noted from a tree-fern petiole, in the dead stipes of the tree-fern *Cyathea* sp., in decaying banana stalks, in the dead stipes of *Angiopteris* sp. (Marattiaceæ), on the fruit of *Freycinetia* sp. (Pandanaceæ), and from *Pandanus* sp. From the same two island groups it has been noted in abundance among coconut shells and rubbish on the beaches and in the valleys on the underside of "taro" leaves (*Colocasia antiquorum* Schott) (Araceæ). In Hawaii it occurs in *Dracæna terminalis* L. and banana leaves. Indian records include in a coconut palm and in "toddy" (*Borassus*, *Cocos* etc.). In England, at Kew Gardens, Lucas (1920, p. 61) records the present species as "in sugar cane from Mauritius in August 1894."

Bibliography.

Bennett, C. B. 1904. "Earwigs (*Anisolabis maritima* Bon)." Psyche, xi. p. 47.

Bey-Bienko, G. 1936. 'Faune de l'U.R.S.S., Insectes Dermaptères.'

Bormans, A. 1900. 'Das Tierreich, Lief. 11, Forficulidæ.'

Burr, M. 1910 *a*. "Percy Sladen Trust Expedition to the Indian Ocean in 1905, Dermaptera." Trans. Linn. Soc. Lond., Zool. (2), xiv. pp. 123–133.

——. 1910 *b*. 'Fauna British India, Dermaptera.'

——. 1915. "On the Male Genital Armature of the Dermaptera.—Part II. Psalidæ." Journ. R. Micr. Soc. pp. 521–546.

Chopard, L. 1943. 'Orthoptéroïdes de l'Afrique du Nord.'

Lucas, W. J. 1920. 'British Orthoptera.' Ray Society, London.

Main, H. 1927. "A Living Family of *Anisolabis maritima*." Proc ent. Soc. Lond. i. p. 58, 1926.

Morse, A. P. 1920. "Manual of the Orthoptera of New England." Boston Soc. Nat. Hist. Proc. xxxv. pp. 197–556.

Zacher, F. 1911. "Studien über das System der Protodermapteren." Zool. Jahrb., Abt. Syst. xxx. pp. 304–400.

XLVIII.—*Mallophaga Miscellany.*—No. 4.

By Theresa Clay, B.Sc.

I. Notes on the Goniodidæ.

Dr. Kéler (1939, pp. 1–254) has published a full account with figures of the species of Goniodidæ and Heptapsogastridæ in the Halle collection. His excellent figures make it possible for the first time to interpret with certainty the Nitzsch, Giebel and Taschenberg names. There are, however, discrepancies between certain of Dr. Kéler's conclusions and those of the present writer

(Clay, 1940, pp. 1–120), which it seems desirable to discuss. Hopkins (1947, p. 74) has mentioned the inclination of Dr. Kéler to ignore the principle of priority, and his acceptance of *nomina nuda*, especially when these are attributed to Nitzsch and the original specimens, are present in the Halle collection. Hopkins has emphasized how this "unilateral repudiation" of the rules by Kéler adds to the confusion and does not in any way simplify the interpretation of the old names. In the paper under discussion Dr. Kéler attributes a number of names to Nitzsch, which, in fact, should stand under the authorship of other authors who used names originally published by Nitzsch as *nomina nuda*. There is some difficulty in establishing the author of certain species based on material in the Halle collection. This collection was used primarily by Nitzsch, who described, and in some cases figured in manuscript form, the majority of specimens. Nitzsch published only one paper containing valid names (1818, pp. 261–316) during his life-time. After his death, Giebel published Nitzsch's manuscript names in various papers, some as *nomina nuda* and some with the original descriptions; the full descriptions of the majority of species appearing only in *Insecta Epizoa*, 1874. In this latter publication there are also a number of species, the descriptions of which were not taken from the Nitzsch manuscript but are Giebel's original work; such names are not followed by the name of Nitzsch or any other author (e.g. *Menopon albidum*, p. 280). However, before Giebel published any of the manuscript names Burmeister, working on the Nitzsch material, published (1838, pp. 418–433) a number of independent descriptions, using for the most part Nitzsch manuscript names. Taschenberg also described specimens in the Halle collection, including some of Rudow's which seem to have found their way to Halle. In addition, Denny (1842) and other authors described species to which they attached Nitzsch's *nomina nuda* and (in the case of Denny, at least) Nitzsch's unpublished manuscript names, evidently obtained from Burmeister in correspondence (see Denny, 1842, p. xxii.). It follows from this that all such names published for the first time with independent descriptions, by Burmeister, Denny and others, must stand under the authorship of these writers, even though they used the names taken

