



Fig. 1. The first picture of archaeocytes. (Modified from Sollas, 1887, p. 419). ar – archaeocytes

80x52mm (300 x 300 DPI)



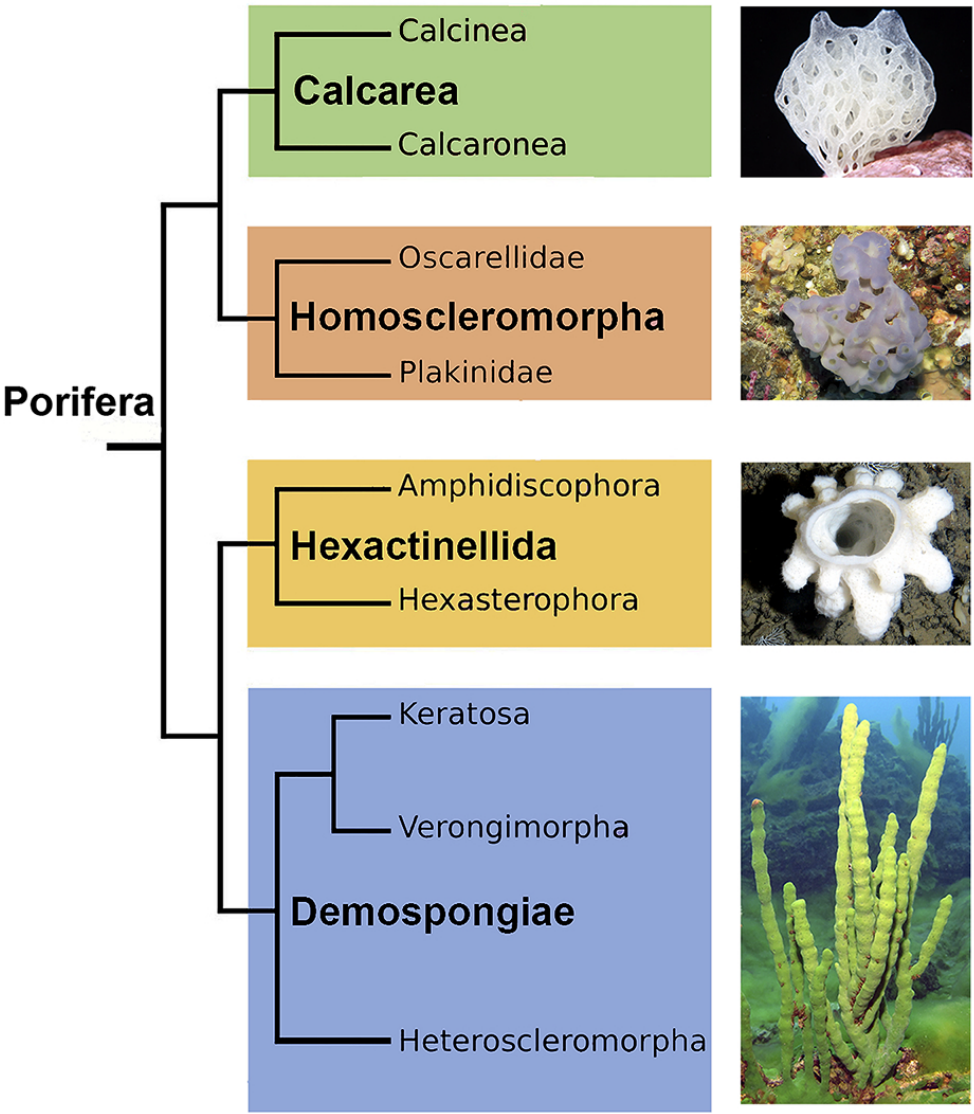


Fig. 2. Phylogenetic relationships among the main taxa of Porifera based on the results of molecular phylogenetic studies.

