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THE ANNALS

AND

MAGAZINE OF NATURAL HISTORY,

INCLUDING

ZOOLOGY, BOTANY, AND GEOLOGY.

(BEING A CONTINUATION OF THE 'ANNALS' COMBINED WITH LOUDON AND CHARLESWORTH'S 'MAGAZINE OF NATURAL HISTORY.')

CONDUCTED BY

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"Omnes res creatæ sunt divinæ sapientiæ et potentiæ testes, divitiæ fe. humanæ:—ex harum usu *bonitas* Creatoris; ex pulchritudine *sapientia* D ex œconomiâ in conservatione, proportione, renovatione, *potentia* majc elucet. Earum itaque indagatio ab hominibus sibi relictis semper æstim à verè eruditis et sapientibus semper exculta; malè doctis et barbaris semp inimica fuit."—Linnæus.

"Quel que soit le principe de la vie animale, il ne faut qu'ouvrir les yeux po voir qu'elle est le chef-d'œuvre de la Toute-puissance, et le but auquel se rappo tent toutes ses opérations."—Bruckner, *Théorie du Système Animal*, Leyde 1767.

. . . . . The sylvan powers
Obey our summons; from their deepest dells
The Dryads come, and throw their garlands wild
And odorous branches at our feet; the Nymphs
That press with nimble step the mountain-thyme
And purple heath-flower come not empty-handed,
But scatter round ten thousand forms minute
Of velvet moss or lichen, torn from rock
Or rifted oak or cavern deep: the Naiads too
Quit their loved native stream, from whose smooth face
They crop the lily, and each sedge and rush
That drinks the rippling tide: the frozen poles,
Where peril waits the bold adventurer's tread,
The burning sands of Borneo and Cayenne,
All, all to us unlock their secret stores
And pay their cheerful tribute.

J. Taylor, *Norwich*, 1818.

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THE ANNALS

AND

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[FOURTH SERIES.]

No. 62. FEBRUARY 1873.

XI.—*Summary of Zoological Observations made at Naples in the winter of* 1871–72. By E. Ray Lankester, M.A., Fellow and Lecturer of Exeter College, Oxford.

My chief object during a recent stay of some months in Naples was to commence a study of the general and histological development of Mollusca, with the view of ascertaining what significance is to be attributed to the various parts of their organization in the light of the "germ-layer theory," recently extended with such convincing force by the admirable observations of Kowalewsky from the Vertebrata to various groups of lower animals, such as the Vermes and the Insects.

I propose now to give a very short statement of some of these observations, as well as of others made on some of the innumerable interesting forms of marine invertebrates with which the invaluable fishermen of Santa Lucia provided me.

Development of Loligo.

Since the time of Kölliker (1837) no contribution has been made to our knowledge of the development of Cephalopoda. A short note by Mecznikow on *Sepiola* contains very little and is not illustrated. I obtained eggs of *Loligo* first in January, and subsequently with tolerable regularity until April: they are better adapted for observation than those of *Sepia*.

The structure of the ovary is very similar to that of a bird. The branched ovary contains eggs of all sizes enclosed in vascular capsules. The basketwork marking seen on the ovarian egg is not a plication of the proper capsule, but of the surface of the vitellus, *where it is in contact with the inner cellular lining of the capsule*, which sends deeply penetrating ridges and

fragments of fossil bones, but who when he attempted to name recent skulls, as of crocodiles (of which he has perfect specimens under his eyes), named, described, and published what are now regarded as three distinct species in one case, and two distinct species in another, under the same name, and, on the other hand, a series of skulls of the same species under three different names (see Trans. Zool. Soc. vi. 1869, p. 127), and who mixes up together under one name the skulls of two such large and distinct animals as a one-horned and a two-horned rhinoceros as a double-horned one (see Proc. Zool. Soc. 1867, p. 1015). I need not (but could) refer to many more instances of the same kind. I am in the habit of estimating, from what is written about what I know, the reliance I may place upon what is written of what I do not know, and have thus lost my confidence in this author's writings on zoological questions.