from the Nitzsch manuscript, and in some cases based their descriptions on the same material as used by Nitzsch. All the names with descriptions first published by Giebel should be referred to the authorship of Nitzsch (because Giebel himself showed that the descriptions were those of Nitzsch), with the exception of those which in *Insecta Epizoa* are not followed by an author's name; these should be attributed to Giebel. As "Nitzsch in Giebel" is long and clumsy, and incidentally inaccurate, it is suggested that such names should be quoted as (*e. g.*) ***Menopon ambiguum*** Nitzsch, and when listed in synonymies, as ***Menopon ambiguum*** Nitzsch. Giebel, 1874, p. 295. There is no such author as "Nitzsch in Denny" or "Nitzsch in Burmeister."

Through the great kindness of Dr. Menner of the Zoologisches Institut, Halle, it has been possible to examine all the material on which Dr. Kéler based his paper. The fact that Dr. Kéler was able to examine only such a small amount of material may account for the large number (17) of new genera described for species within the existing genera *Goniodes*, *Goniocotes* and *Coloceras*. No detailed discussion will be given here of these genera, but the present writer strongly disagrees with the erection of the majority of them, and in the case of *Goniodes* from the Galliformes (Clay, 1940, pp. 1–120) has shown, under the discussions of the species groups into which the various *Goniodes* species were divided, the undesirability of further generic divisions. Of the Goniodidæ from the Columbæ, it seems doubtful whether there is sufficient material yet available for an adequate generic classification. It can be presumed, on the analogy of other groups from large host orders, that many of the Goniodidæ on the Columbæ are relatively recent derivations from a common ancestor, and that a complete series of species from all the living Columbæ would link up some, if not all, of the somewhat diverse groups placed in separate genera by Dr. Kéler. The following is a synonymy of the genera of Goniodidæ from the Galliformes and Columbiformes which the present author intends to recognize provisionally:

GONIODES Nitzsch.

Synonyms: *Gonotyles* Kéler. *Homocerus* Kéler.
Gonocephalus Kéler. *Stenocrotaphus* Kéler.
Oulocrepis Kéler. *Margaritenes* Kéler.
Solenodes Kéler. *Kelerigoniodes* Conci.
Astrocotes Kéler. *Claygoniodes* Conci.
Astrodes Kéler. *Archègoniodes* Conci.

PASSONOMEDEA Carriker.

PACHYSKELOTES Kéler.

GONIOCOTES Burmeister.
Synonym: *Dictyocotes* Kéler.

CHELOPISTES Kéler.
Synonym: *Trichodomedea* Carriker.

LABICOTES Kéler.

COLOCERAS Taschenberg.
Synonyms: *Ancistrodes* Kéler.
Nitzschiella Kéler.

CAMPANULOTES Kéler.

KODOCEPHALON Kéler.

AURICOTES Kéler.

PHYSCONELLOIDES Ewing.
Synonyms: *Goniocotocanthus* Guimarães.

1. PACHYSKELOTES Kéler. (1939, p. 55.)

Hopkins (in the press) has discussed the confusion which has been caused by the inclusion of the male of one species and the female of another, under the name *Lipeurus orthopleurus* Nitzsch, the genotype of *Pachyskelotes*.

2. GONIODES DISCOGASTER (Taschenberg). (Kéler, 1939, p. 77.)

The description of the male of this species (Clay, 1940, p. 114) shows that it cannot be placed in the same genus as *Goniodes suborbiculatus*, the genotype of *Kodocephalon* Kéler. Its affinities would seem to lie with the species included in the genus *Homocerus* Kéler (1939, p. 117) or species group M (Clay, 1940, p. 102).

3. GONIODES CHELICORNIS. (Kéler, 1939, p. 79.)

Kéler attributes this name to Nitzsch, 1818; but in this publication *chelicornis* was a *nomen nudum*. As

previously shown (Clay 1940, p. 37) the earliest name for the *Goniodes* from *Tetrao urogallus* is *G. bituberculatus* Rudow, 1869.

