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INHOUD: C. A. W. Jeekel: *Julus scandinavus* Latzel, a millipede new to U.S. fauna (Diplopoda, Julida) (p. 101). — W. de Groot: Waarnemingen aan Hymenoptera-nesten II *Ceratina chalcites* Latr. (Apidae), *Xylocopa cyanescens* Brullé (Apidae) en *Gymnomerus laevipes* Shuck. (Vespidae) (p. 103). — J. Slot: Macrolepidoptera in de Eifel (p. 110). — J. P. van Lith: Notes on palaeartic *Psenini* (Hymenoptera, Sphecidae) (p. 113). — Literatuur (p. 109: G. Barendrecht; p. 112: W. N. Ellis; p. 120: G. Kruseman, B. J. Lempke). — Korte mededelingen (p. 112: J. C. A. van Etten, R. T. Simon Thomas; p. 119: J. Krikken).

Julus scandinavus Latzel, a millipede new to U.S. fauna (Diplopoda, Julida)

by

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During a week's visit to the Museum of Comparative Zoology, Cambridge, Massachusetts, in the middle of November 1971, the author went out for a walk on Sunday afternoon in the neighbourhood of that town in order to obtain some material of New England diplopods. Some collecting was done in a park surrounding a small lake known as Fresh Pond. Later the specimens collected were identified to belong to the following species.

Chilopoda: *Lithobius forficatus* (L.)

Diplopoda: *Brachydesmus* ? spec.

Choneiulus palmatus (Nemec)

Proteroiulus fuscus (Am Stein)

Cylindroiulus truncorum (Silvestri)

Cylindroiulus spec.

Ophiulus pilosus (Newport)

Julus scandinavus Latzel

All the collected species are of European origin and have been introduced into the U.S.A., but the occurrence of *Julus scandinavus* in the New World had not been recorded before.

The result of the collecting at Cambridge reminds strongly of the results of the extensive field investigations in Newfoundland reported upon by PALMÉN (1952). Out of 18 diplopod species recorded from Newfoundland by PALMÉN only 2 are

endemic American species, 15 are common European species, and one is a tropical species restricted to hothouses.

Apparently the scarcity of endemic diplopods is not so evident in the north-eastern states of the U.S.A. BLAKE (1931) has recorded the occurrence in New England of at least 10 typically American species, which, however, appear to be far from common, so that the introduced species are dominant in collections.

To explain this phenomenon several reasons have been postulated which are reviewed by PALMÉN (l.c.). The scarcity of endemic diplopods in north-eastern North America has been credited to the complete destruction of the diplopod population during the glaciation, and the limited possibilities of most diplopod species to populate or repopulate the large open space after the last glaciation. This theory has also been used to explain the present composition of the millipede fauna of the countries of northern Europe. Only those species have succeeded in reclaiming the open area which had the required adaptive potentialities for a quick active spread, or which could survive a passive transportation in particular through human activities.

Apparently the active distributional capacities of the North American diplopods concerned are rather poor, but there seems to be no reason to believe that in this respect they are very much different from the European millipedes. However, there must be a great difference between North American and certain European diplopods as regards their adaptation to withstand the unfavourable conditions of passive transport by human agency.

It has been stated that all of the European diplopod species which have been introduced into the North American fauna are adapted to synanthrope conditions in Europe, and are, therefore, particularly fitted for human transportation. This is hardly correct for species like *Julus scandinavicus*, *Proteroiulus fuscus*, or *Ophiulus pilosus*, which cannot be characterized as typically synanthrope species and are in fact rarely found in gardens and similar biotopes under heavy human influence. The ecological conditions under which these species occurred in the park around Fresh Pond in Cambridge were superficially similar to conditions under which they are found in Europe. This makes the absence of endemic North American diplopods in this biotope all the more significant.

It seems that none of the North American diplopod species can survive the conditions of human transport, or establish itself elsewhere after successful passive transportation. Judging from the data given by BLAKE and by PALMÉN none has even the possibility to adapt itself to living under synanthrope conditions in north-eastern North America.

On the other hand a whole selection of European species has succeeded in populating large areas there, just as they were able to do in northern Europe. The origin and significance of the ecological qualities which enabled these European species to do so are completely obscure.

References

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