

shaped spot. Eyes $8 + 8$ (fig. 53) subequal; or two inner proximal eyes of each group a little smaller than the others. Postantennal organs (fig. 53) near the eyes, elliptical, slightly longer than, to twice as long as, the diameter of an adjacent eye. Antennae once and one-half to twice as long as the head, with segments in relative lengths about as 3:4:5:6. Sense organ of third antennal segment with a pair of linear feebly curving sense rods, a thick basal ridge, and two guard setae. Very short curving sensory setae occur on all the antennal segments as follows: segment 1, 2-5; 2, 3-7; 3, 3-7; 4, 10-15. On the first three segments these are on the under side near the distal outer end; on the fourth segment they occur on the distal half along the outer side (Ågren, '02). Mesonotum almost covering the pronotum. Third abdominal segment a little longer than the fourth (about as 5:4). Abdominal segments without ankylosis. Unguis (fig. 54) stout, curving, with a pair of small lateral teeth, and with inner margin untoothed. Unguiculus broadly lanceolate, with inner lamella roundly dilated basally, untoothed as a rule, extending a little beyond the middle of the unguis. Tenent hairs absent, represented by a single long simple hair. Furcula apparently appended to the fifth abdominal segment, and extending to the anterior border of the ventral tube. Dentes twice as long as manubrium, slender, gradually tapering, crenulate dorsally. Muero two-thirds as long as hind unguis, quadridentate (fig. 55). Apical tooth small, at the base of the second tooth; second and third teeth dorsal, large, subequal, subconical, slightly hooked, in longitudinal alignment; fourth tooth lateral, oblique, acute, extending almost half the length of the muero. Basal lateral mucronal seta present. Rami of tenaculum quadridentate (fig. 56); corpus with many (fifteen or more) ventral setae. General clothing of abundant short simple setae (fig. 57). Long outstanding feathered sensory setae occur on the last five abdominal segments; there being one or two pairs of these on each of the segments, and sometimes three pairs on the fourth abdominal segment. Length, 3 mm.

Packard's six cotypes of his *Isotoma tricolor*, from Waco, Texas, in the Museum of Comparative Zoölogy, Cambridge, Mass., for which MacGillivray ('96, p. 48) retained the name of *tricolor*, I found to be *palustris*. In the same tube with them were five specimens of *Isotoma viridis*, from Salem, Mass.

I. aequalis Mæc. is also *palustris*, as I have found from a study of a cotype sent to me by MacGillivray.

Isotoma palustris lives in moist places, and is especially abundant along the edges of ponds and streams, frequenting the vegetation in preference to the water, though it is at home on the surface of the water, where it leaps vigorously and repeatedly. The species occurs on the seashore also, under seaweed, driftwood or stones, and is sometimes found on the snow.

This is one of the dominant species of its order. It is cosmopolitan in distribution, everywhere common, and highly variable in colouration, several varieties having received names. The typical form of the species is known from all parts of Europe, from Canada and the United States, Azores islands, India, and Java; the recorded Arctic distribution being as follows: Siberia, Nova Zembla, Spitzbergen, Bear island.

Isotoma palustris var. *prasina* Reuter.

Plate 6, figs. 53-57.

Isotoma Stuxbergi var. *prasina* Reuter, 1891.

Isotoma palustris var. *prasina* Schött, 1891.—Dalla Torre, 1895. Reuter, 1895. MacGillivray, 1896. Schäffer, 1896, 1898, 1900a, 1900b. Poppe and Schäffer, 1897. Carl, 1899, 1901. Carpenter and Evans, 1899.—Waldgren, 1899c, 1906b. Börner, 1901a. Krausbauer, 1902.—Ågren, 1903.

Isotoma palustris var. *pallida* Schäffer, 1896. Börner, 1901a.—Krausbauer, 1902.