



EDMUND BAYNES REED,  
ORIGINAL MEMBER OF THE ENTOMOLOGICAL SOCIETY OF ONTARIO,  
1863-1903.

# The Canadian Entomologist.

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## EDMUND BAYNES REED.

The older members of the Entomological Society of Ontario will, no doubt, welcome with much pleasure the portrait of MR. EDMUND BAYNES REED, which is prefixed to this number of our magazine. He was one of the small band who originated the Society on the 16th of April, 1863, and is one of the few survivors who may expect to commemorate its fortieth anniversary next month.

Mr. Reed came to Canada from England when a young man, and took up his abode in London, where he, for some time, practised his profession as a lawyer. Later on he became Secretary-Treasurer of the Synod of the Diocese of Huron, and continued to occupy this position till he left for British Columbia in 1890. He was always devoted to Natural History, and especially to the collection and study of insects. His leisure time was largely given up to these pursuits and to the work of the Entomological Society, in which he took the warmest interest. He and Dr. Saunders were instrumental in forming the London Branch of the Society and keeping up the enthusiasm of its members. When the headquarters of the Society were removed to London, and there was, in consequence, no further need of a Branch, Mr. Reed took an active part in everything that was done, and gave most material help in the formation and increase of the Library and collections. He was Secretary-Treasurer of the Society in 1871-2-3, and from 1880 to 1886; Vice-President in 1874, 1877, and from 1887 to 1889; member of the Council from 1874 to 1876, and in 1878-9; and during many of these years Librarian and Curator in addition. The following extract from the report of the Council for the year ending August 31st, 1890, bears testimony to his usefulness and services:

"In consequence of the removal of Mr. E. Baynes Reed from London to British Columbia, to take charge of the Dominion Meteorological Station at Victoria, it will be necessary to make some new arrangements

for the care of the Library and collections and the performance of the official work of the Society. . . . The Council desire to place on record their feelings of deep regret at the removal of Mr. Reed from this Province and the loss which the Society thereby sustains. Mr. Reed is one of the original members of the Society, and for more than a quarter of a century has been one of the most active and zealous of its officials, filling at different times the positions of Vice-President, Secretary-Treasurer, Librarian, Curator, and Auditor. To him it is especially due that the Library has grown to its present dimensions and value and that so much progress has been made by the Society in many directions. The Council beg to thank Mr. Reed for his services in the past, and wish him all possible success and prosperity in his new and important sphere of labour."

Mr. Reed was a constant contributor to the pages of the CANADIAN ENTOMOLOGIST from the very first volume, in which appeared five articles from his pen. His papers, largely collecting notes, records of rare captures, etc., were always interesting and valuable; he also furnished descriptive articles on larvæ, an Accentuated List of Canadian Lepidoptera, a report to the Ontario Department of Agriculture (jointly with Dr. Saunders) on the Colorado Potato-Beetle, which had then invaded Western Ontario from the neighbouring State of Michigan, and popular papers on common insects.

In the preparation of the early Annual Reports of the Society he took a large share, and contributed elaborate and valuable papers, as follows: Insects affecting the Plum, Report i. (1870), pages 53-63, and Report ii. (1871), pp. 22-26; Insects injurious to the Potato, *ibid*, pp. 65-81; Insects attacking the Cucumber, Melon, Pumpkin and Squash, *ibid*, pp. 89-92; Insects affecting the Maple Trees, Report iii. (1872), pp. 35-43; Insects affecting the Peach, *ibid*, pp. 44-47; Insects affecting the Potato, *ibid*, pp. 48-50; Some common Insects which affect the Horse, Ox and Sheep, Report iv. (1873), pp. 34-41; Entomological Contributions, Report v. (1874), pp. 11-16; Sphingidæ—Hawk-Moths, Report xii. (1881), pp. 48-70; Diptera—Two-winged Flies, Report xiii. (1882), pp. 45-53, and short articles in several of the volumes. From the above list it will be seen that Mr. Reed gave much attention to Economic Entomology, and did some very excellent work in that department. It was quite fitting, therefore, that he should have been one of the company who, in August, 1889, formed the Association of Economic Entomologists, and signed its original Constitution.

Another valuable and important work that Mr. Reed performed for the Society was the compilation of a General Index to the first thirteen Annual Réports, 1870-1882, which proved of the greatest use for many years to the members of the Society and others who had occasion to refer to these publications.

For some time before he left London, Mr. Reed took a great interest in meteorological observations, and in connection with the Observatory at Toronto established a local station and installed the necessary instruments. His anemometer and vanes were placed on the top of the Cathedral tower and connected by wires with his residence on the corner of Park and Queen's Avenues. The work that he thus performed was so accurate and satisfactory that he was selected to take charge of the Pacific Coast Division of the Dominion Meteorological Service, and since 1890 he has continued to fill the office of Superintendent of the Observatory at Victoria, B. C. Though his time is fully taken up with his official duties, he continues to be interested in Entomology, and is a member of the British Columbia Natural History Society. His many friends will, no doubt, heartily join with us in the wish that he may enjoy the blessings of health and well-being for many a year to come, and retain the vigour and vivacity which have always been his characteristics.

C. J. S. B.

#### THE ENTOMOLOGICAL CLUB OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

REPORT OF THE SECRETARY, C. L. MARLATT.

Washington, D. C., Dec. 30, 1902, and Jan. 2, 1903.

The members of the Association of Economic Entomologists and the local Entomologists of Washington connected with the Entomological Society of Washington, at the conclusion of the meeting of the first-named Association, met in an informal reunion and smoker at the residence of Mr. Wm. H. Ashmead, on the evening of December 27th, 1902. At this meeting the subject, first broached in the concluding session of the Association of Economic Entomologists, of reviving the Entomological Club of the A. A. A. S. was considered, and, in the absence of the last President of the Club, the Rev. C. J. S. Bethune, Mr. Schwarz was made Chairman of the meeting for the purposes of this discussion. A general desire was manifested on the part of those present to have the Entomological Club revived or some other similar organization instituted. To make

the preliminary arrangements a committee was appointed, consisting of Mr. Schwarz as Chairman, and including also Messrs. Fletcher, Herbert Osborn, Kellogg and Hopkins. This committee held a meeting at the Cosmos Club on the afternoon of December 28th, and arranged for a revival of the old Entomological Club of the American Association, and fixed the first meeting for Tuesday evening, Dec. 30th, at 7.30, in a room provided in the Columbian Law School.

This meeting of the Club was called to order at the hour named by Mr. Schwarz, as Chairman of the Provisional Committee. The following persons were present:

Henry A. Ballou, Amherst, Mass.; J. Chester Bradley, 2221 Spring Garden St., Philadelphia, Pa.; H. E. Burke and A. N. Caudell, Washington, D. C.; E. P. Felt, Albany, N. Y.; F. W. Foxworthy, Ithaca, N. Y.; Otto Heidemann and W. E. Hinds, Washington, D. C.; Jas. S. Hine, Columbus, Ohio; A. D. Hopkins, Washington, D. C.; Chas. W. Johnson, Philadelphia, Pa.; W. G. Johnson, New York; Vernon L. Kellogg, Stanford University, Cal.; B. Pickman Mann and C. L. Marlatt, Washington, D. C.; Geo. W. Martin, Nashville, Tenn.; Herbert Osborn, Columbus, Ohio; Raymond C. Osburn, New York; A. L. Quaintance, College Park, Md.; Wm. D. Richardson, Fredericksburg, Va.; E. A. Schwarz and C. B. Simpson, Washington, D. C.; Otto H. Swezey, Columbus, Ohio.