4. Goniodes costatus (Kéler). (1939, p. 83.)

Goniodes tetraogallæ Clay (1940, p. 74) is a synonym of this name.

5. Goniodes cupido. (Kéler, 1939, p. 90.)

Kéler attributes the name to Giebel, 1866, but the mention in this publication is a *nomen nudum*; the author should, in fact, be Rudow (see Clay, 1940, p. 45). The types mentioned by Kéler (p. 93) must stand as the types of *Goniodes cupido* Giebel, 1874 *nec* Rudow, 1870.

6. The Goniodes Species from Perdix and Alectoris. (Kéler, 1939, pp. 102–109.)

The present writer (1940, p. 87) considered that specimens from *Perdix perdix* (type-host of *dispar* Burmeister), *Alectoris rufa* (type-host of *truncatus* Giebel=*flaviceps* Rudow), and *Alectoris græca* (type-host of *breviantennatus* Piaget and *cypricus* Kéler) could not be separated. Kéler considers *dispar*, *truncatus* (=*flaviceps*), *breviantennatus* and *cypricus* to be distinct species.

The characters distinguishing *dispar* from *cypricus*, as given by Kéler (1939, pp. 102, 107 and 220), are the shape of the anterior region of the head, shape of temples, and the proportion of head length to body length. Of the four male and ten female specimens of *dispar* in the Halle collection mentioned by Kéler (p. 103), three males and five females have been examined; none of the females has the straight posterior margin of the temples as shown by Kéler (fig. 53), nor has this condition been found amongst forty-four other females from *Perdix perdix*, with the exception of one obviously distorted example. Kéler states that his figure shows a female "mit extrem kleinem kopfe," which suggests that it may have been a shrunken and somewhat distorted specimen. A series of twenty-two males and forty-four females from *Perdix perdix* examined show some variation in the shape of the anterior margin of the head; this may resemble the condition shown by Kéler (fig. 53), or that shown by Merisuo (1944, p. 99). The type series, two females and three males, of *G. cypricus* has been compared with the

series from *Perdix perdix* and cannot be separated on head shape. Merisuo has made a careful comparison of the measurements of specimens collected from *Perdix perdix* in Finland with those of the types of *dispar* and *cypricus* as published by Kéler. Merisuo concluded, both on measurements and shape of the head, that his specimens from *Perdix perdix* (type-host of *dispar*) must be *cypricus* (originally described from specimens from *Alectoris græca*). In fact, his results show clearly that the specimens from the two host species cannot be separated, and his measurements illustrate the range of variation within the species.

Kéler (p. 221) gives as the characters distinguishing *breviantennatus* Piaget from *cypricus*: the larger size and the smaller cephalic index of *breviantennatus*; the male antennæ shorter than those of the female in *breviantennatus*, but longer in *cypricus*; and the female abdomen being broadest anterior to the middle in *breviantennatus*, and posterior to the middle in *cypricus*. Kéler takes his measurements of *breviantennatus* from Piaget's original description (1885, p 50); but as previously shown (Clay, 1940, p. 59), Piaget's published measurements do not bear any constant relationship to the measurements of his type material after this has been treated with caustic potash and mounted in canada balsam; his original measurements cannot, therefore, be used for comparison with material mounted by this latter method. All the measurements given by Kéler for *cypricus* fall within the measurements of Piaget's type series; the two female types of *cypricus* are both unusually small examples (possibly partly due to different methods of mounting) when compared with the series of specimens from *Alectoris græca* listed in Clay, 1940, p. 89; however, one of Piaget's females is comparable in size to the females of *cypricus*. The cephalic indices of a male and female of Piaget's specimens are 1·28 and 1·25 respectively, these being comparable to those of *cypricus*: 1·23–1·31 in the males and 1·25–1·28 in the females (Kéler, pp. 107 and 221 gives 1·31 in error for 1·23 for the male and 1·35 for 1·28 in the female). In the type material of *breviantennatus*, the male antennæ are longer than those of the female, and in both *cypricus* and *breviantennatus* the type females have the abdomens broadest at segments IV and V. There seems little doubt, therefore, that *cypricus* must be

considered as a synonym of *breviantennatus*; it has already been shown above that *cypricus* (and therefore *breviantennatus*) is a synonym of *dispar*.

