pheral margin (Lacombe, 1970). Pedunculate species release cement as a single mass around the base of the peduncle. Sessile species secrete distinct, concentric rings of cement following expansion of the basis through radial growth. The rings may be physiologically linked to the moult cycle (Walker, 1992).

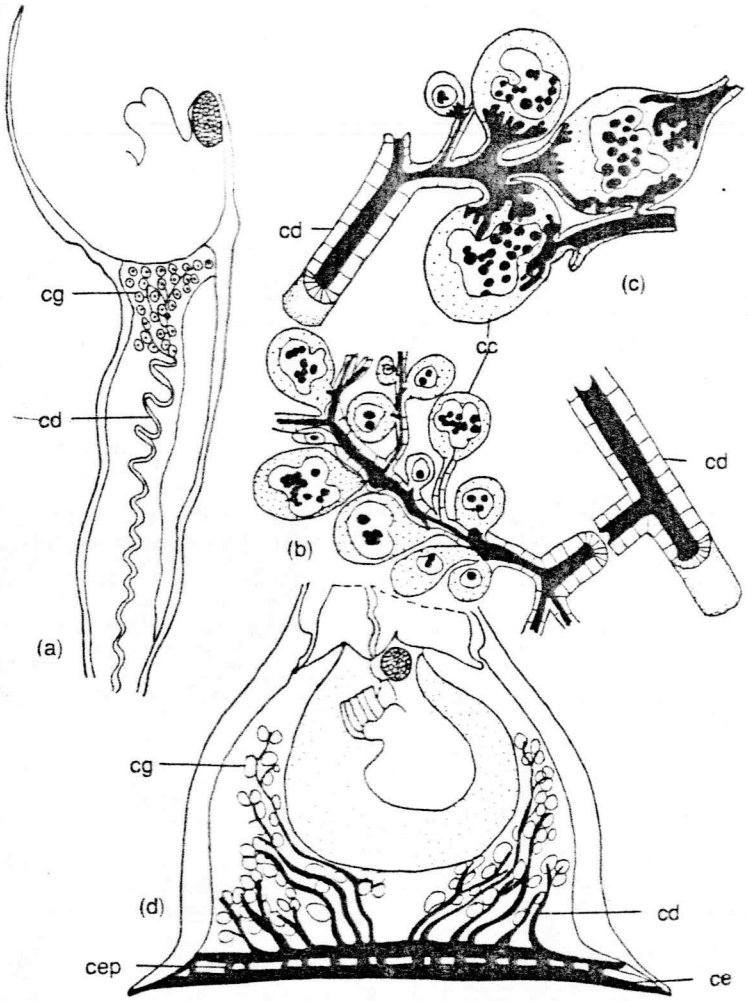

Figure 5.8 Cement glands of adult barnacles: (a) cement glands of *Lepas anatifera*; (b) histology of cement glands of *L. anatifera*; (c) histology of cement glands of *Balanus*. (d) cement glands of *Balanus*. cc = cement-secreting cells; cd = cement duct; ce = cement; cg = cement gland; cep = secondary cement pore. (Modified after Lacombe and Liguori. 1969; Lacombe, 1970.)

mingled with
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lobulated nuc
the cytoplasm
proteins, phen
is probably co
provides stron
fluid and polyn
Dougherty, 199

nkton bloom. Crisp (1956) and Barnes (1957)
ividuals of the species do not liberate their
xtracts of whole barnacle in sea water
nce this substance was more potent
as obviously a product of the
ng for release (the correlative
pliar food supply).
nism is more subtle than
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temia) is necessary
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5.5.2 Cirral gla

During mating
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The timing of ev
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posterior faces of
is composed of fo
reservoir with an
and the mating cy
species with a sing
year. Cirral glands
(May), then gradua
autumn. By Nove
copulates in Nove
phase of the breedi
are lost at the Janu
hooded larvae. Ex
role of the cirral glan

5.5.3 Ovigerous frenae

Exocrine secretions have a second role in reproduction, in the attachment of egg lamellae within the mantle cavity. Pedunculate cirripedes have prominent ovigerous frenae (Chapter 6) to which the egg lamellae adhere. At the free end (Figure 5.9), these projections bear the openings of numerous glands with proteinaceous contents. Each is a typical epidermal gland consisting of four secretory cells with a common duct. The case of *Conchoderma auritum* have been studied in the most detail (Walker 1983, 1992). When acting as a functional female, *C. auritum* moults just prior to copulation. The adhesive glands of the ovigerous frenae attain maximum development at this moult. When oviposition