Mr. Schwarz called attention to the fact that the old Entomological Club was still in existence, and all that was necessary to put it in operation was to proceed to the election of three officers: President, Vice-President, and Secretary. On motion of Mr. Ashmead, Mr. Schwarz, one of the oldest members of the Club and the one most familiar with the organization, was nominated, and duly elected President of the Club for the ensuing year. On motion of Mr. Hopkins, Mr. Ashmead was duly elected to the office of Vice-President. On motion of Mr. Felt, Mr. Marlatt was elected Secretary of the Club.

Following the election of officers, a historical review of the Entomological Club of the A. A. S. was read by Mr. Schwarz, the different meetings of the Club being dwelt upon and described individually. It is deemed advisable to include this paper entire, as portion of the minutes of this meeting.

A SKETCH OF THE HISTORY OF THE ENTOMOLOGICAL CLUB OF  
THE AMERICAN ASSOCIATION.

BY E. A. SCHWARZ.

Since the majority of the Entomologists present at this meeting belong to a younger generation, who have never attended any of the meet-

ings of the old Entomological Club of the A. A. A. S., a short history of the Club may not be out of place on this occasion. These notes I have prepared from a hasty perusal of the most readily available *entomological* literature, and more especially from the volumes of the CANADIAN ENTOMOLOGIST, to which periodical the Club is deeply indebted for the faithful preservation of its records through a long number of years.

The first movement looking toward the formation of a purely entomological organization within the A. A. A. S. took place at the 21st meeting of the Association, held at Dubuque, Iowa, August 21-27, 1872. No definite action was taken at that time, and the only record of this movement is preserved in the CAN. ENT., Vol. IV., 1872, p. 182.

In the following year the Association met at Portland, Me., and its proceedings, as far as entomology is concerned, were briefly reported by Mr. P. R. Uhler, elected to act as Secretary during the three meetings held by the entomologists on August 21st, 22nd and 23rd. The subject of forming a sub-section of entomology was then reconsidered, "but the number of entomological papers offered being so small, it was not then deemed advisable to go into sub-section." (CAN. ENT., Vol. V., 1873, p. 165.)

At the following meeting of the Association, held at Hartford, Conn., in August, 1874, an unusual number of Entomologists was brought together, and, after mature deliberation, it was resolved to organize under the name of "The Entomological Club of the A. A. A. S.," and the following constitution was adopted, which is printed in the CAN. ENT., Sept., 1874, p. 161.

[At the request of the President, the constitution was then read by the Secretary.]

In the year 1875 the first meeting of the Club was held in Detroit, Mich., on August 10th, President Dr. J. L. LeConte in the chair, Prof. C. V. Riley, Secretary, and the minutes of this meeting are published in the CAN. ENT., 1875, pp. 177-179.

The minutes of the meetings of the Club held in 1876 in Buffalo, N. Y., occupy nearly ten pages (pp. 176-185) in the CAN. ENT., and, for the first time, a short address of the President, Dr. J. L. LeConte, is published.

The records of the next meeting, held in Nashville, Tenn., are very meagre, on account of the absence of both the President and the Secretary, and occupy a little more than two pages in the CAN. ENT. for 1877 (pp. 172-174.)

The meetings of the Club held at St. Louis, Mo., in August, 1878, are fully reported upon in the CAN. ENT. of that year, and, for the first time, an elaborated address by the President, Dr. J. A. Lintner, on the progress of American Entomological Science, is published.

The same remarks hold true for the Saratoga, N. Y., meeting in 1879 (see CAN. ENT., pp. 163-177), and for the Boston, Mass., meeting, held in 1880 (see CAN. ENT., pp. 161-174). The minutes of the latter meeting were also published in the *Amer. Entomol.*, Vol. III., pp. 272-274, and pp. 284-286.

For the year 1881 the proceedings of our organization are published in the CAN. ENT., pp. 179-189, and pp. 214-216, and in *American Naturalist*, pp. —, under the heading, "Meeting of the Sub-section of the A. A. S.," Rev. J. G. Morris being President.

As a sub-section, the Entomologists of the A. A. S. do not seem to have been successful, for I fail to find any record of its meetings in 1882, when the A. A. S. met at Montreal, Can.

However, in 1883, when the Association met at Minneapolis, Minn., it was decided to reorganize the Entomological Club. The following officers were promptly elected: President, D. S. Kellicott; Vice-President, Herbert Osborn; Secretary, O. S. Westcott. A large number of valuable and interesting communications were presented, which are recorded in CAN. ENT. for 1883.

The 1884 meeting of the Club, held at Philadelphia, Pa., was also a very successful one, as is apparent from the full record published in the CAN. ENT., pp. 169-179, and pp. 181-186, the Secretary of the Club being Mr. J. B. Smith.

The minutes of the Ann Arbor, Mich., meeting in 1885 were fully reported in Vol. I. of *Entomologica Americana*, and for the first time, papers read by members are printed in full in these records.

In Vol. II. of the same periodical we find published the minutes of the Buffalo, N. Y., meeting, held in August, 1886. In Vol. III. are the minutes of the New York meeting, held in August, 1887.

In spite of the fact that the Cleveland, O., meeting in 1888 was attended by a small number of Entomologists, a large number of valuable papers were read, besides an elaborate address of the President, Mr. John B. Smith, all of which is published in Vol. IV. of *Entomologica Americana*, while the CAN. ENT. also published a full account of the proceedings.

At the Toronto, Can., meeting of the Association, in 1889, which was

not very largely attended by the Entomologists, the Association of Official Economic Entomologists was founded, and held its first meeting in conjunction with the Entomological Club, the result being that most of the papers read were of an economic nature. The minutes are published both in the CAN. ENT. and in *Entomol. Amer.*

At the Indianapolis, Ind., meeting in 1890, the Entomological Club was again well represented, and a successful meeting was held, as can be seen from the very full account published in the CAN. ENT., while the *Entom. Amer.* brought out a short abstract.

The number of members of the Entomological Club present at the Washington, D. C., meeting in 1891 exceeded that at any previous meeting, and the full record of the proceedings occupies 48 pages in the CAN. ENT. of the same year.

The Rochester, N. Y., meeting in 1892 was also very successful, and its record fills 61 pages of the CAN. ENT. The following officers were elected for the next meeting: President, Rev. Chas. J. S. Bethune; Vice-President, Mr. H. G. Hubbard; Secretary, Mr. C. L. Marlatt; but this "next" meeting was never held, nor is there any record of any subsequent meeting of the Entomological Club of the A. A. S.

Following the reading of this communication and the constitution of the Club, the question of membership was brought up by Mr. Marlatt. The subject was discussed by Messrs. Bradley, Schwarz, Ashmead, Hopkins, Felt and Marlatt. Mr. Marlatt moved to make section three of the constitution read as follows: "All members of the American Association for the Advancement of Science who are interested in entomology, and all members of the Association of Economic Entomologists, shall be *ipso facto* members of the Club. Other Entomologists may be elected to membership at any regular meeting." This motion, seconded by Mr. Ashmead, was carried. On motion of Mr. Hopkins, the following provision was added to this section: "Members of local entomological societies at the meeting place of the American Association of any year shall be considered as members of the Club."

The business of reorganizing the Club having been completed, Mr. Kellogg was invited by the President to give a report on the entomological work done under his direction on the Pacific Coast.

Mr. Kellogg first called attention to a very creditable piece of monographic work on Aleurodes by one of his students, exhibiting some especially well-executed plates illustrating these insects. This work is soon to



be published. He exhibited also a pair of primary royalties of *Termopsis angusticollis*, the Pacific Coast Termite. He had found no difficulty in securing a number of these royal pairs, and one of them he had brought alive from California in some decaying wood. The true royalties of this kind are certainly very rare, and these forms excited much interest.

