

THE DISTRIBUTION OF THE INVASIVE HARVESTMAN *DICRANOPALPUS RAMOSUS* IN THE NETHERLANDS (ARACHNIDA: OPILIONES)

Jinze Noordijk, Hay Wijnhoven & Jan Cuppen

Dicranopalpus ramosus is one of the most characteristic harvestmen in our country. Because this species is quite easy to identify, many persons were able to contribute to the first distribution map ever presented for a harvestman species in the Netherlands. Remarkably, *D. ramosus* has succeeded to colonise most regions of the country within fourteen years after its discovery.

INTRODUCTION

The harvestman *Dicranopalpus ramosus* (Simon, 1909) is a conspicuous species (fig.1). Some striking features are unique amongst the Dutch harvestman species. In rest, its long legs are stretched out sideways. The forked pedipalps are pointing straight ahead. Most males have a black band running across the eyes and the cephalothorax measures about 3 mm. The female can be twice this size, with dark and light stripes on the body.

The species originates from the Western Mediterranean region (Morocco, Spain, Portugal, southern part of France). From 1957 onwards, *D. ramosus* has colonised the southern part of England (Sankey & Storey 1969). Since around 1990 it has been steadily moving north from its original range along the Atlantic coast, apparently avoiding the Central-European region. Thus far, the harvestman has been recorded as new to Belgium in 1994 (Slosse 1995), Ireland in 1994 (Cawley 1995), Scotland in 2000 (Hillyard 2000) and Germany in 2002 (Schmidt 2004).

The first specimens of *D. ramosus* in the Netherlands were observed in 1993 in the town of Ede, province of Gelderland (Cuppen 1994). In this contribution we summarise all known records till the end of 2006. Evidently, within these fourteen years the species has become established in most parts of our country.

METHODS

A total number of 176 records comprising 443 specimens have been gathered in the Netherlands. Most of these records were provided by the authors. Furthermore, it proved rather easy to gather extra distributional data on *D. ramosus*, bearing in mind that this species is quite easy to identify, even by non-entomologists. For example, a call for records in the province of Noord-Holland (Noordijk & Wijnhoven 2006) resulted in five new observations. In addition, records from a Dutch website for fauna and flora observations (www.waarneming.nl, visited at December 19th 2006) were included in our database. People who recorded *D. ramosus* on this website were contacted. Their identifications of the harvestman were checked, mostly asking for photographic evidence.

DISTRIBUTION

The records of *D. ramosus* in the Netherlands are presented in figure 2. The species has been found in most provinces except for Groningen and Flevoland. Probably more extensive surveys would reveal the species there as well. In a part of the province of Gelderland the map shows a cluster of records, which is a result of surveys of the second and third author. The majority of the Dutch records are from the year 2000 onward, suggesting it took the species some years to settle. Warm summers like the one of 2003 could have favoured its rapid spreading. Since its discovery in



Figure 1. *Dicranopalpus ramosus*, female. Photo Jinze Noordijk.
 Figuur 1. *Dicranopalpus ramosus*, vrouwtje. Foto Jinze Noordijk.

the town of Ede, *D. ramosus* has been found on many localities close to this site, especially in the most recent years. In the city of Nijmegen this harvestman was recorded for the first time in 2000. In 2004 it suddenly appeared at numerous sites. In this region it is quite common nowadays (Wijnhoven 2006).

PHENOLOGY AND HABITAT

Active adults of *D. ramosus* were seen from the beginning of July until the early winter. During mild winter conditions, *D. ramosus* can survive well up to the end of February (Wijnhoven 2006). The inset of frosty periods (below minus 4 °C) eventually causes the disappearance of the remaining adult individuals. The eggs are probably deposited in the soil during autumn and early winter. They may hatch starting from the beginning of May.

Most individuals of *D. ramosus* were found in anthropogenic situations, like gardens, parks and on buildings. The species seems to have a preference for margins between low and higher vegetation, using hedges and roadside verges as corridors. The majority of observations (71%) were from walls of brick buildings. These structures are

probably used as a means to avoid unfavourable microclimatic conditions in the vegetation. Obviously, this 'habitat preference' is influenced by an observational bias, due to the frequent human presence at these sites. Moreover, on walls this conspicuous species is very easy to spot.

There are some records of *D. ramosus* in natural and semi-natural habitats far away from settled areas. For example many subadult specimens were found regularly on leaves of common nettle *Urtica dioica* in humid deciduous woods near Nijmegen (Wijnhoven 2004). A few remarkable isolated findings are from stones and wooden poles on river floodplains. The presence in more or less natural habitats requires more attention.

DISCUSSION

We conclude, based on the currently known distribution (fig. 2), that *D. ramosus* has succeeded to colonise the Netherlands, maybe with the exception of the north-eastern part, in fourteen years after its discovery. This can be regarded a remarkable achievement for a small wingless species.

