

mentioned habit. Many of the species live in a state of commensalism with an Actinia which adheres to the exterior of the shell, and in some cases at least the two are invariably found together.

The Paguroidea are divisible into two branches according to the structure of the gills, whether of the normal phyllobranchiate type as in other Anomura, or of the trichobranchiate type as in many Macrura. These may be termed Laminibranchiata and Fibribranchiata respectively.

LAMINIBRANCHIATA.

Family I. CÆNOBITIDÆ.

- Cenobitidæ*, Dana, U.S. Explor. Exped., vol. xiii., Crust., part i. p. 432, 1852.
 „ Stimpson, Proc. Acad. Nat. Sci. Philad., p. 70, 1858.
 „ Haswell, Catal. Austral. Crust., p. 159, 1882.

Antennular peduncle greatly elongated, the first joint deflexed and as long as or exceeding the eye-stalks, the second and third joints narrow and cylindrical; one of the flagella enlarged. Antennal peduncle compressed, the terminal joint long. Species subterrestrial.

This family includes the genera *Birgus* and *Cænobita*, the species of which are confined to tropical and subtropical regions. Their affinity with *Lithodes*, which was noticed by Milne-Edwards, though he did not accordingly group them together, is well seen in the form of the abdomen.

Genus *Birgus*, Leach.

- Birgus*, Leach, Trans. Linn. Soc. Lond., vol. xi. p. 337, 1815.
 „ Desmarest, Consid. sur les Crust., p. 180, 1825.
 „ Milne-Edwards, Hist. Nat. des Crust., t. ii. p. 244, 1837.
 „ De Haan, Crust. Japon., p. 203, 1850.
 „ Dana, U.S. Explor. Exped., vol. xiii., Crust., part i. p. 435, 1852.
 „ Stimpson, Proc. Acad. Nat. Sci. Philad., p. 70, 1858.

Carapace broadly ovate, with a prominent rostrum in front. Ocular peduncles cylindrical. Abdomen not twisted, broad, the second, third, fourth and fifth segments each with a large, corneo-calcareous, overlapping tergal plate, which occupies the whole width of the segment, and with smaller lateral plates. Under surface of the abdomen membranous, with a plate situated posteriorly, which represents the sixth segment and is provided with a rudimentary appendage on each side; attached to this is a telson of small size. Respiratory chambers spacious, containing fourteen gills on each side, and in addition vascular pulmonary outgrowths.