Mr. Kellogg followed with an account of his work with the Blepharoceridæ, a family of Diptera, which inhabit in the larval stage swift-running mountain streams. These Diptera have hitherto been considered very rare, and only fifteen species were known in the world—five of them in North America and six European, the remainder subtropical or tropical. To this number he had added four new species which he had studied in all stages, and added much to the information of the early stages, which had previously been little known. He described the manner of attachment of the larvæ to the rock beds in swift streams, the insect not occurring in still water, and gave an account of the habits of the larvæ, the remarkable specialization in the larval and pupal characters, and also the habits of the adults, together with some details of the structural peculiarities of the latter. He urged all collectors to be on the lookout for these curious insects. He reported that the results of his investigations were in press, and included a revision of the family in North America, giving full details of all his studies, and he promised to send this paper to any one interested in the subject. A miscellaneous discussion followed this communication, bearing on these Diptera, in which some additional facts and explanations were given by Mr. Kellogg. Concluding the discussion, Mr. Schwarz stated that he was not familiar with any matter contained in the *Entomologica Americana* bearing on these insects, but that in company with his late friend, Mr. Hubbard, and also later with Mr. Barber, he had made examinations covering two years in Arizona, and had never found an example of Blepharocera. He believed this to result from the fact that none of the mountain streams in Arizona can be called permanent. Every other season, at least, these streams dry up. Both Mr. Hubbard and himself, he stated, were well acquainted with these forms, and would have recognized them if they occurred there. The *Simulium* flies, on the other hand, maintained themselves under the conditions noted; in other words, they were able to live in these streams and to survive the dry period, by what means he was not able to discover.

Dr. Hopkins presented the following account of recent work in Forest-insect Entomology:

## FOREST-INSECT EXPLORATIONS IN THE SUMMER OF 1902.

[REVISED BY DR. HOPKINS FROM THE STENOGRAPHIC NOTES.]

Dr. Hopkins gave an account of his preliminary survey, during the past summer, of the forest regions of different sections of the country to determine the primary enemies of forest trees and locate the areas of principal depredations. Between July and November he was in 27 States and two territories. His first trip was made through the South-eastern States, to determine the area of a recent outbreak of *Dendroctonus frontalis*. He found in the southern Appalachian region that this, one of the most destructive insects of American coniferous forests, was commencing its ravages as it did a few years previous to the great devastation wrought by it in the Virginias. He spoke of the probability that some of these insects, which are for a long time exceedingly rare, then suddenly make their appearance in vast numbers, taking the character of an invasion, are varieties of the typical forms which, on account of favorable variations, are capable of extending their range into new areas, and also to overcome the resistance exerted by the living trees attacked by them, which could not be overcome by the typical forms. He gave as an example the results of his study of *Dendroctonus frontalis*, in which he found that the form which was so exceedingly common and destructive in the Virginias was a variety of the form described by Zimmerman many years ago.

After locating the trouble in the vicinity of Fletcher's and Tryon, N. C., he travelled southward through South Carolina and Georgia to Tampa, Florida, and returned by another route, to determine the extent of this new outbreak. Returning to Washington from this trip, he proceeded to the Black Hills, in South Dakota, where a vast amount of pine timber has been killed by *Dendroctonus ponderosa*, as has been mentioned in Bulletin 32, new series, Division of Entomology. This species, he said, is another example of apparent variation from a western type, *D. monticola*, Hopk. MS. It has distinctive and constant characters of structure and habit which are sufficient to entitle it to the rank of a species, and he believes that it is possibly of recent development. *D. monticola* attacks the mountain pine (*Pinus monticola*) in Idaho, and the sugar pine (*P. Lambertiana*) in Oregon. The smaller size of this species, the more primitive character of its gallery, and its wider distribution, indicate that it is the stock from which *Dendroctonus ponderosa* has sprung. The latter is apparently more restricted in its range, having been found only in the

Black Hills and in Northern Colorado. This is simply offered as a suggestion of the probabilities, and to call attention to this feature, which should be considered in future investigations.

From the Black Hills he went further west, through Wyoming and Montana to Spokane, Washington, thence to the Priest River Reserve, where he found *Dendroctonus monticola* doing considerable damage to *Pinus monticola* in the vicinity of Priest Lake. He also found *D. pseudotsugæ*, Hopk. MS., intimately associated with the dying of the large red fir (*Pseudotsuga taxifolia*). This latter species of *Dendroctonus*, he said, was one which for a long time had been confused with *D. similis*, Lec., but upon examination of the type of *D. similis* he found it to be quite a different thing, and undescribed, while *D. similis* is a synonym of *D. obesus*, Mann.

He found also the pine-defoliating butterfly occurred in considerable numbers, flying around the tops of the pine trees. The fact that this butterfly was almost exterminated by its parasites a few years ago, and is now apparently on the increase, suggests that it may again become destructive within a few years. Returning from Priest River, by the way of Spokane, he visited Sand Point, Idaho, where, in 1899, he discovered a young six-year-old entomologist, in whom he was very much interested. His name is Charley Boyers. From Sand Point he went to Seattle, and thence into the Cascade Mountain range, where, among other finds, he made the discovery of a large *Prionus* larva boring in the living sapwood of a red fir, which four or five years previous had been injured by fire, but not killed. This was of interest, from the fact that this species is not supposed to bore into the living sapwood of standing trees. He also spoke of the great windfalls in the forests of that region, and the extreme difficulty met with in penetrating the forests thus obstructed by the great trees lapping over each other, making it necessary sometimes to climb from one tree to another, until one was twenty or thirty feet from the ground. He also spoke of the rich field for the Scolytid specialist in these wind-felled trees, which were infested by many species; and spoke of such windfalls being the cause of serious depredations by insects which bred in them. Returning through Washington and Oregon to San Francisco, he found that the *Phloeosinus* mentioned by Mr. Fowler, under the name of *P. punctatus*\*, as destructive to the Lawson cypress, was not *punctatus*, but an undescribed species which he had found in a *Cryptomeria* when there

\*Report of work of the Agr. Exp. Sta., Univ. of Calif., 1898-1901, Part I., page 80.

in 1899, and also in Sequoia. Going from San Francisco to Del Monte and Monterey, California, he found the same thing in living Lawson's cypress on the grounds at Del Monte, and especially abundant in the broken branches and recently-felled trees of the Monterey cypress in the original grove at Cypress Point. He thinks that the original home of the species is in the ancient grove, but it has been distributed further north with the tree, which has been extensively planted for hedges and as an ornamental tree. We have here another example of a beetle which in its original host plant and distribution is not destructive, but becomes so under different environments and with change of habit. He also found *Dendroctonus valens* working serious damage to the Monterey pine, and associated with it a number of species of *Tomicus*, *Pityophthorus*, etc., which appear to be causing considerable trouble. He mentioned also the timber which had been destroyed by fire, mentioned by Mr. Schwarz at a previous meeting, and spoke of the great number of beetles breeding in the injured trees and spreading their depredations into living ones. Returning from Monterey on the Santa Fe R. R., he visited Williams, Arizona, to examine a trouble there reported by Mr. Schwarz, which was causing the death of a considerable number of pine trees. This was found to be caused by *Dendroctonus approximatus*, Dietz., and also by two undescribed species of *Dendroctonus*, which are closely allied to *D. frontalis*. He found also that among the Pinon on the rim of the Grand Canon, and between there and Williams, individual trees were dying and infested with *Tomicus* and other bark beetles.

