disease and he furnishes abundant suggestions upon which intelligent fly campaigns may be based when the local conditions rendering them necessary are fully understood.

JOHN B. SMITH

NEW BRUNSWICK, N. J.,
January 17, 1912

*Die Palaeobotanische Literatur.* By W. J. JONGMANS. Zweiter Band—Die Erscheinungen des Jahres 1909 und Nachträge für 1908.

In the issue of SCIENCE for August 26, 1910, the writer published an account of the initial volume of Jongman's "Paleobotanical Bibliography," which covered the year 1908. The second volume of this laborious undertaking has just been distributed. It is from the press of Gustav Fischer, of Jena, and aims to include all of the contributions to paleobotanical literature that were published during 1909. Additions for 1908 that were omitted in the first volume are included and all of the species described or mentioned in the discussions, together with the geological horizons, are arranged alphabetically, and this, the main part of the work, is preceded by a list of the contributions numbered chronologically and arranged by authors.

The present volume makes a book of 417 pages, or about twice the size of volume one, and fully maintains the high standard of the latter. It is indispensable to the working paleobotanist. Botanists, geologists and bibliographers also owe Dr. Jongmans a debt of gratitude.

Individuals and institutions can cooperate in the continuation of this valuable work by sending their publications promptly to the author in care of the Royal Herbarium at Leiden, Holland.

EDWARD W. BERRY

## SCIENTIFIC JOURNALS AND ARTICLES

IN the *Philippine Journal of Science,* Section D, No. 4, Dean C. Worcester describes newly discovered breeding places of Philippine sea birds, illustrated with half-tone plates which show great numbers of boobies and terns which are apparently without any fear of the photographer. The same author also notes a probable hybridism among boobies. R. C. McGregor reports the capture of *Puffinus chlororhynchus* Gould off the coast of Luzon, and describes a new species of noddy tern, *Micranous worcesteri,* from Cavilli Island in the Sulu Sea. R. W. Shufeldt's article on the skeleton in the flying lemurs is concluded. A. S. Pearse presents notes on the habits of *Thalassina anomala* (Herbst), and concerning the development of frog tadpoles in sea water. Section B, No. 4, contains two papers on amœbæ found in the Philippine Islands. In one Ernest Linwood Walker makes a comparative study of the amœbæ in the Manila water supply, in the intestinal tract of healthy persons, and in amœbic dysentery and shows that all hitherto cultivated amœbæ are non-pathogenic, but that the true pathogenic amœba can not be cultivated; in the other Andrew Watson Sellards discusses immunity reactions with amœbæ. Weston P. Chamberlain presents a statistical study of typhoid fever in the Philippine Islands; a map shows the distribution of typhoid fever in the Islands. Horace D. Bloombergh presents data relative to the Wassermann reaction in syphilis, leprosy and yaws. In Section A, No. 4, Alvin J. Cox discusses Philippine soils and some of the factors which influence them, the chief among these being the division of the Philippine Islands into regions because of types of rainfall. Raf. A. Herrmann presents a theory on the formation of the central Luzon plain. Benjamin T. Brooks describes essential oil from *Michelia champaca* L. and discusses its chemical constitution. He also gives a study of a number of other new Philippine essential oils and reviews the fluctuations in the value of ylang-ylang.

## NOTES ON ENTOMOLOGY

MR. E. E. AUSTEN has produced another book on the tsetse-flies.[1] A few years ago

[1] "A Handbook of the Tsetse Flies (Genus *Glossina*)," British Museum, 1911, 110 pp., 10 pls., 24 text figs., 1 map.

these flies were practically unknown to entomologists, and even specimens were rare in museums. Since their connection with disease has been proved, Mr. Austen has had the opportunity of examining thousands of specimens. The author adopts the division of the genus into three sections as proposed by Mr. Newstead, but does not rely as much as that author upon the structure of the genitalia for separating species. Fourteen species are recognized, and one considered uncertain. The puparia of six species are figured, and are all extremely similar in appearance. The illustrations (by Terzi) are all that one could desire.