It is an old complaint that persons will write about what they have a limited knowledge of. Thus the comparative anatomists are always giving their opinions on the limits and definitions of genera and the names that ought to be used—subjects not much in their way, and on which they have very crude ideas. What would they say if a zoologist interfered with their anatomical details, their confused nomenclature of bones, and their much controverted homologies? But it is the more remarkable, when we consider how very few animals have been dissected, and how imperfectly those that have been dissected have been described, as is proved by their own papers (see for instance Mr. Clark's paper on the hippopotamus, 'Proc. Zool. Soc.' 1872, p. 185), that an anatomist should leave his subject and diverge to write upon the synonyma of species and the priority of names, all of which is mere compilation on his part.

XIV.—*A Monographic List of the Species of the Genus* Gonyleptes, *with Descriptions of three remarkable new Species.* By Arthur Gardiner Butler, F.L.S., F.Z.S., &c.

[Plate III.]

Family **Gonyleptidæ**, Wood.

Genus Gonyleptes *, Kirby.

1. *Gonyleptes horridus.*

Gonyleptes horridus, Kirby, Trans. Linn. Soc. xii. p. 452, pl. 22. fig. 16 (1818).

Gonyleptes curvipes?, Koch (nec Guérin), Arachn. vii. pl. 224. fig. 555 (1839).

Hab. "Brazil" (*Kirby*); Surinam. One example. B.M.

* I take this genus in its restricted sense, as used by Gervais ('Aptères,' iii. pp. 102–105). Wood, in his recent papers on Gonyleptidæ and Phalangidæ, applies it equally to *Goniosoma* and *Cosmetus*!

2. *Gonyleptes aculeatus.*

Gonyleptes aculeatus, Kirby, Trans. Linn. Soc. xii. p. 452 (1818).
Var. ? *Faucheur acanthure*, Duméril, Dict. Sc. Nat., Ent. pl. 60. figs. 14–16 (1819).
Gonyleptes acanthurus, Gervais, Aptères, iii. p. 105, pl. 46. fig. 2 (1844).

Hab. Monte Video (*Darwin*). Two examples. B.M.

3. *Gonyleptes scaber.*

Gonyleptes scaber, Kirby, Trans. Linn. Soc. xii. p. 453 (1818); Koch, Arachn. vii. pl. 223. figs. 553, 554 (1839).

Hab. Monte Video?; Valdivia (*Cuming*). Three examples. B.M.

4. *Gonyleptes acanthopus.*

Phalangium acanthopus, Quoy & Gaim. Voy. de l'Uranie, Zool. p. 546, pl. 62. figs. 2, ♂, 3, ♀ (1824).
Ensarcus grandis, Perty, Del. Anim. p. 206, pl. 40. fig. 2, ♀ (1830–34).
Gonyleptes horridus, Koch, Arachn. vii. pl. 222. figs. 551, 552 (1839).

Hab. Brazil. Five examples. B.M.

5. *Gonyleptes asperatus.*

Gonyleptes asperatus, Gervais, Gay's Chili, Zool., Arachn. pl. 1. fig. 9 (1849).

Hab. Chili.

6. *Gonyleptes planiceps.*

Gonyleptes planiceps, Gervais, Mag. de Zool., Arachn. pl. 2; Aptères, iii. p. 105 (1844); Gay's Chili, Zool., Arachn. pl. 1. fig. 10 (1849).

Hab. Chili.

7. *Gonyleptes pectinatus.*

Gonyleptes pectinatus, Koch, Arachn. xii. pl. 402. fig. 971 (1845).
? *Gonyleptes curvipes*, Koch, Arachn. vii. pl. 224. fig. 555 (1839).

Hab. "Bahia" (*Koch*); near Rio Janeiro (*A. Fry*). One example. B.M.

8. *Gonyleptes curvipes.*

Gonyleptes curvipes, Guérin, Icon. du Règne Anim., Arachn. pl. 4. fig. 5 (1842–49); Gervais, Aptères, iii. p. 104, pl. 46. fig. 1 (1844); Gay's Chili, Zool., Arachn. pl. 1. fig. 6 (1849).
Gonyleptes chilensis, G. R. Gray, Anim. Kingd., Arachn. pl. 20. fig. 2.

Hab. Chili. Four examples. B.M.

9. *Gonyleptes armatus.*

Gonyleptes armatus, Perty, Del. Anim. p. 205, pl. 39. fig. 13 (1830–34).

Hab. Rio Negro.

G. spinipes and *asper* of Perty are referred by Koch to his genus *Ampheres*; *G. curvispina* and *elegans* to his genus *Cœlopygus*.