(To be continued.)

#### NEW ORIENTAL ALEURODIDÆ.

BY A. L. QUAINANCE, COLLEGE PARK, MD.

##### *Aleurodes Marlatti*, n. sp.

*Egg*.—Size about .1 mm. × .2 mm., exclusive of stalk, which is quite short, holding egg in upright position on leaf; regularly elliptical in outline. Colour, dirty yellowish brown, as seen on leaf; under transmitted light, yellowish. Shell without markings or sculpturing of any kind.

*Larva*.—Broadly elliptical. Colour, except in first stage which is yellowish, brownish to brownish black, varying in some specimens to an iridescent blue black; in later stages, margined all around with a short, rather squarely-trimmed, white, waxy secretion, from the marginal wax

tubes. Margin of case plainly crenulated, the incisions between wax tubes shallow and acute, but furrowed somewhat instead, giving a fluted marginal area. Abdominal segments distinct, thoracic segments moderately so. There is a slight, rounded medio-dorsal ridge along abdomen. Vasiform orifice triangular; operculum subcordate; lingula well developed, subcapitate distally, the stalk rather narrow. A pair of moderate, whitish setae project caudad from caudal end of case. Size of larva, probably in second stage, .63 mm.  $\times$  .5 mm.

*Pupa Case.*—As seen on leaf, shiny jet black and considerably convex when fully developed. There is a short, uniform, rather squarely-trimmed, glassy waxen fringe all around from the marginal wax tubes. On dorsum of abdomen there is an interesting "top-shaped" outline, formed by a narrow, more or less continuous line of whitish waxy secretion. The cephalic end of the figure originates along first abdominal segment, the sides curving outward and caudad, but some narrowing, the lines passing on either side of the vasiform orifice, caudad of which they coalesce more or less, the figure terminating in an acute point at caudal end of case. Lines of wax along the sutures of the abdominal segments extend out laterally from the more central, top-shaped figure, the whole forming an interesting and characteristic pattern. On cephalic end of case there is an irregular ellipse of wax, marking approximately the head region of the pupa. This dorsal secretion is most evident in the more mature individuals, and may be more or less absent in the younger forms. There is a very distinct suture all around, which separates from the body proper the pronounced fluted marginal rim. This latter is inclined to the surface of the leaf at an angle of about 45 degrees. Size variable, but about 1.35 mm.  $\times$  1.1 mm., roundly elliptical in form. Abdominal segments distinct, and thoracic moderately so. On cephalic end of case the transparent, subreniform "eye spots" very distinct. Vasiform orifice triangular, subacute caudad. Operculum subcordate; lingula difficult to make out, but probably as in larva. From caudal end of orifice a distinct furrow extends back to caudal end of case. Margin crenulated all around, the incisions between wax tubes shallow and acute; on latero-cephalic margin of case, on each side, a single tubular pore, noticeably distinct from adjacent wax tubes. Pupa case of general type of *A. quercus-aquaticæ*, Quaint., from Florida.

*Adult.*—♀. Body yellowish, with sutures mostly blackish. Length about .83 mm.; fore wing, 1.2 mm.  $\times$  .56 mm.; antennæ and legs usual.

Fore wings with two irregular, broken bands of reddish, each crossing wing about equidistant on each side of caudal flexure of vein. There is also a small central spot, almost caudad of flexure, and a more or less evident spot at tip of vein. A small, irregular spot also occurs caudad of veinlet, near base of wing.

♂. Very like female, but smaller. Penis and valves of genitalia rather slender, sickle-shaped and acute.

Specimens on orange; collected by Mr. C. L. Marlatt, Hakato, Japan, May 21, 1901. Adults bred out by Mr. Marlatt. This species was also taken at Kumomoto, Japan, by Mr. Marlatt, on May 17, 1901. Described from numerous specimens of eggs, larvæ and pupa-cases. Adults described from a few imperfect females and one male in balsam mounts. Types in U. S. National Museum.

*Aleurodes spinifera*, n. sp.

*Egg*.—Exclusive of stalk, .2 mm. long by about .1 mm. wide; yellowish, curved, and marked with rather minute, closely-set polygonal areas. Stalk quite short, holding egg in more or less upright position on leaf.

*Larva*.—Regularly elliptical, appearing brownish on leaf, varying to black, with evident, but short, cottony fringe of wax all around from marginal wax tubes; dorsum without secretion. Size, probably in second stage, about .4 mm.  $\times$  .3 mm. Margin distinctly crenulated all around, incisions between wax tubes short and acute. Abdominal segments quite distinct, thoracic less so. Dorsum set with very strong, heavy spines as follows: a row on each side about equidistant between the median longitudinal dorsal-line and margin of case, of seven spines each or fourteen in all. Eight of these occur on the abdomen and six on the thorax. More centrally on the thorax are six equally developed spines in pairs. Vasiform orifice, which is somewhat elevated on a subconical, truncated protuberance, subcircular in outline; operculum subcircular to subcordate, nearly filling orifice. Lingula short, nearly obsolete.

*Pupa Case*.—As seen on leaf, with reflected light, jet black, considerably convex, the strong, dark spines plainly evident. Dorsum without secretion, but there is a compact, short, cottony fringe all around from marginal wax tubes. Size of mature specimens about 1.33 mm.  $\times$  1 mm., roundly elliptical in shape. On dorsum there is a submarginal row all around of strong, dark, acute spines, projecting considerable above and beyond case, nine or ten on each side. There is also a subdorsal row

on each side of strong, similarly-coloured, but shorter, spines, ten to twelve in number; nearer the medio-dorsal line there are four pairs of spines on the thorax, and a pair on abdominal segments 1, 2, 3 and 7, respectively. Vasiform orifice prominently elevated on an oblique, subconical, truncated protuberance, the subcordate orifice opening directly upwards. The operculum is similar in shape to orifice, which it nearly fills. Lingula obscure. There is a narrow, more or less evident marginal rim, composed of the prominent wax tubes, which are bluntly rounded distally, the incisions between them being moderately deep and acute. On ventral surface rudimentary legs may be readily distinguished.

*Adults* unknown.

Specimens collected by Mr. C. I. Marlatt, Garolt, Java, December 7, 1901, on *Citrus*, sp., and Rose. Eggs and pupal stages described from numerous specimens; larvæ from two specimens. This species is closely related to Maskell's *piperis* from Ceylon, but differs in the number and arrangement of spines in the vasiform orifice, and in the fact that the eggs of *spinifera* are distinctly marked with polygonal areas, whereas those of *piperis* are striated. Types in U. S. National Museum.

## TWO REMARKABLE NEW COCCIDÆ.

BY T. D. A. COCKERELL, EAST LAS VEGAS, N. M.

Of the two Coccidæ now described, the first is the type of a very peculiar new genus; the other is a very beautiful and interesting lac-insect.

*Stictococcus*, n. g.—An aberrant genus of Lecaniinæ, with the anal orifice in the middle of the back, not connected with the hind margin by a slit or groove. Anal ring with six hairs in larva; none in adult. Anal plates so modified in adult as to be unrecognizable. Legs small, but well developed. Antennæ with 5 or 6 joints. Margin with long bristles, and flattened bifid or palmate plates or spines. Dorsum with numerous large pits.

*Stictococcus Sjostedti*, n. sp. (T. D. A. & W. P. Ckll.).

