

About 700 species of Collembola have been described so far, and of these some 200 have been found in North America. But there are certainly a large number to be discovered yet. Dr. Folsom estimates the collembolan fauna of this continent at not less than 250 species.

They are all very small, delicate insects, ranging from one-half millimeter to five millimeters in length, but the commonest kinds are from one to two millimeters long. Their integument is very soft, and great care is necessary in handling them. Most of them are clothed, thinly or densely, with hairs of a remarkable variety of form. There are long, slender, simple hairs, and stiff, spiny bristles; there are wide, ribbon-like hairs, and hairs terminating in fancy spear heads and in cups; there are hairs with flat, broad bases notched along one edge; there are feathered hairs, clubbed hairs and hairs bent over sharply at the ends. Of course, no one species possesses all these different kinds of hairs, but most springtails can boast of three or four varieties at least. For convenience sake, we speak of these growths as hairs, but they have little in common with the hairs of a mammal that grow out through the skin like an onion in a garden bed. A springtail's hairs are really continuous outgrowths of the integument, and when the insect moults its skin, as it does frequently in the course of its life, it sheds the outer layer of these so-called hairs also.

A few genera are covered with scales, not unlike the scales on a butterfly's wing, but very much smaller. These scales are lined and fluted so minutely that they are often used as test objects for microscopes, and the exact nature of the markings appears to be as hard to make out as the pattern on a diatom.

In colour the Collembola run through the whole spectrum from red to violet with black and white thrown in. Some are coloured uniformly all over, some are irregularly blotched and spotted and some wear veritable Joseph's coats of complicated symmetrical designs. Most of the colour is pigmentary, but the scaled species often show beautiful iridescence.

Some species are very constant in their coloration, while others assume several different liveries according, it would seem, to their food or their habitat. Thus *Sminthurus hortensis* Fitch, taken on garden beds, is a very dark purple with minute yellow spots, whereas a bright yellow variety, indistinguishable in everything but colour, is found living in the adjacent grass. *Achorutes armatus* Nic. may be a dirty white, pale violet, wine colour, or dark blue; and one variety, Dr. Folsom says, is canary yellow mottled with lavender. The common and abundant *Podura aquatica*, known all over the northern hemisphere, has always been described from the time of Linneus himself as dark blue with red brown legs and antennæ. But *P. aquatica*, recently found in the vicinity of Arnprior, Ontario, is coloured uniformly red all over. Indeed, variations of this kind are so common among the Collembola that colour is scarcely of any diagnostic value at all.

The most striking feature of the Collembola is the leaping apparatus to which they owe their popular name of Springtails. This apparatus is not characteristic of all the Order, however, for there are a good many species without any springing device at all, and in others it is so poorly developed as to be inoperative; but the majority are active jumpers. The apparatus, which is known as the furcula, consists of a forked appendage, (the dentes) hinged by a broad base, (the manubrium), to the belly at the fourth abdominal segment,