10. *Gonyleptes acanthops.*

Gonyleptes acanthops, Gervais, Gay's Chili, Zool., Arachn. pl. 1. fig. 4 (1849).

Hab. Chili.

There is a species nearly allied to this in the British Museum.

11. *Gonyleptes bicuspidatus.*

Gonyleptes bicuspidatus, Koch, Arachn. vii. pl. 224. fig. 556 (1839).

Hab. Brazil (*Koch*).

12. *Gonyleptes muticus.*

Gonyleptes muticus, Koch, Arachn. vii. pl. 225. fig. 557 (1839).

Hab. Brazil (*Koch*).

13. *Gonyleptes polyacanthus.*

Gonyleptes polyacanthus, Gervais, Gay's Chili, Zool., Arachn. pl. 1. fig. 7 (1849).

Hab. "Chili" (*Gervais*); ——? One example. B.M.

14. *Gonyleptes modestus.*

Gonyleptes modestus, Gervais, Gay's Chili, Zool., Arachn. in vol. iv. p. 23. n. 4 (1849).

Hab. Chili?; Valdivia (*Cuming*). Two examples. B.M.

15. *Gonyleptes bicornis.*

Gonyleptes bicornis, Gervais, Gay's Chili, Zool., Arachn. in vol. iv. p. 21. n. 2 (1849).

Hab. Chili.

16. *Gonyleptes subsimilis.*

Gonyleptes subsimilis, Gervais, Gay's Chili, Zool., Arachn. pl. 1. fig. 8 (1849).

Gonyleptes polyacanthoides, Gervais, Aptères, iv. p. 577 (1847 ?)*.

Hab. Chili.

Seems to be a female closely allied to *G. aculeatus* ♀; several of the species at present referred to the genus *Goniosoma* have much the same aspect, and may possibly have to be referred to this genus when we know both sexes of them. The two genera have been somewhat artificially separated; but I have thought it better to leave them for the present as Gervais left them.

G. ornatum of Say, recently figured and redescribed by Wood as a *Gonyleptes*, in which genus Gervais also retained it (Apt. iv. p. 344), belongs to the genus *Cosmetus* (Phalangidæ),

* A reference is given at p. 576 to the pagination and plates of Gay's 'Chili.'

the palpi being unarmed. We have four examples from Georgia, where the type also was taken; they agree closely with Say's description, but not with Wood's.

With regard to the species recently described from Ecuador (Trans. Am. Phil. Soc. n. s. xiii. 1869, pp. 435–440, pl. xxiv.), *G. prædo*, *G. injucundus*, and *G. spinipalpus* appear to be *Goniosomata*, and *G. multimaculatus* a mutilated and greasy example of *Cosmetus cordatus*; the species (*O. marginatus*) forming the new genus *Octophthalmus* is unknown to me at present; *O. bilunata** and *O. ferox*, forming the genus *Ortonia*, are also unknown to me, although the latter appears to be congeneric with *Goniosoma raptator* of Gervais, which I have always considered the type of a distinct genus.

The following are new species :—

17. *Gonyleptes armillatus*, n. sp. Pl. III. figs. 1, 2.

Colours : above pitchy, the marginal tubercles of cephalothorax tawny in the centre; tarsi ochraceous; palpi olivaceous; below brownish in parts, the joints of the legs testaceous; mandibles or chelæ olivaceous, their pincers ferruginous.

Male. Above with oculiferous tubercle prominent, arched forwards, and obtusely bifurcate; immediately behind it and in front of the transverse suture two groups of five to six minute tubercles; central area of cephalothorax transversely ovate, margined on either side by six gradually increasing prominent tubercles, and in front of these to just above the suture by a series of minute shining granules; bearing on either side a robust obtuse incurved spine above base of coxæ of hind legs; distinctly convex and crossed by six to seven transverse irregular series of moderate-sized tubercles, besides six prominent central ones placed longitudinally in pairs; posterior area trisegmented, tuberculate, second segmentation bearing a prominent terminal spine : legs short, coarsely rugose, spinous, pilose; hind legs with coxæ obtusely spinous; femora coarsely tuberculate, externally obtusely dentate-spinous; tibiæ coarsely tuberculate : sternal surface entirely tuberculate and pilose, as also the segments of the abdomen; palpi ("mandibules palpiformes" of Gervais) of moderate length, compressed, with slender spines; cheliceres short, pilose, the chelæ cylindrical, pincers minutely serrated internally.