Numerous on small branches. Oval, flattish, about 4 mm. long, 3 broad, and  $1\frac{1}{2}$  high; *Lecanium*-like, smooth and shiny, ferruginous to olive-brown; anal orifice in middle of back; dorsal region with two longitudinal rows of large round pits, single and (in two cases) two together: thus, 1, 1, 2, 1, 2, 1, 1, and then a single one in the middle line where the two rows converge. Subdorsal region with a row on each side

of similar, but smaller, pits, about ten in number, no two close together; sides abruptly descending, with submarginal and marginal rows of pits, the submarginal quite large, the others very small. Margin with scattered hairs. On the under side is a small amount of mealy secretion, arranged in radiating lines upon the sides of the abdomen. In some specimens the back is more or less coated with an easily deciduous waxy material.

Mouth-parts small, labium rounded. Margin with long bristles, and numerous very broad and rather short palmated or bifid plates. Antennæ stout, very small and pale, 5-jointed, with a long 3, or 6-jointed by the division of 3, in which case 4 is longer than 3, being a trifle longer than broad, while 3 is conspicuously broader than long. Legs stout, small and pale; tarsus and tibia subequal, but tarsus a little the longer; claw large, strongly hooked. Anal orifice dark brown, consisting of a circular chitinous plate, in which is a large quadrangular opening filled by two subquadrangular plates, each of which has on its surface a pair of darkened rounded processes or lobes, and also a pair of foramina, the foramina of the anterior plate near its anterior margin, and those of the posterior plate near its posterior margin. The hind margin of the anterior plate is concave, leaving a slit between the two. No bristles are apparent. Skin with many minute circular gland orifices. Ventral surface in the abdominal region with a transverse fold fringed with hairs.

*Larva* (from body of ♀) broad-oval, with a similar dorsal anal orifice, but it is surrounded by the six long bristles of the anal ring. The anterior plate, which bears these bristles, is horseshoe-shaped, with the opening directed backwards, and into the opening falls the more or less oval posterior plate, which is longitudinally divided in the middle line, and no doubt represents the anal lobes. Margin with bristles and large flattened bifid or trifid plates as in the adult, only they are much larger in comparison with the size of the insect. Antennæ stout.

*Hab.*—Cameroons, W. Africa; very numerous specimens in alcohol, collected by Dr. Yngve Sjöstedt, of the Naturhistoriska Riksmuseum at Stockholm. Several of the bottles are only labeled as from the Cameroons; a few contain more exact labels—"Itoki, Feb., 1891"; "Eskundu," and "Bonze." This is the first Coccid on record from the Cameroons.

*Tachardia aurantiaca*, n. sp.

On bark of branch; scales usually separate, sometimes coalescing, round, seen from above, 4 mm. long, convex, but flattened dorsally,



so that they are not half as high as broad; surface thrown more or less into concentric folds; colour bright orange; median dorsal area ferruginous, with radiating ridges and the usual orifices, the minutely transversely ribbed larval exuvia in the middle. Young, up to about 2 mm. long, orange-ferruginous, with rather obscure radiating ridges.

Second stage: female with the cephalothoracic end narrower than the abdominal, and with a constriction between the thorax and abdomen. Abdomen emarginate posteriorly, as in the same stage of *T. Mexicana*. No spine found. A couple of pale ferruginous (chitinous) triangular plates, each presenting near the middle a round patch of greatly crowded and very numerous gland-orifices, each of which under a high power exhibits a central nucleus, from which radiate five lines. Near one corner of the triangular plate is a smaller patch of similar orifices, here about twelve in number. Anal ring with ten long bristles; the ring is transversely oval, and is divided into an anterior and a posterior part. The anterior part, bearing four bristles, is deeply notched in the middle anteriorly; the posterior part, bearing six bristles, is deeply notched in the middle posteriorly. The lac is very hard to dissolve. The insects show the usual crimson pigment.

*Hab.*—Garoet, Java, Dec. 7, 1901, on grape-fruit (*Citrus*); collected by Mr. C. L. Marlatt. The second-stage females are attacked by a parasitic fungus, their bodies being full of the threads in some instances. The adults show large parasite holes, and what the parasites have left has been almost entirely consumed by a host of small hairy mites, evidently a species of *Tyroglyphus*, as they agree well with Fig. 54 in Marlatt, Bull. 14, N. S., Div. Ent., Dep. Agr. (1898), p. 103. Owing to these conditions I was unable to obtain a good specimen of the female adult for mounting.

The species is easily known from *T. decorella* by the absence of ribbing beyond the second stage.

#### A CONTRIBUTION.

Mr. E. P. Venables, Vernon, B. C., thoughtfully considering the needs of the Society, has donated to it some British Columbia beetles, the most of which are new to its collection, thus increasing by so much its powers of usefulness to others for the determination of specimens.

J. ALSTON MOFFAT, Curator.

## NEW COLEOPTERA FROM THE WESTERN UNITED STATES.

BY H. F. WICKHAM, IOWA CITY, IOWA.

All of the species described in the following pages belong to genera which are of small extent or have been recently monographed, and it is hoped that no confusion will result from their publication. The types are in my own collection, and, unless otherwise credited, were captured by myself.

## PHYSORHINUS, Esch.

Hitherto the only species of this genus known from the United States was *P. fuscus*, Champ. (*Anchastus frontalis*, Horn), and the curious pale head, which Dr. Horn thought might be accidental, is, according to Mr. Champion, characteristic of the genus, which is well represented in Central America. I have in my collection a form which seems to be new.

*P. yuccae*, n. sp.—Elongate, subfusiform, convex, shining, clothed with rather dense yellowish pubescence; castaneous, legs rather lighter. Head yellow, clypeal margin blackish, the surface deeply but somewhat finely punctate; antennae passing the hind angles of the thorax, second joint extremely small, third barely longer, together about equal to the fourth. Prothorax a little wider than long, broadest behind the middle, rapidly narrowing to apex, sides nearly parallel behind, hind angles just perceptibly divergent, acute, bicarinate, the inner carina straight, oblique, outer one very slightly curved and quite near the margin; surface deeply and densely but not very coarsely punctured, the punctuation of the neighbourhood of the anterior angles being the coarsest. Elytra at base not as wide as the thorax, becoming rapidly narrower from a point much in advance of the middle, sides slightly rounding, apices distinctly finely serrulate, tips conjointly rounded, all the striae distinct, but fine, with small distant punctures at bottom. Interstitial spaces finely, irregularly and rather closely punctate. Beneath somewhat finely and closely punctured. Dilated portion of posterior coxal plates rounded at tip. Length 11 mm.

Taken near Brownsville, Texas, by C. H. T. Townsend and myself, in heads of Yucca during July. Differs from *P. fuscus* by the closely punctured head. It is quite closely allied to the Mexican *P. frontalis*, Cand. The Central American species are said by Champion to occur mostly in forest clearings, and are collected by beating branches of trees.