In the key given by Kéler (pp. 220–1) *dispar* is separated from *truncatus* and *cypricus* by the shape of the anterior margin of the head, shape of temples, and proportions of head length to body length; it has been shown above (under *cypricus*) that these differences are not constant and cannot be accepted. In the same key *cypricus* is separated from *truncatus* by its shorter antennæ and by having the dorsal abdominal setæ of the male neither so long nor so stout. Measurements have been made of male antennæ (Kéler had seen no females of *truncatus*) from the types of *breviantennatus*, *cypricus* and *truncatus*, and from other specimens from the type-hosts of these species: there is a certain amount of variation in different specimens (partly due, no doubt, to different methods of treatment and foreshortening in the balsam), but as such variations are found in specimens from the same host, they cannot be considered as specific differences but merely as individual variations or artefacts. There appear to be no constant differences in the form of the male abdominal setæ. The apparent differences in the ends of the parameres (Kéler, fig. 55) of *truncatus* and *dispar* (fig. 53) are due to distortion; in the former the ends are curled back on themselves. It has previously been shown (Clay, 1940, p. 87) that *flaviceps* Rudow is the earliest name for the *Goniodes* from *Alectoris r. rufa*, and ante-dates *truncatus* Giebel.

It is considered that, on the available material, specimens from *Perdix perdix*, *Alectoris rufa*, and *A. græca* are not separable, and hence *flaviceps* Rudow (*truncatus* Giebel), *breviantennatus* Piaget (*cypricus* (Kéler)) are synonyms of *dispar* Burmeister.

7. Goniodes capitatus (Kéler). (1936, p. 106.)

Goniodes capitatus (Kéler) appears to be distinct from the species discussed above under 6, with the characters as given by Kéler.

8. Goniodes minor (Piaget). (Kéler, 1939, p. 120.)

It was shown (Clay, 1940, p. 102) that *minor* Piaget (1880, p. 241) was a composite species, the type material

comprising three related species, separable only by the characters of the male genitalia and chætotaxy. A lectotype of *minor* was designated and figured; and one of the other species was described as *G. biordinatus*. Kéler's specimens, figured as *minor*, fig. 64, are, in fact, *biordinatus* Clay.

9. Goniodes meyeri (Kéler). (1939, p. 122.)

Kéler's type, allegedly from *Talegallus fuscirostris*, has been compared with Piaget's types of *G. major* and appears to conspecific. The differences given by Kéler between *meyeri* and *major* are based on Piaget's published figure and measurements; it cannot be too often emphasized that these are useless for the comparison of closely related forms. The types of *G. major* (Piaget) are from *Megapodium rubripes* var. *gilberti*=*Megapodius nicobariensis gilbertii* Gray, and not *Megacephalon maleo* as stated by Kéler, p. 122.

10. Goniodes temporalis (Kéler). (1939, p. 131.)

This species was described from two female specimens in the Halle collection, the host of which is given as "Perd.?" The type specimens have been examined and appear to be indistinguishable from paratypes of *G. extraneus* Clay (1940, p. 79) from *Francolinus gularis* (Temminck). The apparently smaller head breadth (and hence cephalic index) given by Kéler is due to the temple processes, which are membranous in this species, being somewhat shrunken in the type specimens of *temporalis*. Both these specimens show segment X elongated and produced beyond the posterior margin of the last segment of the abdomen (as in Clay, 1940, fig. 55 *b*), not coterminous with it (as in Kéler, 1939, fig. 70). It can, therefore, be assumed that *extraneus* Clay is a synonym of *temporalis* (Kéler); although, in the absence of males, complete certainty is not possible.

It is unfortunate that many authors continue to describe species from unidentified or obviously incorrect hosts, and (in the Ischnocera) from female specimens only, as confusion must result.

11. Goniocotes numidæ. (Kéler, 1939, p. 147.)

Kéler refers this name to Gurlt, 1857, p. 297, but Gurlt's mention of the name was as a *nomen nudum*; the name

must stand, therefore, as *G. numidæ* Kéler, 1939. The type-host of *numidæ* Kéler is *Numida meleagris* subsp. ? Mjöberg (1910, p. 107) described *Gc. nigromaculatus* from *Numida meleagris mitrata* Pallas. Mjöberg's types are believed to be lost and no material has been seen from the type host. It is probable that all the subspecies of *Numida meleagris* are parasitized by the same form of *Goniocotes*, and that *numidæ* Kéler, 1919 will have to stand as a synonym of *nigromaculatus* Mjöberg, 1910.

