

CORAL REEFS

*Nature's
Richest Realm*

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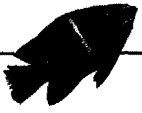
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Inhabitants

Swarming, hovering, creeping, crawling, lurking and hiding amid the attached animals of the reef gardens is an amazing assemblage of free-living inhabitants. Beautiful, grotesque, other-worldly, some are surreal versions of familiar inhabitants of our own gardens, others seem to have materialised from some distant realm of the imagination. Insects and spiders are represented by shrimps and crabs, slugs by colourful nudibranchs and snails by innumerable, beautiful shelled molluscs. Ordinary looking worms burrow in the substrate but others have assumed very un-wormlike, even attractive, guises. Innumerable inhabitants though, have no familiar counterpart unless it be the equivalent of gnomes, fairies, trolls and other such creatures from the depths of our own subconscious.

Beyond the impressionistic experience of the senses and the imagination lies a powerful reality. These creatures are more than just strange and beautiful. They are examples of most major forms of animal life which have evolved in over 700 million years of animal life on Earth. By about 500 million years ago there had developed at least 35 different basic body architectures for animal life. Nine eventually became extinct. The remainder over the succeeding aeons developed innumerable variations on the same basic plans. Today biologists recognise 26 major groups encompassing all animal life. These groups, based on body design, are called phyla. Less than half of them have representatives on land. All are found on coral reefs.

The reef inhabitants span the spectrum of animate being. Sponges occupy a simple vegetative stage of existence with little

we can recognise as behaviour. Corals and their relatives exhibit a few simple reflexes like retracting their polyps when touched. Brightly coloured flatworms possess mobility and a rudimentary eye and brain to direct it. Through the more advanced invertebrates, culminating in crustaceans and most molluscs, there is a general pattern of increasingly sophisticated mobility, sensory systems, and a brain to co-ordinate movement and process sensory input. Up to this point we find behaviour is largely fixed and instinctive with minimal ability to learn.

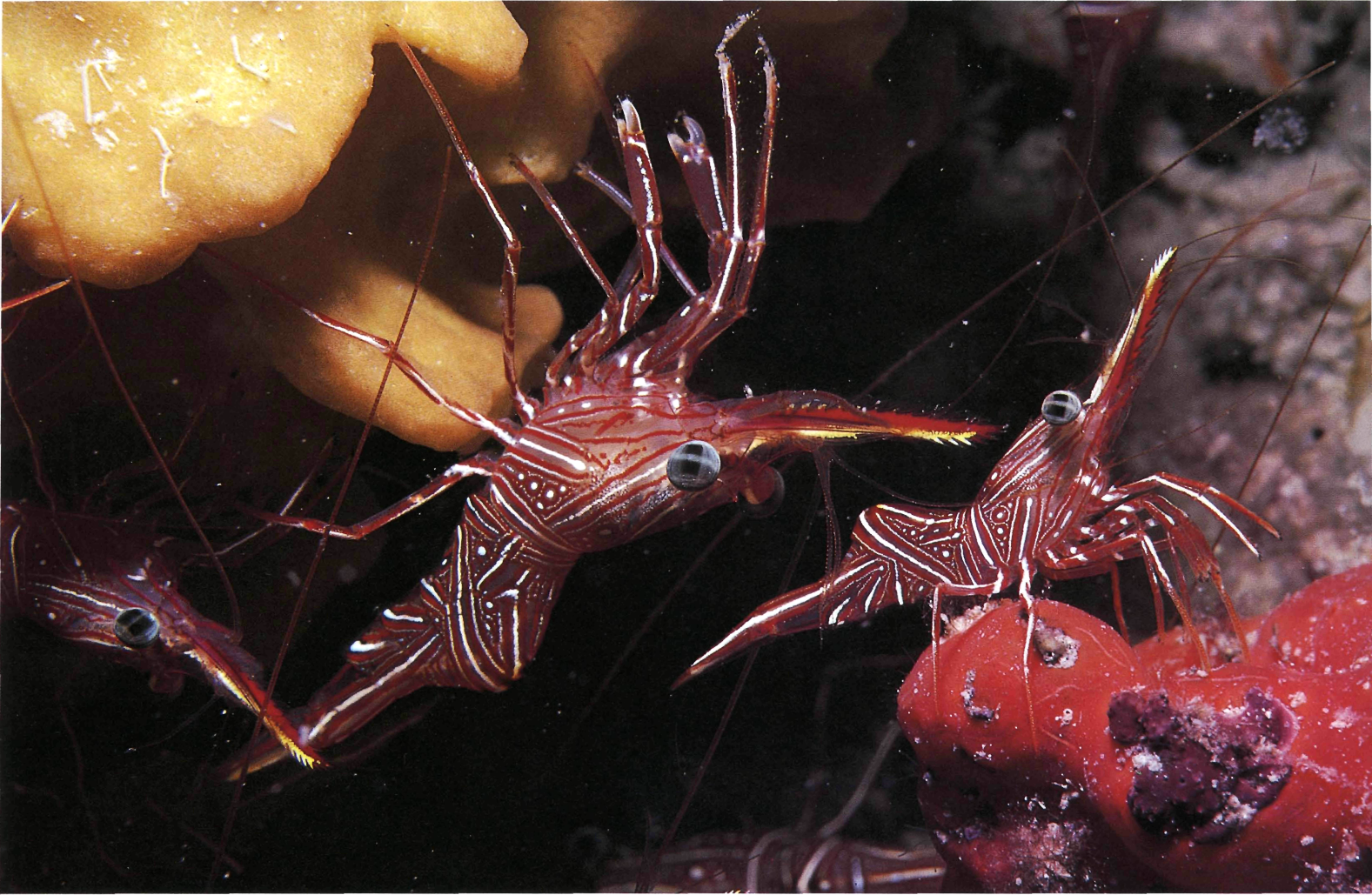
At the next level of evolution, that of fishes and the highest invertebrates, squids and octopi, we find this trend in evolution has reached a threshold whereby stored information from individual experience, i.e. learning, has become an important aspect of behaviour. With it comes the individual differences we call personality. Finally, there are the cetaceans, the whales and dolphins with brains larger and more complex than our own. Their intelligence is obvious. Its concerns and capacities are beyond our present understanding.

Beautiful or grotesque, familiar yet strange, ephemeral but timeless, simple and mysterious, the reef inhabitants embody the essential wonder of life itself. Delicate unlikely assemblages of matter persisting over unimaginable spans of time. Tiny bits of the cosmos interacting with the whole from the molecules around their bodies to the influence of sun and moon to the random genetic changes induced by radiation coming from the infinite reaches of space and time.

Inhabitants



A NOCTURNAL REEF PROWLER, THE HINGEBEAK SHRIMP.



ANOTHER HINGEBEAK SHRIMP. THIS SPECIES LIVES IN GROUPS.