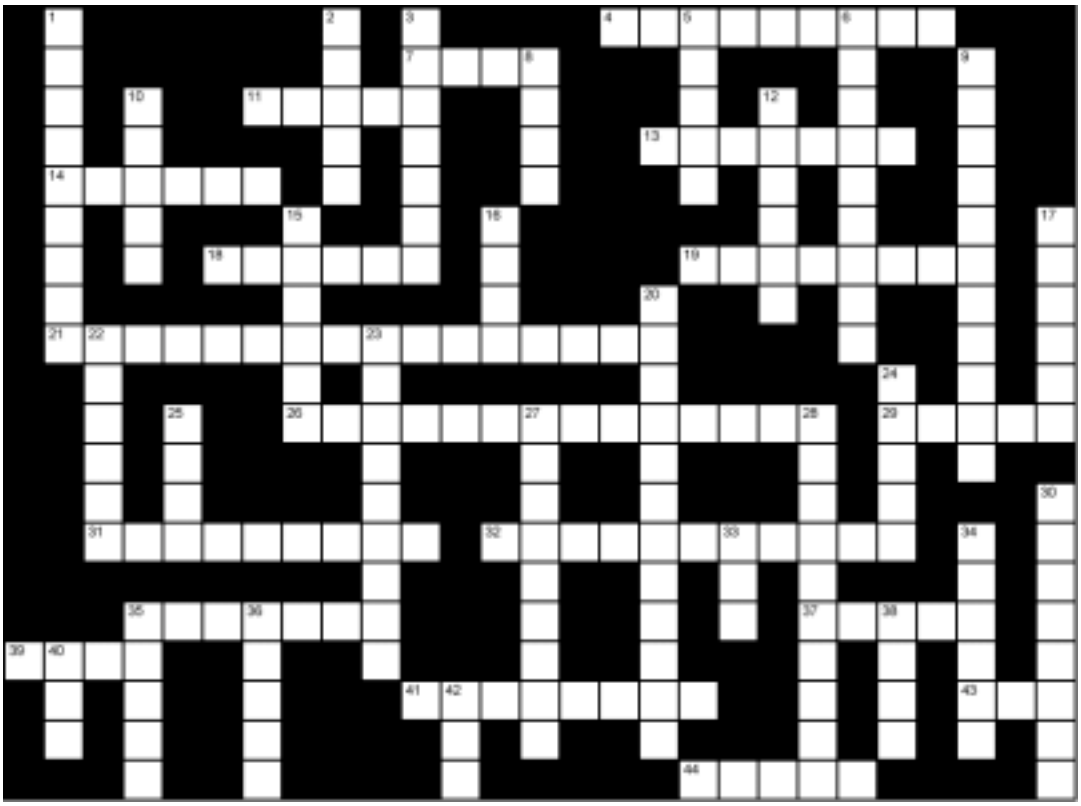
Crossword Puzzle – Mollusca



Puzzle solution. An interactive web based version of this puzzle, and its solution, are available on the *Digital Zoology* web site at www.mhhe.com/DigitalZoology/Students. With the interactive puzzle you can check to see if individual words or the whole puzzle is correct, and get hints for single letters.

Across

4 These are the larval stages of the freshwater clams. (9)

7 The oldest part of the bivalve clam shell. (4)

11 The blood passes through these just before entering the heart in a mollusc. (5)

13 One of the other larval stages common in molluscs. (7)

14 The edge of this tissue secretes the shell and creates the cavity that bears its name. (6)

18 When the shell adductor muscle contracts in a clam, this happens to the shell. (6)

19 Describes the molluscan gill. (8)

21 Digestive enzymes in the stomach of the clam are released from this spinning structure. (11,5)

26 This filters the fluid of the pericardial cavity in a mollusc. (14)

29 This part of the circulatory system is inside the pericardial cavity of molluscs. (5)

31 Instead of ancestral, the A in H.A.M. should be this. (9)

32 The radula in a mollusc sits on this cartilaginous tonguelike structure. (11)

35 The asymmetric body plan of a snail is a result of this. (7)

37 These structures are used to propel water across the mollusc ctenidia. (5)

39 The radula resembles this type of tool found in a toolbox. (4)

41 The more technical term for the mother-of-pearl layer of a mollusc shell is this layer. (8)

43 The shell of a clam is composed of this number of valves. (3)

44 True or false: The spiral shell of a mollusc is a direct result of torsion. (5)

Down

1 The inner shell layer in a mollusc. (9)

2 Describes each half of a clam's shell. (5)

3 In squids the gills are no longer covered in cilia now that these are used to pump water in and out of the mantle cavity. (7)

5 Relative to the other layers of a mollusc shell, the position of the periostracum. (5)

6 Once the food has been sorted in a mollusc, it passes into this gland to be biochemically broken down. (9)

8 Molluscs have this type of a circulatory system. (4)

9 In molluscs, the true coelom is this cavity. (11)

10 This ligament makes the clam shell pop open when the adductor muscles relax. (5)

12 The bivalves, like clams, are specialists at this type of feeding. (6)

15 Unlike the flatworms that came before them, the molluscs added this to their mesoderm. (6)

16 Because of torsion, you'll find this on top of a snail's head. (4)

17 There's no ciliated larval stages in cephalopods; instead, miniature animals that resemble the adults hatch from the egg. It's referred to as this type of development. (6)

20 Conchiolin is a protein embedded in this layer of the mollusc shell and helps protect the shell. (12)

22 The unique molluscan feeding structure. (6)

23 In clams, the heart wraps around this as it passes through the pericardial cavity. (9)

24 To improve circulation, predatory molluscs, such as the squid, have this many hearts. (5)

25 The brain of most molluscs resembles this because it surrounds the esophagus. (4)

27 Squids and octopods are molluscs adapted to this type of feeding lifestyle. (9)

28 Snails are referred to as this because both sexual organ systems are found in each animal. (10)

30 The molluscs have an open circulatory system and blood pools here. (8)

33 All that remains of the mollusc shell in a squid is a short rod referred to as this. (3)

34 Highly active squids have more than one of these in their circulatory system. (6)

35 There are thousands of these on the surface of the radula, and they can scrape, pierce, tear, or cut at a mollusc's food. (5)

36 You can tell where the muscles of the clam attach to its shell because you'll see these on the shell surface. (5)

38 Terrestrial snails breath using this instead of gills. (4)

40 Secretions from this gland act as decoy allowing cephalopods to make their escape. (3)

42 The material that flows through a pneustome. (3)