

Paul S. Welch, under the chairmanship of J. G. Needham, has prepared a volume consisting of a compendium of articles on the rearing of invertebrate animals in practically every field of applied biology. This volume will not only serve the needs of teachers of biology in colleges and high school but prove a very useful reference volume for the specialized research workers in the fields of genetics, parasitology, experimental zoology, entomology and microbiology. The portion of the volume dealing with Insects comprises 257 pages and contains 161 short articles by well-known specialists on the rearing of a most diversified number of species, from tiny Collembola to the large Polyphemus moth; a wealth of information is contained in this portion of the work which should be indispensable to all workers engaged in this type of research.

Fragments of Entomological History by Herbert Osborn. 334 pp. and 47 Plates. Published by the Author. Columbus, Ohio, 1937.

In a delightfully informal manner the author deals with the development of Entomology in the United States and adjacent countries through the latter half of the 19th century to the present time. Due to his numerous contacts with the scientists of the earlier portion of this period he is able to furnish his readers with a number of interesting personal sketches of the entomological giants of that era, a feature which adds considerably, not only to the charm, but also to the usefulness of the work. The 47 Plates are largely devoted to portraits of well-known entomologists, past and present.

J. McD.

RESEARCH NOTES

NOTE ON MARTEN'S TYPES OF WESTERN HORSEFLIES

In this journal (Can. Ent. 67:92-95, 1935), I discussed the status of certain species of *Tabanus* described by Marten in 1882 and 1883, from the western United States stating ". . . the location of the types is unfortunately unknown." I have since been in touch with Dr. Marten through information kindly supplied by Dr. O. A. Johannsen of Cornell University. He is a practicing physician in Tolono, Ill., and writes "my specimens were burned in the fire that destroyed the Southern Illinois Normal School at Carbondale, Ill. in 1884 . . . I have done no work in entomology since I left the office of Prof. S. A. Forbes in 1894 . . ." He was unable to recall, on further inquiry, any closer details of locality from which his types came, than the states mentioned in the published descriptions. Since some future student may again raise the question of the whereabouts of these types, I offer this additional information while it is still available.

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FULGORIDAE (HOMOPTERA) TAKEN IN ALBERTA.

The species of Fulgorids, taken in Alberta, which have so far been recorded in literature appears to be limited to one—*Scolops hesperius* Uhl. (Entomological Record 1930)—taken at Lethbridge. We have, in addition, unpublished records of *Cixius cultus* Ball and *Pissonotus brunneus* V. D. determined respectively by J. H. McDunnough from Lethbridge and Brooks, and by G. S. Walley from Raymond. All of these localities are in the drier part of the province which lies in the Transition Life Zone.

Since this Family is essentially tropical to sub-tropical in its maximum

distribution, it did not appear to be unnatural that there were no records of captures in that part of Alberta which lies in the Canadian Zone and to the east of the Rocky Mountains even though, to the west of the mountains, the Family is represented to as far north as Alaska.

We were, therefore, rather surprised when, in 1929, we captured no less than four hitherto unrecorded species for the province at Gull Lake, which is well within the Canadian Zone about mid-way between the 52nd. and the 53rd. parallel.

In the same year, we received a small collection from the late Mr. F. S. Carr, which he had made at Medicine Hat and the Cypress Hills, in the Transition Zone.

With the aid of the excellent keys and illustrations by Metcalf in Research Bulletin I., North Carolina State College of Agriculture, we were able to name nearly all of the specimens with accuracy even though, up to the time of using these, we knew nothing about the taxonomy of this Family.

Dr. E. P. VanDuzee very kindly consented to check our determinations, all of which proved to be correct with the exception of one which had been marked (?). I can certainly recommend Metcalf's key to beginners.

Since this material was submitted to Dr. VanDuzee two or three further species have been captured at Edmonton, (north of the 53rd. parallel) and at Beaverlodge in the Peace River District (north of the 55th. parallel). These we have provisionally named ourselves.

The total list of Albertan Fulgorids now stands at twelve species, with three additional brachypterous species. It is as follows:— (Initials in brackets are those of determinors):

- Scolops angustatus* Uhl. Cypress Hills VIII (E.P.V.D.).
- “ *hesperius* Uhl. Lethbridge (Entomological Record).
- Elidiptera pallida* Say. Gull Lake VI. (E.P.V.D.).
- “ *septentrionalis* Prov. Gull Lake VI (E.P.V.D.).
- Cixius basalis* V.D. Edmonton VIII (E.H.S.).
- “ *cultus* Ball Lethbridge, Brooks V-VII (J.H.McD.).
- Stenocranus dorsalis* Fh. Edmonton, Wabamun VII-VIII (E.H.S.).
- Pissonotus marginatus* V.D. Medicine Hat VI (E.P.V.D.).
- “ *brunneus* V.D. Raymond (G.S.W.).
- Laccocera vittipennis* V.D. Medicine Hat VI (E.P.V.D.).
- “ sp. (Brachypterous) Beaverlodge. (E.H.S.).
- Liburnia pellucida* Fab. Gull Lake, Cypress VI. (E.P.V.D.).
- “ *campestris* V.D. Gull Lake VI. (E.P.V.D.).
- “ sp. (Brachypterous females) B'lodge, Edm. VIII (E.H.S.).
- Criomorphus* ? sp. Beaverlodge (E.H.S.).

All of the specimens which I have taken myself were captured when sweeping. One specimen of each of the species of *Elidiptera* recorded was taken in a single sweep of the net from sedges growing close to open water. Diligent sweeping in the same area on subsequent days and a year later failed to produce further specimens; in fact nearly half of the Fulgorid specimens in our collection were taken in three days' collecting at Gull Lake in 1929. E. H. STRICKLAND.
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