THREE NEW SPECIES OF PSYLLIDS AND THE DESCRIPTION OF THE ALLOTYPE OF LIVIA OPAQUA CALD.

(Homoptera: Psyllidae)

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Livia opaqua Cald.

Length, 3.3 mm.; forewing, 2.5 mm. Appearing black.
Eyes greatly flattened. Forewing extremely opaque.
Dorsal valve of female similar to *ohioensis* Cald., more elongate and sinuate; serration on caudal half very coarse and irregular. Anal opening decidedly raised in profile.

Female allotype is in the Illinois Natural History Survey collection. Collected at Hopedale, Ill., October 2, 1917.

Aphalara manitobaensis n. sp.

Length of male, 2.5 mm.; female, 2.8 mm. Clypeus long, cylindrical. Body entirely black with no lighter markings.
Forewing two times as long as broad with a broken subapical brown band, maculate apically.
Forceps in male with anterior-mesal process separated from forcep, appearing similar to *dentata* Cald. (Genitalia not relaxed or cleared.)
Female genital segment resembling *dentata* but much more elongate with the apex of the dorsal valve very elongate and straight.

Male holotype from Churchill, Manitoba, 8–2–37, collected by D. G. Denning, is in the Daggy and Denning Collection at the University of Minnesota. *Female allotype* with same data is in the writer's collection at Ohio State University.

Euphyllura acacia n. sp.

Length of male, 1.8 mm.; female, 2 mm. Head, thorax, and abdomen green tinted with yellow; forewings yellow-orange.
Head and thorax strongly deflexed, not pubescent. Eyes not recessive. Genae very short, scarcely differentiated from vertex. Antennae short, thick. Forewings strongly rhomboidal, opaque, veins scarcely visible apically; medial cell short, broad.
Male forceps as long as genital plate, subrectangular in lateral aspect with almost squarely truncate apex. Proctiger elongate pyriform.
Female genital segment one-half as long as rest of abdomen. Valves equal in length; dorsal valve flat for basal two-thirds, thence abruptly humped and tapered to the apex in lateral aspect.

This species is unique in that the structure of the head is typical of the genus Katacephala while the rest of the insect including the angle of the head and thorax and their lack of pubescence is typical of Euphyllura.

Male holotype, *female allotype*, and *paratypes* collected by Dr. D. M. DeLong, 3–30–38, at Key Largo, Fla., on Acacia are in his collection at Ohio State University. Paratypes with the same date are in the writer's collection.

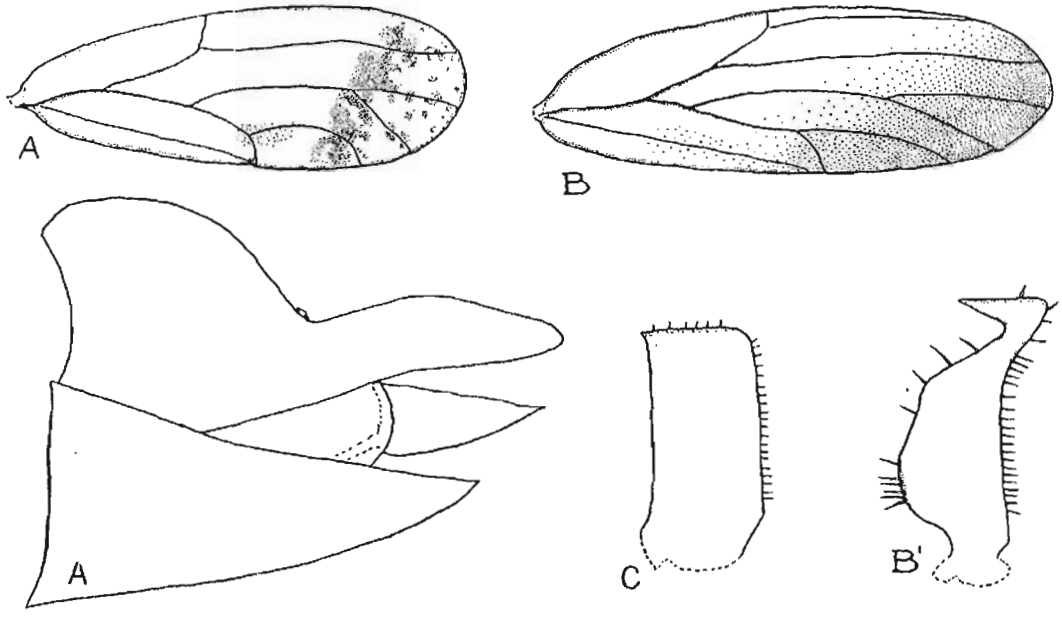

Fig. 1. A, Forewing, *manitobaensis*; A^1, Female genitalia, *manitobaensis*; B, Forewing, *fuscata*; B^1, Male forcep, *fuscata*; C, Male forcep, *acacia*.

