fascia. The femora, as well as the tibiae and tarsi, are rufous. Beneath, the colour of the abdomen is shining black, with yellow belts across the segments.

Dere thoracica, White.


On flowers in June. Found also in N. China.

Purpuricenus Temminckii, Guérin-Ménev.


Not uncommon in Japan; also N. China.

The conical tubercle of the mesosternum being present in other species of the genus, there is no reason for retaining Sternoplites of Guérin. As to the form of the thorax, short and transverse, Purpuricenus including a great diversity of form of this organ (e.g. P. Angasii, White), this character is quite insufficient as a generic difference.

Purpuricenus spectabilis, Motsch.


Mr. Lewis did not meet with this species (or variety?), which is distinguished from P. Temminckii (according to the description) only by the suture and a point on the posterior disk of the elytra being black. I have a specimen of P. Temminckii possessing the black discoidal point, but none in which the suture is black.

[To be continued.]
and in the other (Clistenterata) none. With these characters, be it remarked, are generally coincident structural modifications of the hinge of the shell—the species with an anal aperture having an inarticulating hinge generally, and those without the anal aperture having a more or less interlocking one. On one or other (or both) of these characters (and with coordinate ones) these groups have been repeatedly recognized, first by Owen, and then by Bronn, Huxley, and others. Owen, it is true, vigorously opposed the assertion that any forms had a cæcal intestine; but the groups he recognized were, as to their constituents, exactly equivalent to the Tretenterates and Clistenterates, although based only on the simple or interlocking hinge and relative proportions of the viscera and brachia. All other naturalists who have adopted the groups, however, have especially recognized the perforation or non-perforation of the intestinal tube in their diagnoses; and the groups have been adopted by the following naturalists, viz.:

I.

Lyopomata, Owen, Encycl. Brit. 8th edit. vol. xv. p. 301, 1858*.

Pleurropygia seu Écardines, Bronn, Klass. u. Ordn. Thiereichs, p. 301, 1862†.

Inarticulata, Huxley, Int. Class. An. p. 116, 1869‡.


II.

Arthropomata, Owen, Encycl. Brit. 8th edit. vol. xv. p. 336, 1858§.


Articulata, Huxley, Int. Class. An. p. 116, 1869¶.


The conclusions of Prof. King (he being unaware of the labours of his predecessors) are noteworthy, as being inde-

* "Shell-valves inarticulated, and, save in the annexed family Cra-
niacea, subcalcified; viscera occupying one half, brachia the other half, of the shell-cavity" (l. c. p. 339).


‡ "The intestine terminates in an anus on one side of the body" (l. c. p. 116).

§ "Shell-valves articulated, calcareous; viscera occupying one third, brachia two thirds, of the shell-cavity" (l. c. p. 330).

∥ "Nahrungskanal (bei den ganz fossilen Familien nur vermutungs-
weise) mit einfachem abwärts gebogenem blind endigendem Darm-
Anhange (Afterlose)," &c. (l. c. p. 301).

○ "The intestine ends in a blind sac" (l. c. p. 116).
pendent corroboration, by an acute naturalist, of the importance of
the groups in question; but it will be obvious that, if we
follow the rules of priority, the names of Owen must be
adopted; and even if we feel obliged to accept more charac-
teristic names (those based on intestinal characters), Bronn’s
excellently chosen ones had already long existed, and there is
no obvious reason why they (if any should supersede Owen’s)
should not be adopted.

Smithsonian Institution,
July 28, 1873.

XXVII.—Notes on the Siliceous Spicules of Sponges, and on
their Division into Types. By Dr. J. E. Gray, F.R.S.
&c.

The existence of spicules was mentioned by Ray, Ellis, and
others; but I believe that Savigny was the first zoologist who
exhibited them in situ in living sponges, in Napoleon’s great
work on Egypt—though, like many of the plates drawn by
Savigny in that work of imperial ostentation, confined to the
libraries of the few, the figures were without text, as the ob-
ject for which the Emperor had undertaken the work was past.
These figures have been greatly overlooked by zoologists, and
the importance of the spicules in the determination of species
and genera has only been more recently recognized.

Savigny, in the plates of the work above-mentioned, which
he executed in 1805 to 1812, letters his plates “Eponges
charnues,” “Eponges à piquans,” and “Eponges à réseau,”
and gives admirable figures of the spicules forming the second
division, and of the horny skeletons of his “Eponges à réseau.”
The figures of the sponges are superior to any thing that has
been done since. These groups were afterwards regarded as

Prof. Ehrenberg names the spicules of these sponges as if
he were describing a perfect animal or the shell of a mollusk,
and gives to each kind of spicule a generic and specific name!
overlooking the fact that there are several forms (and therefore
what he considers different genera and species) of spicules
in the same species of sponge.

Dr. Bowerbank, in his paper in the ‘Philosophical Trans-
actions,’ which was reprinted and forms the first part of his
work on British Sponges, figures a number of the different
forms which these spicules assume, and names them, but in
an irregular manner; and some of the names are of extraordi-
nary length and composition. He gives different names to