

A NEW SPECIES OF TYPHLOCYBA (HOMOPTERA  
CICADELLIDAE) INJURIOUS TO PRUNE IN  
THE PACIFIC NORTHWEST.

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*Typhlocyba pruni* n. sp.

Resembling *T. pomaria* McA. in form and general appearance and apparently previously confused with it. But with a brighter yellow appearance, head more bluntly and broadly rounded and male genital character distinct. Length 7 mm.

Vertex bluntly broadly rounded, strongly curved in front.

*Color:* Male, pale yellow, wings bright yellow for two-thirds their length, apical third smoky; female, milky white usually without yellow markings.

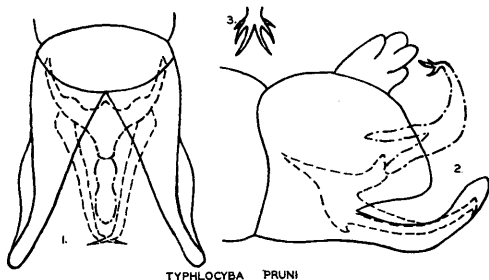


FIG. 1. Ventral view of male genitalia in position.

FIG. 2. Lateral view of male genitalia in position.

FIG. 3. Dorsal view of apex of oedagus (enlarged), showing arrangement of spines.

*Genitalia:* Female, last ventral segment roundly produced, male, valve short, broad, transverse, slightly emarginate at middle. Plates broad at base, abruptly narrowed at about one-third their length and produced in rather long narrow tips which are upturned and slightly divergent. Styles long and narrow. Apices turned inward and sharp pointed, the long tips overlapping when in natural position. Oedagus directed upward and anteriorly at the apex, the apical portion composed of two branched and two unbranched spines. The inner two are unbranched and are longer than the outer two which are branched. From the dorsal view the two inner

spines are divergent toward the tip while the dorsal portion of the outer spines curve slightly inwardly. From the lateral view the lower fork of the outer spine can be seen projecting ventrally.

Described from a series of specimens collected at Parma, Idaho, and Opportunity, Washington. The senior author collected specimens at Parma in the summer of 1930, while collecting in the field with Mr. Haegele and a large series has been recently forwarded from both localities by Mr. R. W. Haegele of the Parma Station. These were collected in July and September and were all taken from cultivated prune.

Holotype male and allotype female from Parma, Idaho.

#### The Theory of Embryological Development.

Part I is a translation and condensation of *Theoretische Biologie*, 1932, while Part II, the major part of the work, is a translation of "Kritische Theorie der Formbildung," 1928. In Part I, von Bertalanffy points out that the present method of biological thought is not on the high plane of that in physics, mathematics, and astronomy, where theory after theory is boldly proposed to be superseded by one better when the preceding can be shown to be inapplicable. He believes that leaders in biology do not theorize enough. In a way von Bertalanffy is right. Baffled by the complexity of problems the average biologist hesitates to formulate theories. Unfortunately in many minds this attitude has become almost a doctrine which creates a depressing atmosphere in which to work.

Part II is a review and searching critique of the recently proposed explanations of embryological development and regeneration. The mechanistic theories are shown to be weak because they explain development as an arithmetical increase in complexity, an additive process. The vitalistic theories fail because they include a transcendent entelechy, an immaterial principle that cannot be demonstrated. "Neither of these views is justified by the facts. . . . The solution is to be sought in an **organismic** or **system** theory of the organism which, on the one hand, in opposition to the machine theory, sees the essence of the organism in the harmony and co-ordination of the processes among one another, but, on the other hand, does not interpret this co-ordination as vitalism does, . . . but through the forces imminent in the living system itself." The theory will have to consider the developing organism, (1) as a physico-chemical system, (2) in its intricate organization, and (3) as an end product of its evolutionary history.

The author admits the difficulty of outlining such a master theory, but points out some features that will have to be included: It must (1) be a law of biological maintenance, "the organic system tends to preserve itself." It exists as a pseudo-equilibrium (Przebram's bio-dynamic equilibrium) as it is capable of doing work. (2) The organization indicates an heirarchical order of parts and forces (Child's metabolic gradients). From this there is a tendency towards maximal organization. Among the organizing forces are the "field laws" of Weiss and the geometrical conceptions of Gurwitsch.

The only criticism beyond that of the involved German style is that half of the animal species are recessive in evolution and to some extent recessive in later stages of ontogeny. These are the parasites and others that settle down to a food supply continuous in space in consequence of which they become less complex in their loss of locomotor organs and sense organs. The ontogeny of the tunicates is a good example.—C. H. K.

**Modern Theories of Development; An Introduction to Theoretical Biology**, by Ludwig von Bertalanffy. (Translated and adapted by J. H. Woodger.) Pages i-x and 1-204. New York, Oxford University Press, 1934. \$3.00.