

FIRST RECORD OF *ODONTELLA BAYERI* (COLLEMBOLA: HYPOGASTRURIDAE) IN NORTH AMERICA¹

Paul B. Kanno², Barbara L. Benner³

ABSTRACT: *Odontella bayeri*, previously known only from Europe, Asia and Australia, is recorded from 24 localities in 14 counties of southwestern North Dakota.

The subgenus *Xenyllodes* of *Odontella* has been represented in the North American collembolan fauna solely by *O. armata* (Axelson), a species known from Alaska and Montana to Massachusetts and North Carolina (Christiansen and Bellinger 1980). This species also is widespread in Europe, from the USSR to Ireland and Finland to Italy (Salmon 1964).

In July and August of 1976 and May of 1977 we collected soil samples to a depth of 25 cm from 100 sites representing 17 habitats in southwestern North Dakota and identified the collembolans (Benner and Kanno 1984). Included in our specimens were two different species of *Odontella*. One was characterized by five eyes on each side and was identified as *O. armata*; the other had only two eyes on each side. Kenneth Christiansen of Grinnell College examined representative specimens of the latter and identified them as *O. bayeri* (Kseneman), a species previously known only from Europe (Salmon 1964), central Asia (Utrobina 1976) and Australia (Greenslade and Greenslade 1973).

Of the 17 habitat types studied in southwestern North Dakota, *O. armata* was collected in 14, but common only in 5 (ridge and steep slope grasslands, gentle slope grasslands, upland deciduous forests, wooded draws, and shelterbelts). On the other hand, *O. bayeri* was collected in 12 habitats, but common only in 4 (ridge and steep slope grasslands, wooded draws, stripmine spoils, and cultivated fields). Therefore, the two species tend to occur in the same habitats but each is more numerous where the other is absent. Of the *Odontella* specimens collected, 62% were *O. armata*.

Odontella armata was found at all sampling levels from the litter to 25 cm below the surface; it was rare in the litter and most frequent in the deeper samples. The mean depth for all samples was 11.5 cm. *Odontella bayeri* also was found from the litter to 25 cm and also was rare in the litter. However, it was not common in the deeper samples. The mean depth for all *O. bayeri* samples was 7.3 cm.

¹Received July 7, 1984. Accepted August 27, 1984.

²Department of Biology, University of North Dakota, Grand Forks, ND 58202

³Plant Biology Department, University of Illinois, Urbana, IL 61801

The widespread distribution of *O. bayeri* in southwestern North Dakota and its sympatric distribution with its close congener, *O. armata*, suggest that it is not a recent introduction. Rather, it seems probable that *O. bayeri* occurs elsewhere in North America but has not been collected previously because few studies of the total collembolan fauna have been undertaken.

Locality records for *O. bayeri* are as follows: Adams Co. T131N, R97W, S19; T130N, R98W, S26; T131N, R98W, S24. Billings Co. T142N, R101W, S30; T137N, R102W, S12. Bowman Co. T131N, R104W, S20. Dunn Co. T147N, R93W, S35; T145N, R97W, S27. Golden Valley Co. T140N, R104W, S35; T143N, R103W, S12. Hettinger Co. T135N, R97W, S1; T136N, R93W, S9. McKenzie Co. T147N, R100W, S12; T145N, R98W, S12. McLean Co. T146N, R81W, S3; T148N, R83W, S18. Mercer Co. T146N, R85W, S23. Morton Co. T138N, R88W, S21; T138N, R88W, S22. Sioux Co. T129N, R81W, S20; T132N, R83W, S34. Slope Co. T135N, R102W, S32. Stark Co. T139N, R95W, S8; T139N, R99W, S21.

ACKNOWLEDGMENTS

We thank Kenneth A. Christiansen for the identification, Karen Nolan, Jim Burdine, Nile Fellows and Amy Haakenstad for field and/or laboratory assistance, and Omer R. Larson and William J. Wrenn for reviewing the manuscript. This research was carried out through contract number 6-02-4 from the North Dakota Regional Environmental Assessment Program.

LITERATURE CITED

- Benner, B.L. and P.B. Kannowski. 1984. Collembola of southwestern North Dakota: Species composition and habitat distribution. *Prairie Nat.* 16(2): 79-90.
- Christiansen, K. and P. Bellinger. 1980. The Collembola of North America North of the Rio Grande. A taxonomic analysis. Grinnell College, Grinnell, Iowa. 1322 pp.
- Greenslade, P.J.M. and P. Greenslade. 1973. Epigaeic Collembola and their activity in southern Australia during summer. *Pedobiologia* 13: 227-235.
- Salmon, J.T. 1964. An index to the Collembola. *Bull. R. Soc. N.Z.* 7: 1-651.
- Utrobina, N.M. 1976. Einfluss von Ammoniakwasser auf den Bodertierbesatz unter Kartoffeln. *Pedobiologia* 16: 206-218.
-

ERRATUM

A last minute printer's error occurred on line 26 of the Sites and Akre paper on Multicolored 35 mm Slides for Data Presentation (Nov. - Dec. 1984, 95(5): 229). The reference to Kodalith Ortho film, 6556, should have specified type 3, but the '3' was omitted. The error was caught in time to be corrected on the reprints which are available from the authors. We regret this error.



Kannowski, Paul; B and Benner, Barbara L. 1985. "1St Record Of *Odontella bayeri* (Collembola, Hypogastruridae) In North america." *Entomological news* 96, 27–28.

View This Item Online: <https://www.biodiversitylibrary.org/item/20681>

Permalink: <https://www.biodiversitylibrary.org/partpdf/39426>

Holding Institution

Smithsonian Libraries and Archives

Sponsored by

Smithsonian

Copyright & Reuse

Copyright Status: In copyright. Digitized with the permission of the rights holder.

Rights Holder: American Entomological Society

License: <http://creativecommons.org/licenses/by-nc-sa/3.0/>

Rights: <https://biodiversitylibrary.org/permissions>

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.