12. Auricotes lativenter Kéler. (1939, p. 167.)

This species was described from one female (marked holotype) from *Carpophaga bicolor*=*Ducula bicolor* (Scopoli), three females and one nymph (marked paratypes) from *Myristicivora melanura*=*Ducula melanura* (G. R. Gray) and one male (marked allotype) from *Tinamus rufescens* = *Rhyncotus rufescens* (Temminck); this material comprises at least two species. Species of *Ducula* may have two species of *Auricotes*, one similar to *carpophagæ* (Rudow) (see Kéler, 1939, fig. 94), and those shown on Kéler's plates I–IV, with the exception of plate I, figures 3–4; these are small forms, without sexual dimorphic antennæ, and with male genitalia small and simple in character. The other type is more robust, the male antennæ enlarged, and the genitalia relatively larger and more complicated. The females listed above, including the holotype, belong to the robust type, the single male to the first type. This male appears to be indistinguishable from *carpophagæ* (Rudow). It will be necessary to examine a reasonable series of the different species of *Auricotes* occurring on the various species of *Ducula* before an attempt can be made to clarify the systematics of this group. As stated above it is doubtful whether Ischnoceran species should ever be described from females only; and confusion must be caused by making obvious stragglers, as in the case of the male of *lativenter*, into type specimens.

13. Osculotes Kéler. (1939, p. 175.)

This is the earliest name for the genus, with *Gc. curtus* Burm. as genotype, of which *Opisthocomiella* Guimarães, 1940, p. 287, and *Sikorella* Eichler, 1940, p. 97 are absolute synonyms.

14. Chelopistes Kéler. (1939, p. 180.)

This genus, with *Goniodes meleagridis* (Linn.) as genotype, is an earlier name for *Virgula* Clay *nec* Simpson, 1900.

15. Ornicholax alienus (Giebel). (Kéler, 1939, p. 201.)

Kéler places *O. robustus* Carriker as a synonym of *alienus* but, as Hopkins (1940, p. 420) has shown, the former species is distinct, and *O. solitarius* from *Tinamus solitarius* Guim. & Lane is most probably a synonym of *O. alienus*. Specimens from *Tinamus solitarius* appear to be identical with the type of *O. alienus*, which is, however, in poor condition, so that absolute certainty as to its identity is not possible. The type is also quite distinct from a male of *Ornicholax* from *Tinamus s. serratus*, identified as *robustus* by Carriker.

16. Strongylocotes complanatus (Piaget). (Kéler, 1939, p. 206.)

The specimen figured by Kéler (fig. 114, labelled ♀, in error) is a male *Strongylocotes* from *Tinamus* (=*Crypturellus*) *variegatus*, and is not the same as that found on *Crypturellus obsoletus*, the type-host of *S. complanatus* (Piaget). The males (Piaget's type is a female) of the two forms found on these two hosts are quite distinct in the characters of the ninth abdominal segment (*cf.* Carriker, 1936, pl. 6, fig. 2, and pl. 7, fig. 3). Kéler's figure does not, therefore, represent *S. complanatus* (Piaget) but *S. complanatus variegatus* Carriker.

II. The Type-Host of Oxylipeurus appendiculatus (Piaget).

In Clay, 1938, p. 160, the type-host of *Oxylipeurus appendiculatus* (Piaget) was given as *Megapodius r. reinwardt*. This is wrong. In the original description the hosts given were *Megapodium rubripes bernsteini*=*Megapodius nicobariensis bernsteinii* Schlegel and *Megapodium rubripes gilberti* = *Megapodius nicobariensis gilbertii* G. R. Gray. The Piaget collections contain specimens from the latter host only, as shown in Clay, 1938, p. 161 and 1940, p. 430; in this last paper a lectotype of *appendiculatus* was designated, but as the host of this was not given, the confusion caused in the previous

paper was not rectified. The lectotype and paratypes of *Oxylipeurus appendiculatus* (Piaget) come from *Megapodius nicobariensis gilbertii* G. R. Gray, which is, therefore, the type-host.

