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ILLINOTHRIPS ROSSI, NEW GENUS AND SPECIES
(THYSANOPTERA; PHLAEOTHRIPIDAE)

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The new species described herein occurs in central and northern Illinois. It has apparently become adapted to a colder climate, for it seems to be derived from a group of thrips generally confined to tropical or subtropical regions. This new species, *Illinothrips rossi,* resembles *Pseudocryptothrips,* a genus of warm, mild climates, and also seems to be distantly related to the *acuticornis* complex of the genus *Gastrothrips,* known from the West Indies and Yucatan. Further remarks on the relationships of *Illinothrips* will be made subsequently.

The first specimen of these thrips was captured at Elgin, Ill., in 1944 by Herbert H. Ross, for whom the species is named, and K. M. Sommerman. No others were captured until in 1951 a small series was recovered from a Berlese sample taken in Mason County located in central Illinois. Subsequent collections at Elgin have resulted in the addition of several more individuals.

Our several collections of *rossi* were all from clumps of *Andropogon scoparius* in sites which were well drained, a gravel glacial moraine and a sand area. Almost certainly this thrips is an inhabitant of "dry" prairies as is the grass *A. scoparius.* It is possible that, in spite of our incomplete knowledge of the distribution of *rossi,* the Illinois populations are discontinuous and confined to isolated pockets. As P. W. Smith pointed out in 1951, animals with similarly restricted ranges that occur only in xeric prairies in the Illinois part of their total range may be relicts of a former warmer and drier period when the prairie peninsula was more extensive.

Sears, 1948, and Hanson & Packard, 1949, have presented some evidence that between the retreat of the last glacier and the present time there was a warmer and possibly drier period. According to Schmidt, 1938, the Illinois prairie was more extensive at one time after the last glacier than it is now. These steppe conditions may have come about during this warmer and drier time. Schmidt further suggests that the prairie peninsula and the inhabitants of this prairie spread into Illinois from the west. If the species *rossi* is indeed a relict of the prairie peninsula it is likely that the major portion of the populations will be found in areas west or southwest of Illinois, especially since the prairie has not been as reduced in the west as it has been in the east.

Illinothrips new genus

Head.—Elongate, fig. 1*A*, with cheeks constricted behind the eyes much as in *Eurythrips,* area beyond the eyes extended slightly less than the length of the dorsal diameter of the compound eye; antenna eight-segmented, segment III subequal in length to segments I and II com-

bined, segment VIII slender, not broadly attached to segment VII; ocelli absent; compound eyes moderately developed, not as degenerate as in *Pseudocryptothrips,* fig. 2*A*, nor as in *Allothrips;* interocellar, postocular and dorso-median setae well developed; surface of head reticulate only at sides, apex and base, and then weakly so.

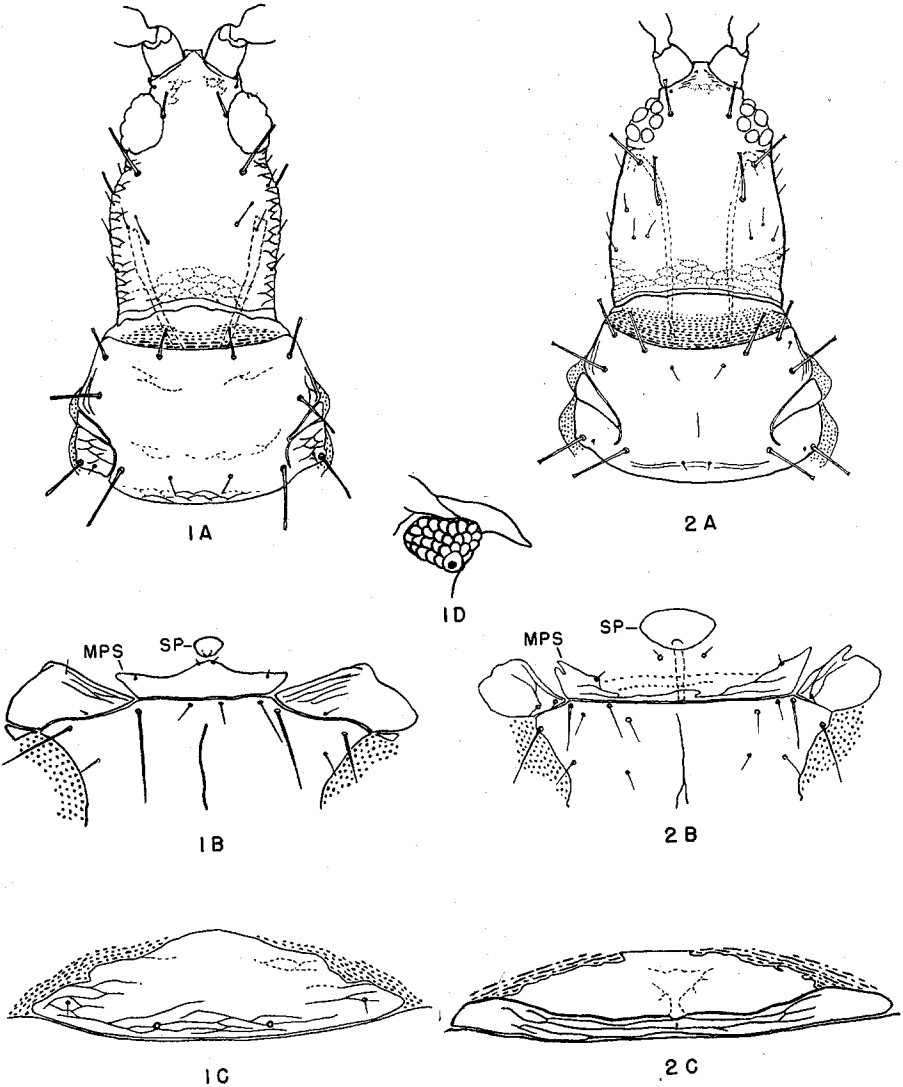

FIG. 1.—*Illinothrips rossi* new species. FIG. 2.—*Pseudocryptothrips* species, from Mexico.