## CHRYSOBOTHRIS, Esch.

*C. Piuta*, n. sp.—Form oblong, subdepressed, bronzed, shining, head bright reddish cupreous, front green; pronotum reddish cupreous,

bluish at base; elytra bronzed, but much less brilliant than the thorax, the basal half, excepting the sutural and lateral margins and foveæ, dark bluish and more opaque; body beneath dark bronze, with whitish pubescence, which forms denser patches on the meso- and metathoracic side pieces and on the sides of the ventral segments. Antennæ greenish-bronze, slightly more slender to tip, third joint scarcely equal to the next two. Front deeply and quite regularly punctured, the punctures separated by about their own diameters, callosities indistinct, pubescence whitish, conspicuous. Clypeus broadly and obtusely triangularly emarginate, angles of emargination not rounded. Thorax about one-half broader than long, front margin slightly bisinuate when viewed from above, anterior angles obtuse, slightly rounded, sides nearly straight, but converging a trifle to near the base, whence they are suddenly sinuately narrowed to the hind angles; disc convex, regular, the punctuation deep, well separated at middle, but becoming coarser and more crowded near the lateral margins and at sides of base, where it appears substrigose, but is scarcely confluent, median line obliterated in front, the posterior half smooth and shining, not impressed nor channelled. Elytra distinctly wider than the thorax, sides nearly parallel to about the apical third, whence they are narrowed to the separately rounded tips, serrations fine, numerous; costæ obliterated, except the exterior one, which is distinct on the humerus and near the middle of its length, but becomes evanescent behind; impressions deep, arranged thus: a basal bronzed rounded one on each side of the scutellum, exterior to which is a shallower crescentic mark, not bronzed, extending from just within the humeral prominence to the suture. Behind this is a transverse bronzed indentation, wider externally, reaching nearly to the suture, while still posterior to this is another less distinct impression, which fades gradually into the cupreous area behind it. The punctuation of the elytral disc is fairly deep and well defined, but becomes scabrous at sides and towards the tips. Body beneath densely punctured, except on the median area of the abdomen, which is more shining. Prosternum lobed, hairy, without median smooth space. Last ventral with serrulate margin, coarsely, closely punctured, tip with a rounded emargination. Anterior tibiæ with apical dilatation about as in *mali*, tooth of femur indistinctly serrulate, middle tibiæ slightly arcuate, not angularly sinuate within, hind tibiæ straight. Length, 6.5 mm.

This species belongs in Horn's group IV., and may be placed near *mali*, from which it differs by the usually small size, contrasting colours,

obliteration of the frontal chevrons and elytral costæ, the non-sulcation of the median thoracic line and by other characters. The description is drawn up from a male; the female differs thus: last ventral broadly triangularly emarginate, with an indication of a lobe in the bottom of the emargination, as in *chrysoela*; however, this structure is a trifle unsymmetrical, and may be accidental. The prosternum is more coarsely punctured and less hairy than in the male, the anterior tibiæ are not dilated at tip, and the middle tibiæ are straight, while the front of the head is entirely cupreous.

The name refers to the tribe of Indians inhabiting the neighbourhood from which the beetle came. The type was taken with two other slightly smaller specimens, by beating desert shrubs near Independence, in Owen's Valley, California, during the month of July. A female from Williams, Arizona, is somewhat more strongly sculptured, and the under side of the body is bluish.

AGRILUS, Steph.

The species described below seem to be well marked and easily recognizable, and thus worth describing separately. It is probable that the impetus given to the study of the genus through Dr. Horn's monograph will result in the detection of a number of undescribed forms.

*A. pinalicus*, n. sp. — Rather more robust and less narrowed behind than usual. Head, thorax and scutellum blue-black; elytra metallic green, with a dark sutural stripe. Antennæ short, blackish, serrations beginning on the fourth joint. Front of head deeply and broadly channelled, the sulcus extending from the occiput on to the clypeus, the bottom clothed with close, snow-white pubescence; surface of head granulate behind the eyes, the remainder, where visible, transversely rugose. Thorax broader than long, wider in front of the middle margin, sinuous in lateral view; surface somewhat irregularly convex, closely strigose, the strigæ transverse in front, oblique near the base and over most of the disc, longitudinal near the sides; median line fine, distinct near the base, interrupted about the middle; sides slightly arcuate, sinuate near the base, hind angles nearly rectangular, not carinate, front angles with a longitudinal spot of white pubescence, which diverges a little from the margin posteriorly and does not reach the middle of its length. Scutellum rough, not carinate. Elytra with the sides sinuate, apices separately rounded, margin serrulate posteriorly, surface granulate, a snow-white spot of pubescence on each side near the scutellum, which

may possibly extend at times down the dark sutural space described above, as this region shows evidence of scales in places; costa obliterated. Body beneath almost entirely concealed by white pubescence, the exposed portions imbricate-punctate, the abdomen more finely so. Last ventral serrate at sides. Pygidium with a projecting carina, which is truncate at tip. Legs sparsely pubescent. Length, 9 mm.

The type is a female taken in October at Parker's Well, on the eastern side of the Organ Mountains, New Mexico, by Theo. D. A. Cockerell, and bears his number, 5295. Another specimen which I collected during June, in the Pinal Mountains, Arizona, differs in colour, the head being cupreous, the elytra red-bronze with green sutural space. The under side of the body and the legs are also brightly bronzed, the pleura and margins of the ventral segments darker. In other respects the two correspond.

This beetle belongs near *Agrilus audax*, Horn, but differs in having a non-carinate scutellum and by the arrangement of the pubescence. The claws are sharply and strongly toothed beyond the middle, the inner division not notably inflexed.

*A. mercurius*, n. sp.—Rather robust, olivaceous bronze; elytra and thorax vittate with white pubescence. Head coarsely and confluent punctured, front covered with rather long white hairs, median line faint. Antennae passing the middle of the thorax, serrate from the fifth joint. Thorax broader than long, sides arcuate, but less so than in *blandus*, sinuate in front of the hind angles, which are not carinate, disc gibbous, a faint depression posteriorly in place of the median line, surface coarsely, densely punctate, forming more or less distinct concentric strigae, which are stronger anteriorly, margin sinuous in profile; on each side is a large spot of white pubescence, beginning at the anterior angle and extending to behind the middle, this spot confluent above with a longitudinal stripe of the same colour, which extends from a point on the thoracic disc opposite the apex of the gibbosity to base, where it meets the elytral vitta. Scutellum not carinate. Elytra not covering the sides and tip of abdomen, coarsely scabro-punctate, not costate, margin serrulate posteriorly, apices obtuse, disc of each elytron with a vitta of perfectly white pubescence extending from base, where it is confluent with the corresponding thoracic stripe, to the apex. Pygidium with a fine carina, which does not project. Prosternal lobe well developed, with a broad, slightly indented, rounded emargination on front margin, prosternum densely clothed with white

hairs; the prosternal, mesosternal and metasternal side pieces are densely pubescent with white, as is also the vertical portion of the ventral segments, there being in addition a row of four rounded spots of the same colour and nature on each side of the abdominal region. The visible portions of the under surface are distinctly imbricately punctate. Claws with a rather broad, sharp tooth, which is not notably inflexed. Length, 6 mm.

Allied to *A. blandus*, Horn, from which the gibbous pronotum and non-carinate scutellum will separate it. It rather closely approaches *A. gibbicollis*, Fall, but may be distinguished by the emarginate prosternum, non-carinate thoracic angles, and presumably by the ornamentation, as Fall makes no mention of discal thoracic vittæ, nor of lateral abdominal spots inside of the vertical stripe.

The type was taken by myself at Deming, New Mexico, August 18, and is apparently a male. The first and second ventrals are vaguely longitudinally impressed at middle.

#### EUGASTRA, Lec.

In describing a species under the above generic caption, I do not wish to be understood as favoring the separation of *Eugastra* from *Lachnosterna* because of any supposed great structural differences. I am merely following the example of Mr. Bates, who, in the *Biologia Centrali-Americana*, expresses the opinion that on account of the unwieldy size of the old genus *Lachnosterna*, it is advisable to retain certain names to indicate more or less well-defined groups, which may eventually be limited in some more satisfactory manner than is possible at present.