III. The Denny and Piaget Collections in the British Museum.

The type specimens alleged to be present in these two collections were listed by G. B. Thompson in various papers, and these published lists are being used as a basis for erecting neotypes for those specimens marked as missing. However, for reasons discussed below, it must not be assumed that the type specimens of a species are lost because they are marked as missing in the above lists. In the case of the Denny collection (Thompson, 1937, pp. 74–81), twenty of the species marked as missing are, in fact, represented by one or more specimens. Amongst these are the type specimens of *Nirmus* (=*Columbicola*) *claviformis* Denny (apparently omitted from the list altogether), for which Eichler (1942, p. 27) has erected neotypes, and *Lipeurus* (=*Pectinopygus*) *gyricornis* Denny (marked without specimens on p. 81 of the Denny list), for which Thompson (1947, p. 770) has erected neotypes. These neotypes, of course, have no standing.

In the Piaget lists specimens marked as missing may be present in the collection for another reason. *Lipeurus* (=*Pectinopygus*) *annulatus* Piaget, for example, is marked as missing and there is no slide in the British Museum collection labelled with this name. There is, however, a slide with two males labelled *Lipeurus pullatus* with *Sula fusca* on the host label. These two males are not *Pectinopygus pullatus*=*P. bassani* (O. Fab.) but are similar to Piaget's figure of *annulatus*, the type-host of which is *Sula fusca* (=*Sula leucogaster plotus* Forst.). There seems little doubt that these are the original specimens from which Piaget made his description and figure of *annulatus*, and they should, therefore, be considered as the type specimens. It can be presumed that Piaget first identified and labelled them as *pullatus* and, after describing them as new, omitted to alter the name on the label. There are a number of slides in the collection with species described by Piaget, which have on the labels Nitzsch or Giebel names crossed out and

the Piaget name added. In some cases, of which *annulatus* is an example, it seems certain that Piaget forgot to make the necessary alterations.

It seems probable that when the Piaget collection has been remounted and studied in detail, only a small number of the type specimens will be found to be missing. Neotypes for Denny and Piaget species should not, therefore, be erected without reference to the British Museum.

IV. Host Names in the Pelecaniformes.

There has been much confusion over the names used at different times for the species of *Sula*, and it is often doubtful to which species the early authors were referring. Dr. Stresemann, to whom I am most grateful for the trouble he has taken, sends the list, given below, of the most probable modern equivalents of the species used by the early writers on Mallophaga :

Sula fiber Rudow, 1869.	*Sula leucogaster plotus* Forster.
Sula fusca Piaget, 1880.	*Sula leucogaster plotus* Forster.
Sula piscatrix Piaget, 1890.	*Sula sula rubripes* Gould.
Sula piscator Piaget, 1880.	*Sula sula rubripes* Gould.
Sula piscator Kellogg, 1902.	*Sula sula websteri* Rothschild.

References.

Only those references not included in Kéler's bibliography (1938 : 487) are listed.

Clay, T. 1940. "Genera and Species of Mallophaga occurring on Gallinaceous Hosts, II. Proc. zool. Soc. Lond. (B) 110, pp. 1–120.

Eichler, W. 1940. "Notulæ Mallophagologicæ, IV. Zool. Anz. 130, pp. 97–103.

——. 1942. "Notulæ Mallophagologicæ, VIII." Zool. Anz. 139, pp. 27–31.

Kéler, S. 1938. "Übersicht über die gesamte Literatur der Mallophagen." Zeit. Angew. Ent. 25, pp. 487–524.

——. 1939. "Baustoffe zu einer Monographie der *Leop.-Carol.* Mallophagen, II." Nova Acta (N.S.), 8 (51), pp. 1–254.

Guimarães, L. 1940. "Malofagos da Cigana." Arch. Zool. S. Paulo, 1 (6), pp. 283–318.

Hopkins, G. H. E. 1940. "Stray Notes on Mallophaga, II. Ann. & Mag. Nat. Hist. (11), 6, pp. 417–429.
———. 1947. "Notes on Mallophagan Nomenclature, II." Entom., 80, pp. 73–79.
Meriguo, A. K. 1944. "Notulæ Mallophagologicæ, I." Ann. Ent. Fennici, 10, pp. 198–226.
Thompson, G. B. 1947. "Notes on Species of the Genus Pectinopygus, III." Ann. & Mag. Nat. Hist. (11), 13, pp. 767–780.