

## A Check List of Indiana Collembola

JOHN W. HART, Earlham College

### *Abstract*

Several entomologists have studied Indiana Collembola. Most of their findings have not been published. This checklist includes all species known from the state at this time.

Hoosier entomologists have shown little interest in the Collembolan insects. Eight species were known from the state when Wilkey (15) reported 21 new records in his taxonomic study of a small area in central western Indiana. Pedigo (8, 9, 10, 11, 12) contributed substantially to both the bionomic and taxonomic knowledge of the Collembolan fauna.

Springtails are flightless insects and restricted for the most part to a life on or in damp soil, under bark, or on water surfaces. In a few instances they are found on growing plants. Only a few different kinds of habitats, involving a limited number of soil types and a small geographical area, were investigated in finding the 69 species and forms and 40 genera reported herein. Far more study is indicated if we are to know the true distribution of this order in Indiana.

Considering the multitude of possibilities for introduction of Collembola from other states (or even other nations) one may conclude that given satisfactory growing conditions, any species might be found in almost any place. In fact, introduction is often effected in a package of "home soil" making survival quite probable.

Scott (14), in his study of springtails of New Mexico, reported 28 of the species and forms noted in this check list. Of the 28 reported by Scott (14), 26 were also found in New York by Maynard (5). When Maynard (5) made his study, 63 of the species listed in this paper had already been described. He found 47 of them in New York. Mills (6) studied Iowa springtails at a time when only 59 of the 69 Collembola we now know from Indiana were recognized. He identified 49 of them as occurring in Iowa.

There is a close relationship between some species of springtails and the soil. These have interesting possibilities as indicator species. Environmental disturbance by pollution with wastes or chemicals (including insecticides) could be reflected by variations in densities of one or more species or by variation in composition of Collembolan populations. There appears to be much of both importance and interest yet to be studied.

# Checklist of Indiana Collembola

System of classification, Salmon, 1964

|                                                         |               |
|---------------------------------------------------------|---------------|
| Order Collembola                                        |               |
| Suborder Arthropleona                                   |               |
| Superfamily Hypogastruroidea                            |               |
| Family Onychiuridae                                     |               |
| Subfamily Tullbergiinae                                 |               |
| <i>Mesaphorura clavata</i> (Mills), 1934                | Hart, 1969    |
| <i>granulata</i> (Mills), 1934                          | Hart, 1969    |
| Subfamily Onychiurinae                                  |               |
| <i>Hymenaphorura subtenuis</i> (Folsom), 1917           | Hart, 1969    |
| <i>Paronychiurus ramosus</i> (Folsom), 1917             | Wilkey, 1950  |
| <i>Protaphorura encarpata</i> (Denis), 1931             | Hart, 1969    |
| Family Hypogastruridae                                  |               |
| <i>Xenylla humicola</i> (Fabricius), 1780               | Pedigo, 1969b |
| <i>Hypogastrura armata</i> (Nicolet), 1841              | Wilkey, 1950  |
| <i>lucifuga</i> (Packard), 1888                         | Packard, 1888 |
| <i>matura</i> (Folsom), 1916                            | Mills, 1934   |
| <i>packardi</i> (Folsom), 1902                          | Wilkey, 1950  |
| Suborder Nearthropleona                                 |               |
| Family Brachystomellidae                                |               |
| <i>Brachystomella stachi</i> Mills, 1934                | Pedigo, 1969b |
| Family Anuridae                                         |               |
| <i>Aphoromma granaria</i> (Nicolet), 1847               | Hart, 1969    |
| <i>Friesca claviseta</i> Axelson, 1900                  | Hart, 1969    |
| Family Neanuridae                                       |               |
| <i>Pseudachorutes aurco-fasciatus</i> (Harvey), 1898    | Pedigo, 1969a |
| <i>saxatilis</i> Maenamera, 1920                        | Pedigo, 1969b |
| <i>Neanura barberi</i> (Handschin), 1928                | Hart, 1969    |
| Superfamily Entomobryoidea                              |               |
| Family Tomoceridae                                      |               |
| <i>Maynardia elongata</i> (Maynard), 1951               | Pedigo, 1969a |
| <i>Pogonognathellus flavescens</i> (Tullberg), 1871     | Folsom, 1913  |
| Family Isotomidae                                       |               |
| Subfamily Proisotominae                                 |               |
| <i>Folsomia fimetaria</i> (Linné), 1758                 | Wilkey, 1950  |
| <i>quadrioculata</i> (Tullberg), 1871                   | Hart, 1969    |
| <i>Proisotoma minuta</i> (Tullberg), 1871               | Pedigo, 1969b |
| Subfamily Isotominae                                    |               |
| <i>Isotomurus palustris</i> (Müller), 1776              | Mills, 1934   |
| <i>palustroides</i> Folsom, 1937                        | Wilkey, 1950  |
| <i>Pseudisotoma sensibilis</i> (Tullberg), 1871         | Wilkey, 1950  |
| <i>Isotomiella minor</i> (Schäffer), 1896               | Hart, 1969    |
| <i>Isotomina constricta</i> (Folsom), 1937              | Hart, 1969    |
| <i>Isotoma trispinata</i> MacGillivray, 1896            | Pedigo, 1969a |
| <i>violacea</i> form <i>caeruleatra</i> (Guthrie), 1903 | Wilkey, 1950  |
| <i>viridis</i> form <i>catena</i> (Guthrie), 1903       | Folsom, 1937  |
| <i>Heteroisotoma andrei</i> (Mills), 1934               | Mills, 1969   |
| <i>Vertagopus arborea</i> (De Geer), 1740               | Wilkey, 1950  |
| <i>cinerca</i> (Nicolet), 1842                          | Wilkey, 1950  |