It is very likely that it was already present in the Netherlands some years prior to the first sighting,



Figure 2. Records of *Dicranopalpus ramosus* in the Netherlands.

Figuur 2. Vindplaatsen van *Dicranopalpus ramosus* in Nederland.

as large populations were present in Ede from 1994 onwards. Also, some specimens were found soon after its discovery on localities away from Ede. Unintended human transport by traffic seems to be the best explanation for the long distance dispersal of *D. ramosus*. For short distance dispersal all sorts of infrastructural corridors are suggested: hedges, blocks of buildings, roadside verges, lanes etcetera. However, it crossed our minds that strong winds could partly account for the rapid short and long distance dispersal of the species, explaining some findings at isolated locations.

In general, the rapid expansion northwards during the last decades might be favoured by changes in climatic conditions in Europe. Probably, the harvestman will move even further up north in the Atlantic region of Europe. Based on the presently known speed of its dispersal, we expect that *D. ramosus* will soon be found in Denmark.

ACKNOWLEDGEMENTS

The following persons were so kind to share their findings of *D. ramosus* with us: H. Arentsen, W. Bakker, G. Beersma, P. Boer, L. Boumans, I. Bruggink, W. Drok, C. Elfferich, D. Doodeman, W. Fliervoet, H. Gremmer, F. Grotenhuis, R. Heemskerk, Th. Heijerman, S. van Heijnsbergen (†), K. Heiligenberg, G. Keijl, W. Kerkhof, A. Loomans, B. Pijs, E. Ruiters, L. Samson, A. Schaffers, P. Spanenburg, F. Willems and Th. Zeegers.

REFERENCES

- Cawley, M. 1995. *Dicranopalpus ramosus* (Simon) (Arachnida: Opiliones), new to Ireland. – Irish Naturalist's Journal 25: 153.
- Cuppen, J.G.M. 1994. *Dicranopalpus ramosus*, a new species of harvestman for the Netherlands (Opiliones: Phalangidae). – Entomologische Berichten, Amsterdam 54: 176-178.
- Hillyard, P. 2000 (red.). *Dicranopalpus ramosus*. – Ocularium, Newsletter of the Opiliones Recording Scheme 3: 2.
- Noordijk, J. & H. Wijnhoven 2006. De hooiwagen *Dicranopalpus ramosus* in Noord-Holland. – Tussen Duin en Dijk 5 (3): 10-11.
- Sankey, J.H.P. & M.W. Storey 1969. *Dicranopalpus caudatus* Dresco (Arachnida: Opiliones), first record in Britain and France. – Entomologists' Monthly Magazine 105: 106-107.
- Schmidt, C. 2004. Der Weberknecht *Dicranopalpus ramosus* (Simon, 1909) (Arachnida, Opiliones, Phalangidae) neu für Deutschland. – Mitteilungen der Arbeitsgemeinschaft der Westfälischen Entomologen 20: 1-12.
- Slosse, W. 1995. *Dicranopalpus ramosus* (Opiliones, Phalangidae), nieuw voor de Belgische fauna. – Nieuwsbrief van de Belgische Arachnologische Vereniging 10: 11-13.
- Wijnhoven, H. 2004. De stille opmars van de hooiwagen *Dicranopalpus ramosus* in Nederland (Arachnida: Opiliones). – Nieuwsbrief Spined 19: 9-12.
- Wijnhoven, H. 2006. Hooiwagens op een Nijmeegse muur. – Nieuwsbrief Spined 22: 2-8.

SAMENVATTING

De verspreiding van de invasieve hooiwagen *Dicranopalpus ramosus* in Nederland (Arachnida: Opiliones)

De hooiwagen *Dicranopalpus ramosus* (Simon, 1909) werd in 1993 voor het eerst in Nederland waargenomen. In deze bijdrage worden alle sindsdien bekend geworden vindplaatsen gebundeld. Wij concluderen dat de soort vrijwel geheel Nederland heeft gekoloniseerd, misschien het noordoosten uitgezonderd. De soort wordt vaak gezien op muren van gebouwen, in tuinen, parken en bermen. Aangezien deze karakteristieke soort ook door niet-entomologen gemakkelijk te herkennen is en op muren eenvoudig opgemerkt wordt, is het voorkomen in meer natuurlijke habitats hoogstwaarschijnlijk onderschat. We verwachten dat *D. ramosus* zich in de Atlantische klimaatzone verder naar het noorden zal uitbreiden, zeer waarschijnlijk binnenkort al tot in Denemarken.

J. Noordijk
Wageningen University
Nature Conservation and Plant Ecology Group
P.O. Box 47
6708 PB Wageningen
Jinze.Noordijk@wur.nl

H. Wijnhoven
Groesbeeksedwardsweg 300
6521 DW Nijmegen
Hayw@xs4all.nl

J.G.M. Cuppen
Wageningen University
Aquatic Ecology and Water Quality Management Group
Ritzema Bosweg 32a
6703 AZ Wageningen
Jan.Cuppen@wur.nl