* This species has quite the aspect of a *Cosmetus*, so far as one can judge by the figure; but the description says, "Palpi . . . . penultimate joint broadly dilated, somewhat triangular, thin, and armed with minute slender spines on its margins, and a pair of larger ones on its distal end; the distal article more cylindrical, with one or more acute spines, against which the movable claw works."

Length of cephalothorax 4 lines; relative length of legs 1, 3, 4, 2, the second pair being the longest.

Female. Differs chiefly in its narrower cephalothorax, which has smaller tubercles and less strongly developed lateral spines; the legs also are much less spinose.

Hab. Ecuador (*Buckley*). ♂ ♀. B.M.

Must be placed next to *G. curvipes*, but is a very distinct and beautiful form.

18. *Gonyleptes ancyrophorus*, n. sp. Pl. III. figs. 5, 6.

Colours: cephalothorax above pitchy, becoming testaceous at the margins; legs black-brown, with coxæ ochraceous and base of femora ferruginous; femora of hind legs entirely ferruginous; palpi blackish olivaceous, terminal claw and points of spines ochraceous; cheliceres olivaceous, with pincers ochraceous; body below dirty testaceous, clouded with olivaceous, and becoming blackish posteriorly.

Cephalothorax above with oculiferous tubercle prominent, bearing two well-developed and moderately acute divergent spines; entire dorsum unusually convex; posterior area trapezoidal, and bearing on its hinder margin two slightly divergent and well-developed acute spines; legs long, smooth; hind legs irregularly spined along inner margin of femora; palpi rather longer than cephalothorax, their joints more or less cylindrical, irregular, coarsely spined; cheliceres with second joint above trispinose behind; chelæ rather large, fixed finger with two obtuse teeth on its inner margin: inferior surface smooth, the metasternum bearing on either side (about halfway between the third and fourth pair of legs) a strong acute perpendicular spine, and on its outer margin, below the retracted abdominal segments, a long, thick, incurved, and nearly perpendicular horny process, bifurcate at its tip.

Length of cephalothorax 4 lines; relative length of legs, apparently, 1, 3, 2, 4.

Hab. Quito (*W. C. Hewitson*). B.M.

Not nearly allied to any described species.

19. *Gonyleptes telifer*, n. sp. Pl. III. figs. 3, 4.

Colours almost as in *G. armillatus*, but (with the exception of the cheliceres) rather darker; under surface of body pitchy.

Cephalothorax similar in general form to that of *G. armillatus*; irregularly tuberculate, marginal tubercles smaller, some of them obtusely spinose; oculiferous tubercle very prominent, bispinose; six central tubercles of cephalothorax elongated into obtuse spines, the hindmost pair being the longest; margin

above base of coxæ of hind legs bearing two widely divergent obtuse spines; posterior area trisegmented, tuberculate, second segmentation bearing a prominent central acute spine, third segmentation terminating in a long, feebly curved, and very robust spine, three lines in length; legs long, rugose, denticulate; hind legs, with the exception of the femora, internally dentated; body below, including abdomen, coarsely tuberculate; palpi moderately long, subcylindrical, with slender spines; cheliceres small; the chelæ cylindrical, pilose, pincers crossing at the tips and strongly denticulate internally.

Length of cephalothorax (excluding terminal spine) $4\frac{1}{2}$ lines; relative length of legs 1, 3, 2, 4.

Hab. Ega (*Bates*). One specimen. B.M.

Most nearly allied to *G. armillatus*, but in general appearance utterly unlike any thing previously described: it reminds me of a similarly ornamented fossil form described by Mr. Henry Woodward (Geol. Mag. vol. viii. p. 385, pl. xi. 1871) as *Eophrynus Prestvicii* (*Curculioides* of Samouelle); the latter, however, excepting in ornamentation, appears to come nearer to *Ischyropsalis* of Koch.

XV.—*Notes on the Longicorn Coleoptera of Tropical America.*

By H. W. Bates, F.L.S.

[Continued from p. 45.]

Genus Acyphoderes.

Serville, Ann. Soc. Ent. Fr. 1833, p. 549; Lacord. Genera, vol. viii. p. 505.

The character given by Serville as distinguishing this genus was the broadly ovate depressed uneven thorax. A more constant feature is the rather abruptly subulate elytra. The thorax is sometimes oblong-ovate and convex. The antennæ in all the species are robust and strongly serrated.