*E. epigæa*, n. sp.—Subovate, obtuse behind, convex, nearly black, slightly shining; Clypeus barely perceptibly emarginate in front in the male, more distinctly so in the female, densely, deeply and coarsely punctured, margin reflexed; front punctured like the clypeus, occiput less strongly. Thorax about one-half broader than long, widest about the middle, which is rather sharply rounded, almost subangulate; margin coarsely serrate, sparsely fimbriate; surface coarsely, somewhat deeply punctured, densely in the neighbourhood of the anterior angles, more sparsely and irregularly on the disc, where smooth spaces are left; median line obliterated. Scutellum shorter in the female than in the male, subtriangular in the latter sex, a few large serial punctures along the sides. Elytra with basal margin a little elevated on each side of the scutellum, form broadly oval, surface even, not sulcate or costate, except that the longitudinal line on each side of the suture is well marked; disc with

rather large, deep, coarse punctures, which are separated by about their own diameters, but become finer and shallower at sides and towards the tip. Pygidium alutaceous, not distinctly punctured, though large, sparsely placed, shallow punctures are indistinctly indicated. Sterna coarsely, not very closely, punctate; metasternal hairs extremely short and sparse. Abdomen rather indistinctly and much more finely punctured. Legs stout, claws arcuate. Length, 12.5-14 mm.

Male: Body winged. Antennal club shorter than the funiculus. Abdomen broadly, vaguely impressed at middle. Spurs of posterior tibiæ slender, curved, free; hind tarsi slender, much longer than the tibiæ. Claws not or barely perceptibly toothed.

Female: Body apterous. Antennal club a little smaller. Abdomen more convex, without median impression. Posterior tibial spurs broader; hind tarsi shorter than in the male. All of the claws are toothed, the tooth being short, sharp and erect, nearer the base than the apex.

This insect occurs occasionally, crawling on the ground, at Del Rio, Alpine and Marfa, Texas, during June, July and August. It belongs near *E. cribrosa*, Lec., but is distinct by numerous characters.

#### OLOGYPTUS, Lacordaire.

It is well known that our common *Ologlyptus anastomosis*, Say, varies considerably in size and outline, as well as in the distinctness of the elytral costæ. Besides a considerable series of that insect from Kansas, Colorado, Texas, New Mexico and Arizona, I have in my cabinet another species which seems to be quite different from any of the Mexican forms described by Champion in the *Biologia Centrali-Americana*. It may be recognized by the characters noted below.

*O. Texanus*, n. sp.—Blackish, covered with yellowish scales. Rather elongate, somewhat flattened above. Head covered with yellowish scales, which completely conceal the sculpture, antennæ much heavier than in *O. anastomosis*. Thorax transverse, broadest at about the middle, disc convex, bifoveate, a fine distinct median carina, which is bifurcate at base, lateral margin thickened, explanate, and rather widely reflexed; the anterior margin is deeply emarginate, the base slightly bisinuate, sides very strongly rounded, more suddenly so posteriorly, a strong constriction in front of the hind angles, which are distinctly acute and rather prominent; front angles acute, feebly rounded. Elytra about as wide as the broadest part of the thorax, almost parallel to a point about one-third from the tip, thence suddenly sinuately narrowed,

apices conjointly rounded. The suture is elevated posteriorly, costæ three in number, arranged thus: first nearly straight, parallel to the suture, reaching the base but abbreviated at apex; second parallel to the first, slightly shorter at each end; third forming an overhanging margin to elytron, until it reaches a point just beyond the tip of the second, when it curves in and becomes discal, but fades out before attaining the elytral apex. None of the costæ are confluent at any point. Body beneath with large scale-bearing punctures, distant on the abdomen, but more approximate on the thoracic segments. Legs densely scaly and comparatively stouter than in *anastomosis*. Length, 9 mm.

This beetle can be separated from *O. anastomosis* at a glance, the thoracic characters alone being amply sufficient for its differentiation, while the elytra are unlike those of the former species in shape as well as in ornamentation. From the antennæ alone, one might doubt the propriety of the generic reference, but the deflexed apex of the prosternum excludes the insect from *Astrotus*. The type was taken in Cameron County, Texas, during the month of September, by Frank B. Armstrong.

PYROTA, Lec.

Several years ago I received specimens of a beetle belonging to the above genus, which, by its antennal characters, approaches *Cantharis*, recalling in its general appearance *C. biguttata*, though, of course, not to a deceptive degree. After a study of the material, I concluded that the species was undescribed, and wrote to Dr. Geo. H. Horn, asking his opinion. This coincided with my own, and as the insect seems to have been taken in some abundance, and is probably represented in numerous collections, I propose to name it after the State in which it occurs.

*P. Dakotana*, n. sp.—Elongate, head and thorax shining, elytra much less so. Above yellow, thorax with two small blackish discal spots, one on each side of the middle line; elytra each with a narrow, nearly straight longitudinal blackish stripe, which does not reach the apex nor the base, and is somewhat more distant from the suture than from the lateral margin. Head yellow, sparsely, irregularly and rather coarsely punctured; sides behind the eyes almost exactly parallel for a short distance; hind angles broadly rounded. Antennæ shorter and stouter than usual, blackish, first joint paler at base, third joint longer than the fourth. Palpi blackish. Thorax campanulate, widest behind the middle, sides rounded, less so anteriorly, where they are rapidly convergent; basal



margin elevated; disc irregularly punctate, a rather large fovea in front of the scutellum. Scutellum yellow. Elytra distinctly scabrous, subopaque to the naked eye, shining under a lens, finely sparsely pubescent; costæ faintly indicated. Body beneath alutaceous, very finely scabrous, the meso- and metathoracic regions rougher than the rest. Legs yellow, knees, tips of tibiæ and tarsi blackish. Length, 10 to 12 mm.

Eight specimens are before me, all taken at Pierre, South Dakota, by the late P. C. Truman. The principal variation in markings consists of a tendency to loss of the elytral stripe, although one strongly-developed specimen, with the vitta well marked, has the suture dark for the greater part of its length. The under surface of the body is always more or less blackish, sometimes almost entirely so except the prothoracic region, which remains yellow. In one case, the anterior tibiæ are blackish to base. By the form of the head, this insect is allied to *P. insulata* and *P. Germari*, being close to the latter in several respects, but *Dakotana* has shorter and thicker antennæ. The style of ornamentation and the opacity of the elytra will at once distinguish it from *bilineata*. The maxillary palpi are not deformed in the male, the last joint being but slightly modified.

#### MY LAST REPLY TO MAJOR CASEY.

BY E. WASMANN, S. J., LUXEMBURG.

In Dr. David Sharp's "Zoological Record, Insects," 1901, I find in the list of my publications of that year, under the title, 1449, "*On some genera of Staphylinidæ described by Thos. L. Casey*," the following note: "*Casey replies to this, l. c., pp. 312, 313.*"

As I do not receive American journals here, I tried to get the respective nos. of the CANADIAN ENTOMOLOGIST from one of my friends. Being informed now of the contents of Major Casey's "reply," I understand why he did not send it to me, although I had sent him a copy of my critic paper "*On some genera of Staphylinidæ*" already, Nov. 2nd, 1901.

The manner in which Major Casey has treated our scientific controversy differs far from my own in the article cited above (CANAD. ENTOM., Sept., 1901, p. 249-252). In an angry tone he reproaches me of "disingenuousness," "narrow-mindedness," etc.; he even tries to misinterpret my own personal correspondence with him in a way quite new in scientific discussion.