Family Entomobryidae  
Subfamily Entomobryinae

|                                                    |               |
|----------------------------------------------------|---------------|
| <i>Orchesella ainsliei</i> Folsom, 1924            | Wilkey, 1950  |
| <i>hexfasciata</i> (Harvey), 1895                  | Wilkey, 1950  |
| <i>zebra</i> Guthrie, 1903                         | Wilkey, 1950  |
| <i>Parasinella cavernarum</i> (Packard), 1888      | Packard, 1888 |
| <i>Entomobrya assuta</i> Folsom, 1924              | Wilkey, 1950  |
| <i>marginata</i> (Tullberg), 1871                  | Wilkey, 1950  |
| <i>nivalis</i> (Linné), 1758                       | Wilkey, 1950  |
| <i>Entomobryoides purpurascens</i> (Packard), 1873 | Wilkey, 1950  |
| <i>Pseudosinella petterseni</i> Börner, 1901       | Pedigo, 1969a |
| <i>rolfsi</i> Mills, 1932                          | Wilkey, 1950  |
| <i>violenta</i> (Folsom), 1924                     | Wilkey, 1950  |
| <i>Lepidocyrtus curvicollis</i> Bourlet, 1839      | Pedigo, 1969a |
| <i>cyaneus</i> Tullberg, 1871                      | Pedigo, 1969a |
| <i>cyaneus</i> form <i>cineus</i> Folsom, 1924     | Pedigo, 1967  |
| <i>lanuginosus</i> (Gmelin), 1788                  | Pedigo, 1969a |
| (near) <i>pallidus</i> Reuter, 1890                | Pedigo, 1969b |
| <i>paradoxus</i> Uzel, 1890                        | Pedigo, 1969b |

## Subfamily Paronellinae

|                                          |              |
|------------------------------------------|--------------|
| <i>Salina banksii</i> MacGillivray, 1894 | Pedigo, 1968 |
|------------------------------------------|--------------|

## Suborder Metaxyleona

## Family Poduridae

|                                    |              |
|------------------------------------|--------------|
| <i>Podura aquatica</i> Linné, 1758 | Folsom, 1916 |
|------------------------------------|--------------|

## Suborder Symphypleona

## Family Sminthuridae

## Subfamily Sminthurinae

|                                              |               |
|----------------------------------------------|---------------|
| <i>Sminthurides hyogramme</i> Pedigo, 1966   | Pedigo, 1966  |
| <i>lepus</i> Mills, 1934                     | Pedigo, 1969a |
| <i>malmgreni</i> (Tullberg), 1876            | Pedigo, 1969b |
| <i>pseudassimilis</i> Stach, 1956            | Pedigo, 1969a |
| <i>Sphaeridia pumilis</i> (Krausbauer), 1898 | Pedigo, 1969a |

## Subfamily Sminthurinae

## Tribe Katiannini

|                                            |               |
|--------------------------------------------|---------------|
| <i>Sminthurinus aureus</i> (Lubbock), 1862 | Wilkey, 1950  |
| <i>elegans</i> (Fitch), 1863               | Pedigo, 1969a |
| <i>similitortus</i> Maynard, 1951          | Pedigo, 1969a |

## Tribe Sminthurini

|                                                  |               |
|--------------------------------------------------|---------------|
| <i>Sminthurus medialis</i> Mills, 1934           | Pedigo, 1969a |
| <i>trilineatus</i> Banks, 1903                   | Pedigo, 1966  |
| <i>Sphyrotheca minnesotensis</i> (Guthrie), 1903 | Pedigo, 1969a |

## Tribe Bourletiellini

|                                                  |              |
|--------------------------------------------------|--------------|
| <i>Katiannina macgillivrayi</i> (Banks), 1897    | Wilkey, 1950 |
| <i>Bourletiella hortensis</i> (Fitch), 1863      | Gould, 1945  |
| <i>millsi</i> Pedigo, 1968                       | Pedigo, 1968 |
| <i>Pseudobourletiella chandleri</i> Pedigo, 1968 | Pedigo, 1968 |
| <i>Deuterosminthurus gumanensis</i> Wray, 1967   | Wray, 1967   |

## Subfamily Dicyrtominae

|                                             |               |
|---------------------------------------------|---------------|
| <i>Ptenothrix marmorata</i> (Packard), 1873 | Pedigo, 1969a |
| <i>unicolor</i> (Harvey), 1893              | Wilkey, 1950  |

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