

TABLE 1.1 Developmental Model Organisms Used in This Atlas

MODEL ORGANISM	CHAPTER					
	GAMETO-GENESIS	FERTILIZATION	CLEAVAGE	GASTRULATION	NEURULATION	ORGANO-GENESIS
Nemertean, <i>Cerebratulus</i>			6	7		
Molluscs			6			
Nematode, roundworm (<i>Ascaris</i>)		5				
Grasshopper	3					
Echinoderm, sea urchin		5	6	7		
Echinoderm, starfish	3, 4	5	6	7		
Lancelet, amphioxus (<i>Branchiostoma</i>)	3, 4		6	7	8	
Teleosts: zebrafish and medaka		5	6	7	8	9
Amphibians	3, 4	5	6	7	8	9, 10
Chicken	3, 4	5	6	7	8	9, 11
Mouse	4	5	6	7	8	
Rat	3					
Rabbit	3					
Cat	4					
Sheep	3					
Pig	4			7	8	9, 12
Monkey	3, 4				8	

MOLLUSCA

The Mollusca include chitons, limpets, clams, mussels, scallops, oysters, snails, sea slugs, squids, octopi, and chambered nautili (Fig. 1.3). They are dioecious, usually not sexually dimorphic, and breed seasonally. Of the 50,000 species, only certain ones have been adopted as useful

models to study development. These include: the snails (*Lymnaea*, *Ilyanassa*, and *Nassarius*), limpet (*Patella*), surf clam (*Spisula*), and mussel (*Mytilus*). Their rapidly developing embryos are excellent models to study fertilization, cleavage, gastrulation, and larval stages (Table A.2). Fig. 1.4 shows a mollusc larva called a trochophore. Depending on the species, the trochophore will either metamorphose



FIGURE 1.3
Adult bivalve molluscs. (A) surf clam, *Spisula solidissima* shell, and (B) living edible mussel, *Mytilus edulus*.

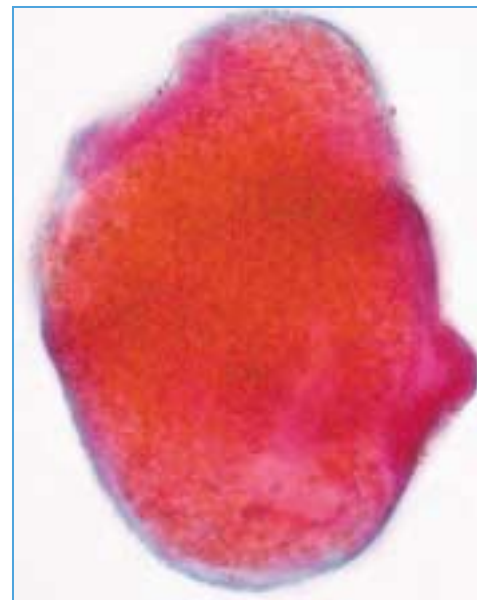


FIGURE 1.4
Whelk trochophore larva. The cilia are not visible.