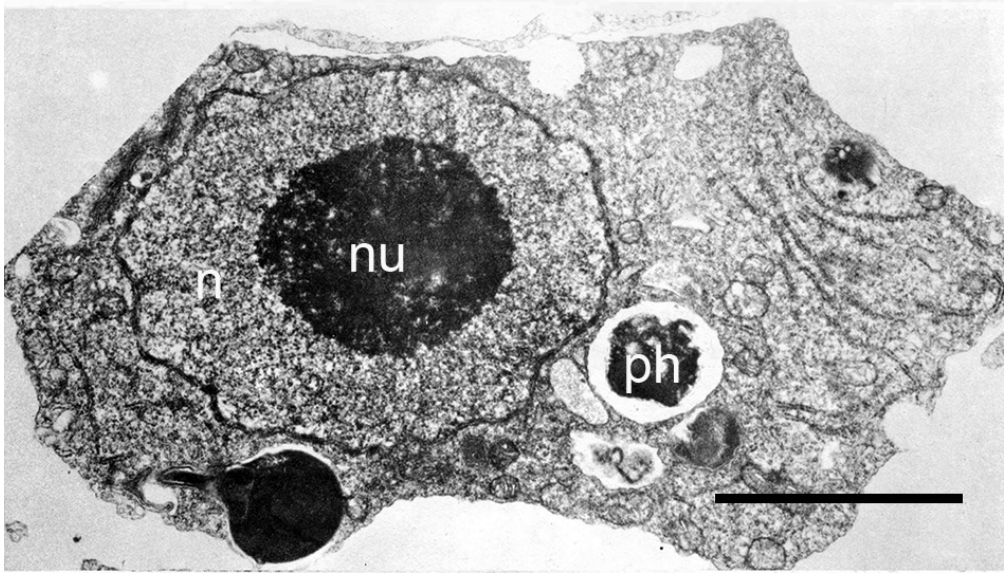


Fig. 8. A – TEM image of the typical archaeocyte of adult *Ephydatia muelleri*. (Modified from Pottu-Boumendil, 1975). n, nucleus; nu, nucleolus; ph, phagosome. Scale bar: 2µm.



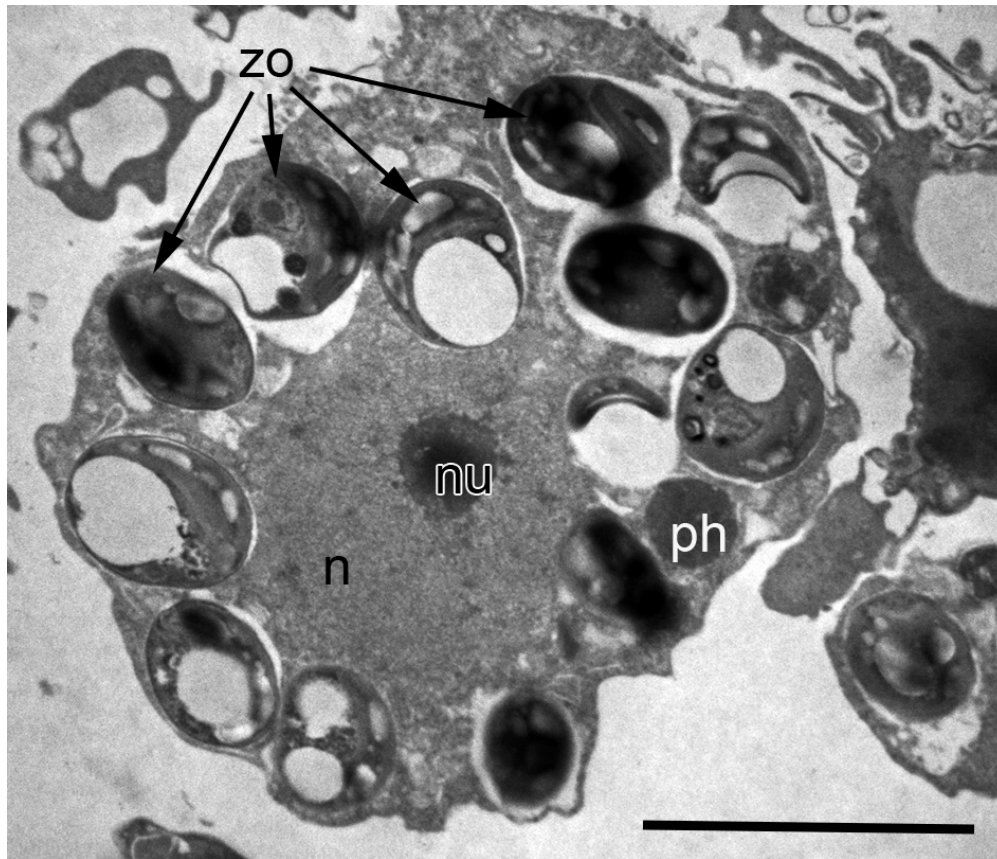


Fig. 9. TEM image of archaeocytes of *Lubomirskia baicalensis*. n, nucleus; nu, nucleolus; ph, phagosome; zo, endosymbiotic zoochlorella. Scale bar: 5 μm.