Arytaina fuscata n. sp.

Length of male, 3. mm.; female, 3.4 mm. Head and thorax dull orange; legs yellow except for black terminal tarsi; abdomen brown, genital segment dull orange; forewings clear to slightly milky with an apical smoky brown band.

Head as broad as thorax. Vertex twice as broad as long. Genal cones divergent, as long as vertex. Forewing twice as long as broad; pterostigma long; medial cell long and narrow; Cu_1 scarcely arched.

Male genital plate as high as long. Forceps with caudal margin straight except for caudad reflexed apex; cephalic margins greatly expanded cephalad above plate, thence sloping caudad almost to apex where it cuts cephalad meeting the truncate apex in a very acute angle.

Female genital segment as long as rest of abdomen; dorsal valve straight, resembling *P. americana* Crawf.

Holotype male, allotype female, from Churchill, Manitoba, 7–29–36, collected by Mr. H. E. McClure, are in the writer's collection. *Paratypes* collected in the same locality, August 2 and 6, 1937, by D. G. Denning, are in the Daggy and Denning collection at Minnesota and the writer's collection.

TEXTBOOK OF COMPARATIVE PHYSIOLOGY, by CHARLES GARDNER ROGERS. Pages i-xviii and 1–715, 158 text figs., 1 col. plate, 1938. 8vo (6¼ x 9¼ inches, linen). Published by MCGRAW-HILL BOOK COMPANY, INC., 330 West 42nd St., New York, N. Y. Price $5.50.

This useful work has reappeared in the above revised edition. The author, professor of physiology at Oberlin College, states: "In its new form the work is more of the nature of a textbook and less of a handbook for investigators. Since the first edition appeared there has been published a perfect avalanche of new and pertinent results of research. The task of selection and digestion of these papers has not been easy. . . . much material, not strictly physiological has been removed. Also, there has been much rearrangement of material in order to secure a more logical presentation. The major part of the book has been rewritten and all has been reset. Much material, . . . is here presented for the first time in textbook form."

"It is the purpose of this volume to help modify some of the existing conditions, to assist in the return to the broader view of physiology, and to offer to biological students . . . a cultural background of physiological ideas and ideals not to be gained from a study of technical mammalian physiology alone. The physiology of animals is really functional zoology. . . . Since it is functional zoology, it concerns itself with the primary functions of animals of all groups, especially of the invertebrates which constitute probably not far from 93 per cent of all known species of animals. No attempt is made to follow the stereotyped form and content of medical physiology."

The above extracts from the author's prefaces describe the point of view of Rogers' work better than could a reviewer. In this Department of Zoology and Entomology, (and Genetics, and Parasitology) we recommend Rogers "Comparative Physiology" to all graduate students preparing for Master's and Doctor's examinations.

Titles of chapters run as follows: 1. Introduction; 2. Solutions; 3. Diffusion and Osmosis; 4. Protoplasm; 5. The Cell; 6. General Phenomina of Life; 7. The Transport System; 8. Circulation of Body Fluids; 9. Respiration; 10. Enzymes and Digestion; 11. Secretion; 12. The Nutrition of Animals; 13. Absorption; 14. Utilization of Food Materials in the Body; 15. Physiology of Movement; 16. Excretion; 17. The Physiology of Coordination, Adjustment, and Regulation; 18. The Physiology of Reproduction.

As the general trend of technical entomology is into the physiological field which for insects is in the first stages of exploration, we recommend the volume to all entomologists interested in the physiological aspects of their science. We are disappointed in the change the author has made from that of a volume for investigators to that of a textbook. It does not offer an easy introduction to the literature. References out to the literature are almost completely absent. There are no bibliographies.

It is a well printed volume and in the substantial linen binding used on many McGraw-Hill publications.—C. H. K.