

A NEW DORYCEPHALUS
(Homoptera: Cicadellidae)

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Dorycephalus delongi n. sp.

A very narrow, long, thrice-ridged vertex distinguishes this from other *Dorycephali*. Nymphs are usually green and adults tan with fuscous to black markings. Length: 14 mm.

Male.—General color greenish to light tan with dark markings as follows: apex of vertex, small rounded spot common to median margin of vertex and pronotum, median elongate spot from base of scutellum across margin of pronotum, small triangle before apex of scutellum, abdominal segments sparsely lined and pygofer darkened; below, lateral margins of vertex dark between ridge and edge, legs and venter darkened posteriorly. One specimen is very dark brown throughout with red eyes and lateral strip before and after eyes pale.

Vertex $3\frac{1}{2}$ mm. long, 1 mm. wide at eyes, foliaceous, tip slightly upturned; three prominent ridges, median extending to apex and lateral broader, almost attaining apex; narrowed distinctly above eyes, then parallel-margined to evenly rounded apex; face, apical third strongly concave, strong lateral ridges arise at inner base of antennae and extend to apical concavity, clypeus rectangular, small, longer than broad, cheeks large, inflated, outer corner almost a right angle, vestiture of fine white hairs, especially basally.

Pronotum slightly wider than long, anterior margin straight, curved sharply caudad at eyes; lateral margins parallel; posterior margin with sides rounding to narrow median excavation, depth one-fifth length of pronotum; ridges of vertex persist across pronotum; scutellum equilaterally triangular with raised apex, pair of median impressed points equidistant from sides and each other, and in some specimens, longitudinal median depression is evident; elytra of type specimen extending to third abdominal segment, venation simple, rugose, in some males elytra extend to sixth segment.

Genitalia.—Valve hardly discernible, as slight projection from segment; plates long, narrowing rapidly from base to long appressed narrow apices, twice as long as combined basal width; pygofer with long, narrow foliaceous apical processes, as long as head, inner pygofer exposed ventrally, covered thickly with long white hairs, short white pile over entire body, heavier on ventral genital surface.

Female.—Vertex 4 mm. long, 1.1 mm. wide. Last ventral segment as long as preceding with lateral angles roundly angulate to produced, broad median lobe which extends well beyond them.

Distinguished from *knulli* by definite lateral ridges on vertex and external genitalia in both sexes, and from *vanduzeei* by narrower vertex which is longer in proportion to its width than in that species.

All specimens are placed in the collection of The Ohio State University, and were collected in 1940 by D. J. and J.N. Knull. Male holotype, Uvalde Co., Texas, vi-26, and nymph; allotype, Lincoln Co., N. M., vii-9, four paratypes and nymphs; additional paratypes and numerous nymphs from Texas, Blanco Co., vi-20, Kinney Co., vi-27 and Val Verde Co., vi-28.

INSECT PESTS OF STORED GRAIN AND GRAIN PRODUCTS. IDENTIFICATION, HABITS AND METHODS OF CONTROL, by RICHARD T. COTTON. 242 pages, 93 illustrations, 10 tables, 5½ x 8¾ inches, paper. 1941. Published by the BURGESS PUBLISHING COMPANY (Mimeoprint and Photo Offset Publishers), 426 South Sixth St., Minneapolis, Minn. Price, \$3.00.

If any group of economic entomologists were asked to name the man best qualified to write a book on insect pests of stored grain and grain products, Dr. R. T. Cotton would certainly be chosen. Working for 20 years in the Bureau of Entomology and Plant Quarantine on all phases of biology and control of stored product insects, he has contributed to our knowledge of such insects, to the discovery and application of new fumigants, to the principles of fumigation and of late years to the solution of practical pest control problems in grain bins, elevators, mills and warehouses. How well he has taken advantage of his opportunity to serve an important industry is demonstrated by the present book.

Although Dr. Cotton has not provided a preface, the reader soon finds that the book was written primarily to help those who are concerned, directly or indirectly, with the control of insect pests of stored grain and grain products. He gives only enough information about the insects themselves, about the principles of fumigation and fumigants to enable the reader intelligently to choose or to apply the control measures that are recommended. He has not attempted to explain elevator and mill machinery and operations to entomologists.

The contents of the book are well arranged. Beginning with a survey of the insect pests concerned, Dr. Cotton takes up in order the control of the pests in stored grain on the farm, in elevators and warehouses, in flour mills, and in stored flour. As fumigation is the principal method of control there follow chapters on the principles of fumigation, on the common fumigants, and on fumigation procedures in mill and warehouse, and in atmospheric and vacuum chambers. The final chapter (No. 11) deals with heat sterilization in the flour mill. In order to make each chapter complete, Dr. Cotton sometimes repeats information given in other chapters.

The book is unusual in having a loose-leaf binding, which enables the reader to lay it open flat at any page. The photo offset process employed gives a clear, readable reproduction of the typing. The illustrations, however, suffer by this method of reproduction, losing something in sharpness. However, they adequately portray the subject.

At the time Dr. Cotton's book was received, this reviewer was particularly anxious to know the present status of grain and mill insects and their control. The book completely satisfied the reviewer's needs and therefore should do the same for others. It should be in the hands of every entomologist who is or may be consulted about the control of stored grain and mill insects or who presents such information in teaching. Of course it should be widely distributed in the industry. Finally, the book will suggest many opportunities for research that are needed to extend our knowledge of the principles and practices of control of stored product insects.—F. L. C.