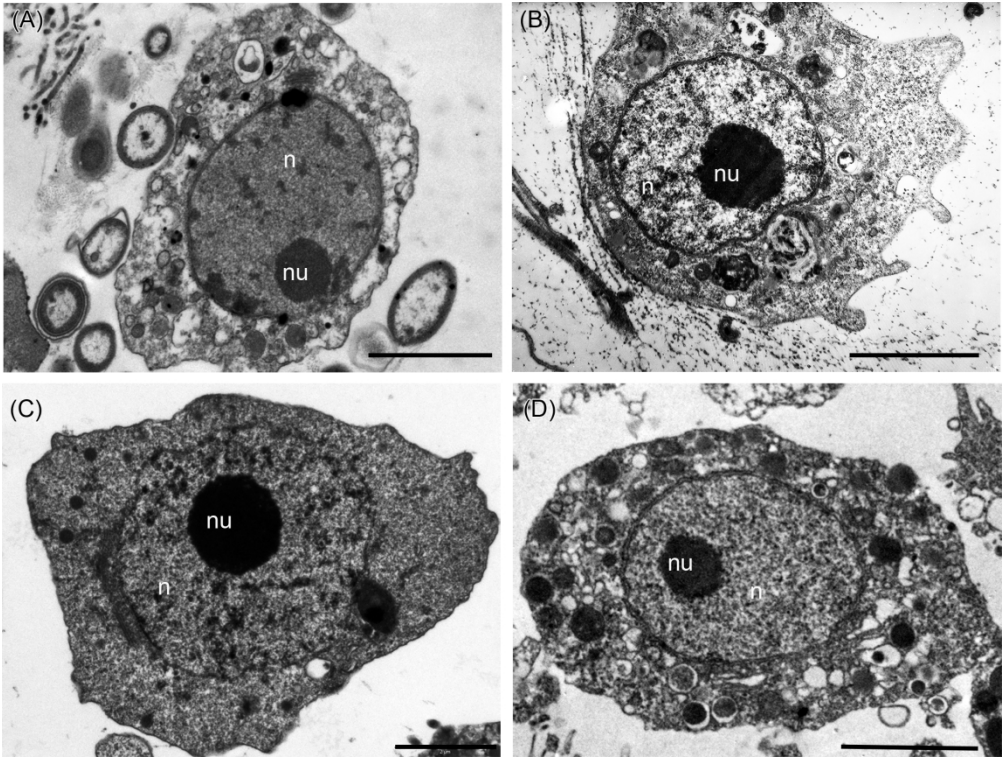


Fig. 10. TEM of archaeocytes of different demosponges. (A) *Spongia officinalis* (order Dyctyoceratida). (B) *Halisarca dujardini* (order Chondrillida). (C) *Crellomima imparidens* (order Poecilosclerida). (D) *Suberites domuncula* (order Suberitida). aG, Golgi apparatus; n, nucleus; nu, nucleolus; ph, phagosome. Scale bars: A - D - 2 μ m.

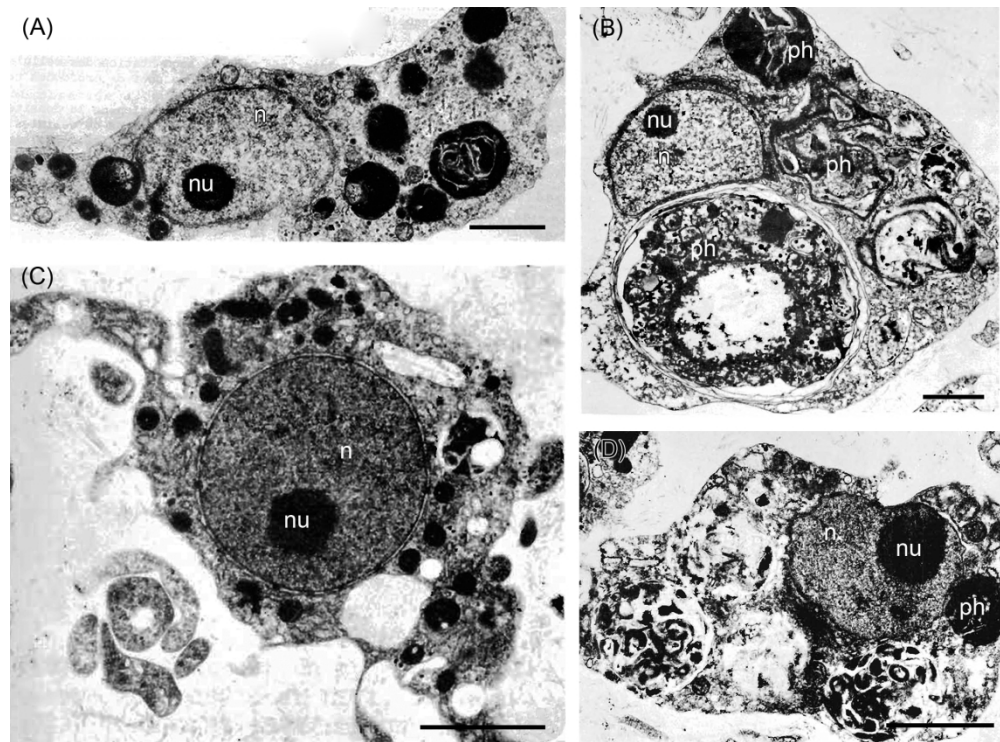


Fig. 11. TEM image of different archaeocyte morphs in demosponge *Suberites massa*. (A) Archaeocyte with electron dense granules in the cytoplasm. (B) Archaeocyte with macrophagic activity containing heterophagosomes. (C) Hyaline archaeocyte (polyblast) with rare large inclusions or secretion grains. (D) Archaeocyte with a few large digestive vacuoles in the cytoplasm. (Modified from Diaz, 1979). n, nucleus; nu, nucleolus; ph, phagosomes. Scale bars: A-D – 2µm.