The psychological connection of my cards written to Major Casey, from March to June, 1901, is very simple, and I wonder why Major Casey did not find it out himself. The paper containing his new note on the genera *Homœusa*, *Myrmobiota* and *Saliusa* was entitled "Review of the American *Corylophidæ*, *Cryptophagidæ*, *Tritomidæ* and *Dermistidæ*, with other studies," comprising 121 pages. I informed him on March 5th of the receipt of this paper, without suspecting that it contained something about *Homœusa* and *Myrmobiota*. Only myrmecophilous genera being of special interest for me, I did not examine more closely Major Casey's ample paper on *Corylophidæ*, etc.; therefore, when I asked Major Casey again (June 1st) to send me his last paper, where he explained the differences of *Homœusa* and *Myrmobiota*, it was not necessary for him to send me a second copy of his paper on *Corylophidæ*, etc., but he might have simply informed me that the paper in question was pp. 53-55 of his study on *Corylophidæ*. Instead of falling on this very simple explanation of the appearing contradiction in my cards, Major Casey has given them a rather injurious interpretation, which I much regret for Major Casey's own sake.

#### ARATUS LUTEOLUS, N. SP.

BY REV. THOMAS W. FYLES, LEVIS, QUEBEC.

Length, .35 inch. Head dark fawn colour, scabrous, much prolonged between the antennæ, the prolongation suggestive of the nose of the moose. Eyes upon rounded elevations, black and protuberant. The antennary spine stout, sharp and projecting. Antennæ reddish brown above, olivaceous beneath; the joint next the spine distinct and square cut and of greater diameter than that following it. Beak black, long, extending between the front legs. Prothorax dark umber in colour, concave in front, the concavity ending on either side with a short spine. From the bases of these spines the sides (which are finely denticulated) run direct to the widest part of the prothorax; from thence they are rounded to the back, forming a pair of clay-yellow epaulets, which extend beyond the slightly-curved remainder of the back line. Down the middle of the prothorax are two *carinæ*, nearly parallel, extending from back to front. The shield is narrow at the base, and runs back to an acute angle; its margins are reflexed. The costal edge of each elytron forms a double curve: it is first convex and then slightly concave. The corium is broad at the base, narrowed beyond the shield, and rounded at the tips. It is

strongly ribbed, and is clay-yellow in colour, mottled with fulvous, and is darker towards the tips. The membrane is roseate brown, and has a yellow patch on the costa and another at the base. The legs are reddish brown above and olivaceous beneath, paler at the joints; the thighs are but slightly dilated. The abdomen is ovate, flattened, and extends beyond the elytra. It is of a roseate brown. On either side of it are six sutures marked with yellow. The anal segment ends in a pair of incurved lobes. The whole of the under side is lighter in colour than the upper.

Taken at Quebec.

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#### A NEW ANAPHORID, AND A NOTE ON AN OLD ONE.

BY HARRISON G. DYAR, WASHINGTON, D. C.

##### *Eulepiste Kearfotti*, n. sp.

Gray, with a reddish ochreous tint, brighter in an obscure streak beyond cell and on submedian fold. A series of black strigæ along the costa and on fringe; a small dash beyond cell, and an oblique bar in submedian fold beyond middle. Hind wing blackish, fringe long, pale, interlined with blackish. Below, blackish, with a pale line at the base of the fringe. Expanse, 22 mm.

Two males from Mr. W. D. Kearfott's collection, "Yuma Co., Ariz. Desert."

Larger than the other species of *Eulepiste*, and differing in the genitalia. Uncus a single long spine, curving downward, opposed to a broad, concave basal plate. Side pieces strap-shaped or slightly concave, curved downward, and with a distinct spine on the lower angle.

U. S. National Museum, type No. 6734.

##### *Pseudanaphora mora*, Grote.

In 1895 Lord Walsingham examined Grote's type in the British Museum, and thought it might be the female of *P. arcanella*, Clem., overlooking the description of the true female of this species by Beutenmüller (Ent. Amer. IV., 29, 1888). I have now before me ten females and eight males of *mora* from localities in New York, Pennsylvania and the District of Columbia, a majority of them taken by Mr. F. A. Merrick, at New Brighton, Pa. (see Proc. Ent. Soc., Wash., V. 40, 1902). There is a marked sexual dimorphism, the male being nearly uniformly blackish, and the female of a light ochreous ground colour. The species is very distinct from *arcanella*.

## NOTE ON CTENUCHA CRESSONANA AND VENOSA.

BY A. RADCLIFFE GROTE, HILDESHEIM, GERMANY.

In Sir George Hampson's volume on the Syntomids, Cat. Lep. Phalænæ, Vol. I., London, 1898, *Ctenucha Cressonana* is referred as a synonym to *C. venosa*, but erroneously so. Both species inhabit our North American territory, but *C. venosa* has the wider and more southern range, extending probably from Arizona, through Mexico, into South America. I know *C. Cressonana* from Colorado and New Mexico only; this larger form is also variable in the colours of the stripes of the wing, whereas *C. venosa* is quite constant, so far as the examples I have been able to examine are concerned. I give here the comparative descriptions of the two species:

*Ctenucha venosa*, Walker. Brit. Mus. Lists Lep., II., 284 (1854).

Smaller, averaging 38 mil. in expanse; two terminal joints of palpi brownish black, basal joint orange red. Costa of primaries striped with yellow ochre, shading into white over apical third; a similar stripe over *M* 1, not reaching margin. Cubitus and the fork of *M* 2 and 3 striped with the same shade, as well as an internal stripe over *A* 2. Fringes white, broadly interrupted with brownish black at the middle on both wings.

The material in B. Mus. is probably all *C. venosa*,

*Ctenucha Cressonana*, Grote. Proc. Ent. Soc., Phil., II., 64 (1863).

Larger, averaging 45 mil. in expanse. Antennæ more lengthily pectinate; only the terminal joint of palpi brownish black, the rest orange red. Costa of primaries striped with yellow ochre, hardly paler towards tips. No stripe on *M* 1; at most, in one specimen, a very faint and narrow indication. Fringes entirely white, at base showing some scattered black scales not medially interrupted.

Typical form: stripes on primaries pure white; costa ochre yellow.  
*var. lutea*, Grote: stripes ochre yellow; costa orange red.

It has been suggested to me in a letter that *C. sanguinaria* is a form of *C. Cressonana* with the stripes scarlet. I have not seen this latter species, which appears to be a still larger form.

## A NEW BUTTERFLY FROM TEXAS.

BY G. M. DODGE, LOUISIANA, MO.

*Nisoniades Llano*, n. sp.

Expanse about one inch. Primaries with inner two-thirds black, marked by a triangular brown patch near base, resting on internal margin; a large similarly-coloured patch at outer end of cell, touching the costa, and bordered by a pale-brown line, which, starting from the costa about one-third of the distance from the apex, curves outward opposite the discal cell, and runs diagonally across to about the middle of the inner margin, and is twinned at its lower extremity by a similar line, which precedes it, and extends from inner margin to just across the median vein.

The outer third of the wing is crossed by two bluish-gray, curved bands, the inner being about twice the width of the other. They are separated by a narrow dark line. The outer band seems to be composed of small whitish spots, but that and the fringe are covered by bluish-gray scales. At the inner angle the fringe is slightly tipped with white.

The posteriors are crossed by an irregularly-curved band of large diffuse pale spots submarginally. A short row of similar spots lies across the discal area, and two or three such spots appear between this last and the base. The wing is thus transversely divided into three dark and three light spaces or bands. The fringe is white, dusky at the angles, and with black spots on its base at the extremity of the veins. Below, the primaries are dark, with a single small, but conspicuous, white spot near apex, between the second and third subcostal nervures. A regularly-curved band of pale spots corresponds to the broad band above, and beyond this is a terminal row of small, somewhat indistinct, spots. The fringe is dark, with white at inner angle and some white spots along its base, extending in a row nearly to the apex. Secondaries marked as above, but the spots are smaller, better defined, and do not give the wing the banded appearance so conspicuous on the upper side.

One example, Llano County, Texas.