I. *Apex of elytra entire.*

A. *Thorax without dorsal ridges.*

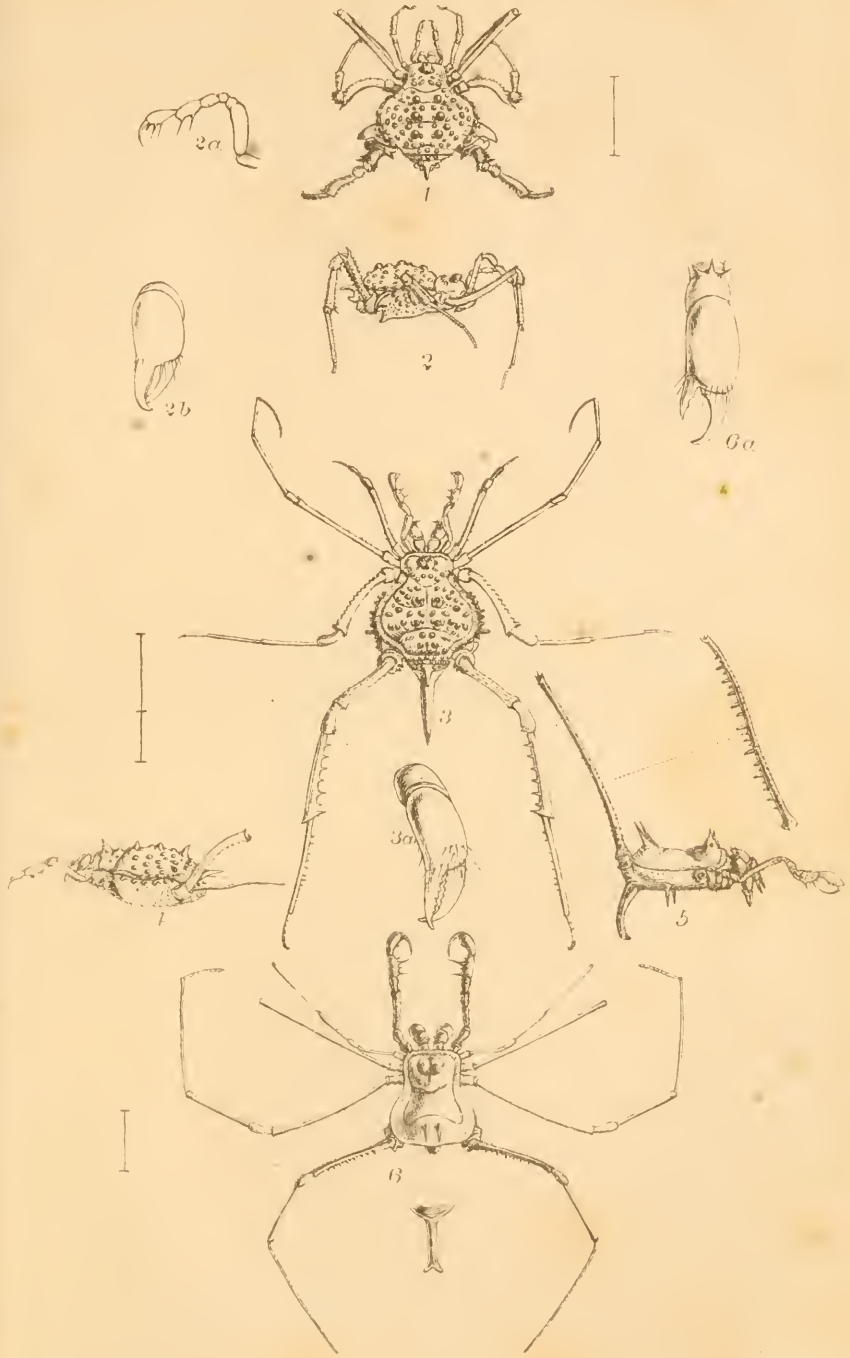
1. *Acyphoderes crinitus*, Klug.

Stenopterus crinitus, Klug, Entom. Bras. Specim. alter. p. 56, t. xliv. f. 11.

Rio Janeiro.

2. *Acyphoderes mœstus*, n. sp.

A. niger, velutinus, dense breviter hirsutus; thorace elongato, sub-



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