A—dorsal aspect of head and prothorax; *B*—mesopraesternum (MPS) and prospinasternum (SP); *C*—pelta; *D*—right fore angle of pterothorax of male showing spine-like process arising below the mesothoracic spiracular plate.

Mouth parts.—Mouth cones broadly rounded; maxillary stylets thick, placed v-shaped within the head.

Thorax.—As in fig. 1*A*; major setae well developed, blunt at tips; praepectus developed but not large; mesopraesternum well developed, fig. 1*B*, not as extensive as in *Pseudocryptothrips,* fig. 2*B*; completely wingless, without vestiges of wing pads.

Abdomen.—Generally broad; pelta, fig. 1*C*; tube short but longer than median length of abdominal segment IX.

Type of genus: *Illinothrips rossi* new species.

The genus *Illinothrips* differs from representatives of *Pseudocryptothrips* in several ways. In the species of *Illinothrips* the wings are totally missing, each antennal segment VIII is slender and not broadly attached to segment VII, the mesopraesternum is well developed and small, and the pelta (the differentiated notal shield of abdominal segment I) lacks a heavy subbasal transverse ridge, compare figs. 1*C* and 2*C*. By contrast, in at least the North American species of *Pseudocryptothrips,* the wings are present as small pads, each antennal segment VIII is wide at the base and closely joined to segment VII, the mesopraesternum is more degenerate and wider, fig. 2*B*, and the pelta exhibits a heavy, transverse subbasal ridge.

In the collection of the Illinois Natural History Survey there are two male specimens of an undescribed Yucatan species, similar to *Gastrothrips acuticornis* Hood, which bear characteristics at once suggestive of males of *Illinothrips.* Both Mexican specimens bear spine-like processes on the pterothoracic fore angles just as do males of *Illinothrips.* Also this Mexican species has the antennae formed somewhat the same as in *Illinothrips,* and the mesopraesternum is small, even smaller than in *Illinothrips.* The new Mexican species of *Gastrothrips* differs most markedly in the shape of the head which is not as elongate nor as constricted behind the eyes, in the shape of the tube which is ridged, and in the shape of the pelta which is more constricted in the mid lateral region. Descriptions and illustrations of this Mexican form will be submitted for publication in the near future.

Possibly *Illinothrips* is intermediate between *Gastrothrips* and *Pseudocryptothrips.* It is more advanced than *Gastrothrips* but, by most points, it is not as specialized by degeneration as *Pseudocryptothrips.*

Illinothrips rossi new species

Female (apterous).—Length distended exclusive of the antennae approximately 2.5 mm. Color brown and yellow. Head, legs except near base of tibiae, tip of antennal segment II and base of antennal segment III, yellowish. Pterothorax, yellowish brown. Rest of body dark brown to nearly black.

Head as in fig. 1A; antennal segment III with one sense cone located at the outer apical angle, antennal segment IV with three sense cones; prothorax as in fig. 1*B*; fore angles of pterothorax without spine-like processes; fore tarsus unarmed; pelta as in fig. 1*C*; posterior marginal setae of abdominal segment IX

not as long as tube, usually nearly ¾ the length of tube.

Male (apterous).—Length distended exclusive of the antennae, about 1.8 mm. Similar in general structure to the female but much lighter in color. All of body yellow except antennal segments I and IV to VIII which are brown to dark brown, being darkest in the last five segments, and the lateral posterior margins of abdominal segment VII, the posterior margins of abdominal segments VIII and IX, and the apical half of the tube which are brown to blackish brown. Each fore angle of pterothorax with a spine-like process, fig. 1*D*, fore tarsus with a moderately sized tooth.

Holotype.—Female; Elgin, Ill.; Aug. 1, 1944 (Ross & Sommerman); prairie hill. **Allotype.**—Male; Elgin, Ill.; Oct. 10, 1952 (Ross & Stannard); extracted by means of a Berlese funnel from clumps of *Andropogon scoparius*. **Paratypes.**—1 female; same data as for allotype. 10 females, 4 males; Bath, Ill.; Oct. 2, 1951 (Sanderson & Stannard); from clumps of *Andropogon.*

The types of this species have been deposited in the collections of the Illinois Natural History Survey.

The holotype female, captured in August, contained two well developed eggs within the abdomen whereas those collected in October showed no evidence of egg production. It is possible that this species terminates reproduction in late summer and that the resultant larvae mature in October. The winter may be passed in the adult stage. One teneral female was found in the early October collection taken at Bath, Ill., indicating the probability that adults of that season were newly transformed. Considering the absence of eggs in October and the closeness of the approach of cold weather it is reasonable to suppose that it is the young adults and not the larvae nor the eggs that overwinter. Most likely reproduction occurs in spring as well as later in summer.

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