An interesting review of the fleas infesting the domestic animals is furnished by Dr. K. Wolffhügel.[2] Following a general account of the structure, habits and life-history of fleas, is a descriptive list of twelve species. The generic name *Dermatophilus* is used in place of *Sarcopsylla,* although the latter has four years priority. A host-list, and a bibliography is appended.

Mr. H. Eltringham has issued a large book summarizing his studies on the mimetic butterflies of Africa.[3] Each species is treated under the mimetic association of which it is considered a member. These associations are based upon certain general plans of coloration. He shows that many of these butterflies are distasteful to birds, and that the butterflies eaten or attacked by birds are mostly non-mimetic species.

Mr. R. Shelford, who has published recently on the cockroaches of amber[4] finds that all the genera are recent ones, and that one species, *Euthyrrhapha pacifica,* is the same as a species now widely distributed in the tropics, but never recorded from Europe. This is not a primitive cockroach, but a highly specialized one. The specimen is marked much like the common form in South Africa. About ten species are described as new, some prettily maculated with yellow and brown.

Mr. B. H. Walden is the author of the "Orthoptera of Connecticut" in the series which Professor Britton proposes to publish on the insect fauna of that state.[5] There are descriptions and synoptic tables to genera and species, and many notes on the habits of the 100 species now known from that state. It will be a most useful work for the beginner, and if the other parts can be carried out in the same excellent manner the "Guide" will be one of the most valuable works on North American entomology.

Recent parts of the "Catalogus Coleopterorum" are No. 29, Staphylinidæ, Part II., pp. 87–190, by M. Bernhauer and K. Schubert; No. 30, Cioidæ, 32 pp., by K. W. von Dalla Torre; one of our species *Cis bimaculatus* Kraus is changed to *C. krausi* because of preoccupation, and No. 31, also by Dalla Torre on the Aglycyderidæ, one species from the Canary Islands, and the Proterrhinidæ, only represented in the Hawaiian Islands; No. 32 on the Hydroscaphidæ, by E. Csiki, 61 pp.; No. 33 by Dalla Torre on Nosendridæ, Byrrhidæ and Dermestidæ, 96 pp.; No. 34 on Erotylidæ, by P. Kuhnt, 106 pp.; No. 35 by J. Weise, on the Hispinæ, 94 pp., and No. 36 on the Anthicidæ, by M. Pic, 102 pp., these with many species in our country.

The problem of the classification of the Coleoptera has been attacked from a new point by Dr. P. Netolitzky,[6] who has investigated the structure of the paramera in a number of genera. These paramera, which are basal pieces of the male genital organs, are usually asymmetric in most of the Carabidæ, in *Patrobus* and allies but slightly so, in

[2] "Die Flöhe (Siphonaptera) der Haustiere," *Zeitschr. Infektionskr., par. Krankh. Hyg. Haustiere,* VIII., pp. 218–236, 354–382, 25 figs., 1910.

[3] "African Mimetic Butterflies," Oxford, 1910, 136 pp., 10 pls. col.

[4] "The British Museum Collection of Blattidæ Enclosed in Amber," *Journ. Linn. Soc. Lond. Zool.,* XXXII., pp. 59–69, 1 plate, 1911.

[5] "The Euplexoptera and Orthoptera of Connecticut; Guide, Insects Conn.," Part II., Bull. 16 State Geol. Nat. Hist. Survey, pp. 39–169, 5 plates, 1911.

[6] "Die Parameren und des System der Adephaga (Caraboidea)," *Verh. zool.-bot. Ges. Wien,* 1911, pp. 221–239.

*Pterostichus* and *Pseudomorpha* very strongly asymmetric. In *Carabus, Calosoma* and *Cychrus* they are symmetric, and also in some families allied to the *Carabidæ*. He considers these parts will furnish useful clues to the relationship of families and smaller groups.

