

Several families of burrowing mussels inhabit the shell-sand, the most important being Veneridæ, Tellinidæ, Astartidæ, Cardiidæ, and Solenidæ. The most characteristic species are *Venus casina*, *V. fasciata*, *Timoclea ovata*, the species of *Tellina* and *Psammodia*, *Nicania banksi*, *Solen ensis* and *Cardium fasciatum*. The common cockle, *Cardium edule*, on the other hand, never occurs here. *Solen ensis* is generally so deeply embedded that an ordinary dredge brings up merely fragments instead of the whole animal. The small species of *Lunatia* belonging to the gasteropod family Naticidæ, and particularly *Lunatia intermedia*, also burrow some distance down, as they feed on little mussels, boring through their thin shells to get at the animals within. *Antalis entalis* is often common here.

Spatangids are represented by *Echinocardium flavescens* (see Fig. 338), the commonest of all, *Spatangus purpureus*, and *Echinocyamus pusillus*, the last named being the only clypeastrid in northern seas. Except perhaps *Spatangus purpureus*, they are not confined to the shell-sand of the skerries, but may be found also in the clay of the sublittoral zone. All of them burrow deeply. Another deep-burrowing form is *Astropecten irregularis*, which also lives in the clay bottom of both the skerries and fjords. This creature has conical legs (without suckers) particularly well adapted for digging, though they compel it to procure its food in a different way from *Asterias rubens*, which preys on large mussels by placing its foot-suckers on their shells and pulling the valves apart till the muscles relax and the shell is opened, whereas *Astropecten* swallows whole little worms, mussels, the young of *Echinocardium*, and other small animals.

The worms are chiefly those belonging to the genera *Glycera* and *Nephtys*, and the family Ophelidæ (*Ophelia limacina* and *Travisia forbesi*). They live down in the sand, where they make long passages that are kept open by having the walls lined with a film of slime.

All these animals are variously equipped for living buried in the sand, which naturally forms a splendid protection against their enemies. The burrowing mussels are provided with two more or less elongated movable siphons, the openings of which

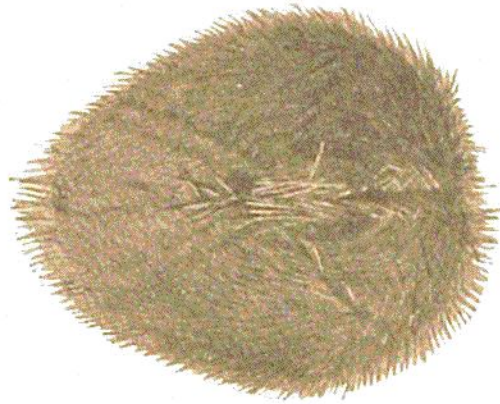


FIG. 338.

*Echinocardium flavescens*, O. F. MÜLL.