground beetle fauna and activity from 1959 up till now. At the field excursion we will pass and show these permanent sampling sites and moreover, in the visitor centre an exhibition about soil fauna and in particular ground beetles will be presented by the society Nature Monuments (Natuurmonumenten) in collaboration with the WBBS foundation. As the Netherlands are flat and therefore famous for bikes, we offer the opportunity, for those that want, to follow this excursion on it. As this meeting marks very special period in ground beetle research we expect a high presence..

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