DR. C. WESENBERG LUND, who has been studying the habits of caddice flies has recently published two articles on the larvæ. In one[7] he describes and figures the nets of most of the Hydropsychidæ found in Denmark, and also describes the structure of the larvæ. He considers the Rhyacophilidæ an ancient family, and the Hydropsychidæ a more recent and highly specialized one.

In the second article[8] he gives an account of the life-history and larval habits of a large and common caddice-fly. The carnivorous larva builds a spiral case of parts of leaves or sticks, which is gradually enlarged and lengthened as the creature increases in size.

Useful bibliographies accompany each paper.

DR. N. ANNANDALE has described[9] a new genus (*Ramcia*) which is intermediate between the true mosquitoes and the series of genera known as Corethinæ. The proboscis is short and weak, but the veins of wings bear prominent scales, and the entire wing-margin is provided with a fringe of long scales. There are no scales on the thorax. The larva and pupa are also described, being related to *Corethra*. The single species comes from Ceylon.

AMONG recent fascicles of the "Genera Insectorum" of M. Wytsman, a number are of interest to us. Fascicle 110, by H. Schmidt, is on the Aphodiidæ (part of the old Scarabæidæ), 155 pp., 3 pls.; fasc. 111, by Max Hagedorn, on the Ipidæ (Scolytidæ), 178 pp., 14 pls.; three of the plates show galleries and four show structural details; fasc. 113 on the Ortalid flies of the sub-family Richardinæ, 56 pp., 3 pls.; fasc. 114, by G. V. Szepligeti, on part of the ichneumon flies of the Ophionidæ, 100 pp., 2 pls.; fasc. 115, by R. Martin, on the Æschninæ, 34 pp., 5 pls.; fasc. 116, 117, by P. Dupius, on two small groups of Carabidæ; fasc. 118, by C. Emery, on the ants (Formicidæ) of family Ponerinæ, 125 pp., 3 pls.; fasc. 119, by J. A. G. Rehn, on the Mantid sub-family Vatinæ, 28 pp., 1 pl.; fasc. 120, by A. N. Caudell, on a small group of Locustidæ; fasc. 121, by W. D. Pierce, on the Strepsiptera, 54 pp., 5 pls.

NATHAN BANKS

[7] "Biologische Studien über netzspinnende Trichopterenlarven," *Intern. Rev. Hydrobiol. Hydrog.* (Biol. Suppl., III. Ser.), V., pp. 1–64, 1911, 5 pls.

[8] "Ueber die Biologie der Phryganea grandis und über die Mechanik ihres Gehäusebaues," *Intern. Rev. Hydrobiol. Hydrog.*, IV., pp. 65–91, 2 pls., 1910.

[9] "A New Genus of Short-beaked Gnats from Ceylon," *Spolia Zeylanica*, VII., pp. 187–193, 1 plate, 1911.

## SPECIAL ARTICLES

### NOTICE OF A NEW GENUS OF RHINOCEROS FROM THE LOWER MIOCENE

DURING the past few years, several of the many collectors from various institutions, who have collected in western Nebraska and eastern Wyoming, have found fragments of a very large rhinoceros in the Harrison beds, which occur in that region. Mr. E. S. Riggs, of the Field Museum of Natural History, of Chicago, found certain upper molars which he took to be those of some primitive species of *Teleoceras*. But all of these "finds" have been quite fragmentary, and no particular attempt has been made to accurately classify them.

The writer had the good fortune last summer to find additional material of this type, and upon careful examination is convinced that a new genus—or at least a new subgenus—is here represented.

*Epiaphelops virgasectus*, gen. et sp. nov.

Dental formula, $M\frac{?}{3}$, $P\frac{?}{4}$, $C\frac{?}{0}$, $I\frac{?}{1}$. Type No. H C 265, collection of the writer. The specimen taken as the type is a right lower jaw, with complete dentition, and the anterior part of the left lower jaw.

*Epiaphelops* is separated from *Aphelops*, to