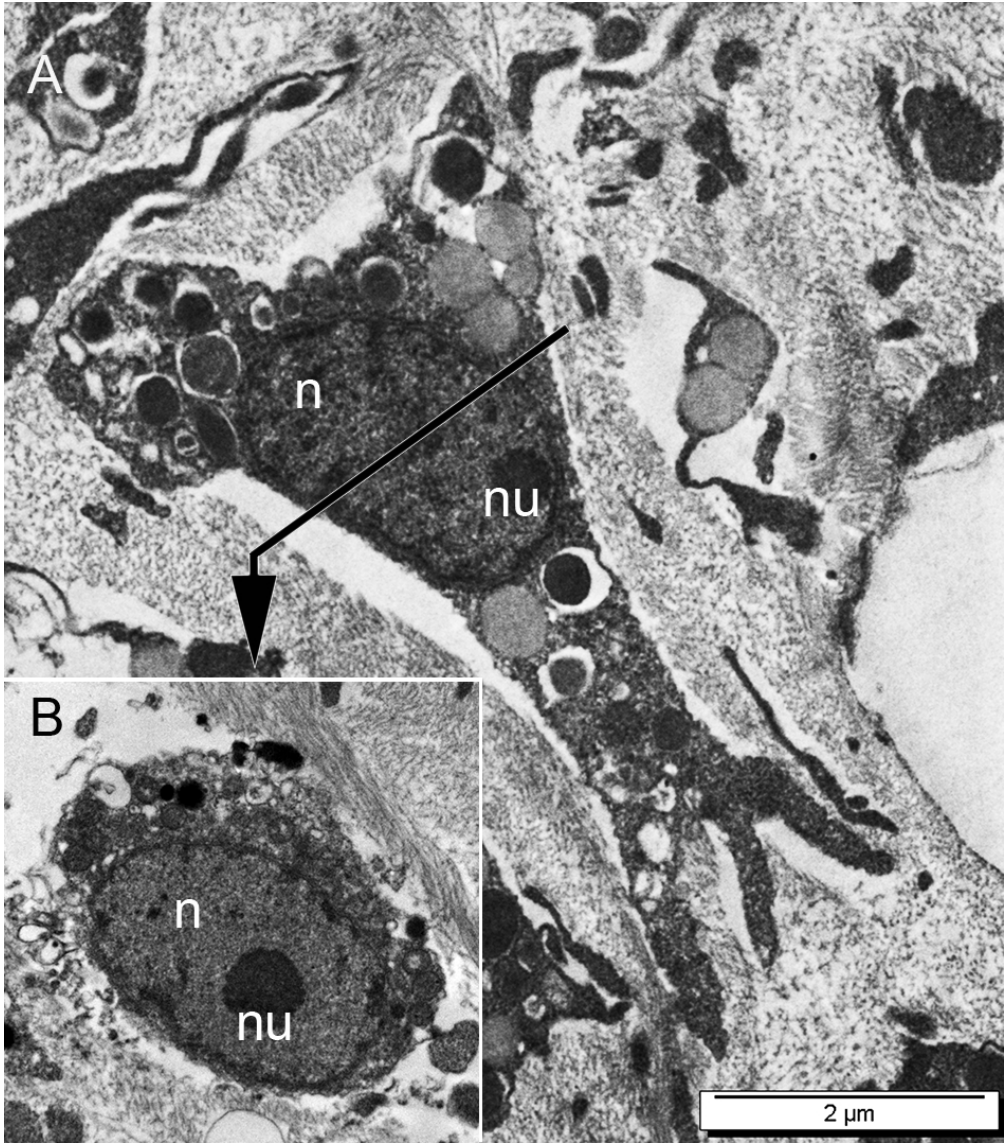


Fig. 12. TEM images illustrating a common error: the interpretation of a transverse section of any specialised cell as an archaeocyte. A – longitudinal section of a collencyte of *Suberites domuncula*. B – transverse section of the same cell through the nucleus (shown by the line and the arrow). n, nucleus; nu, nucleolus. Scale bar: 2 μm.



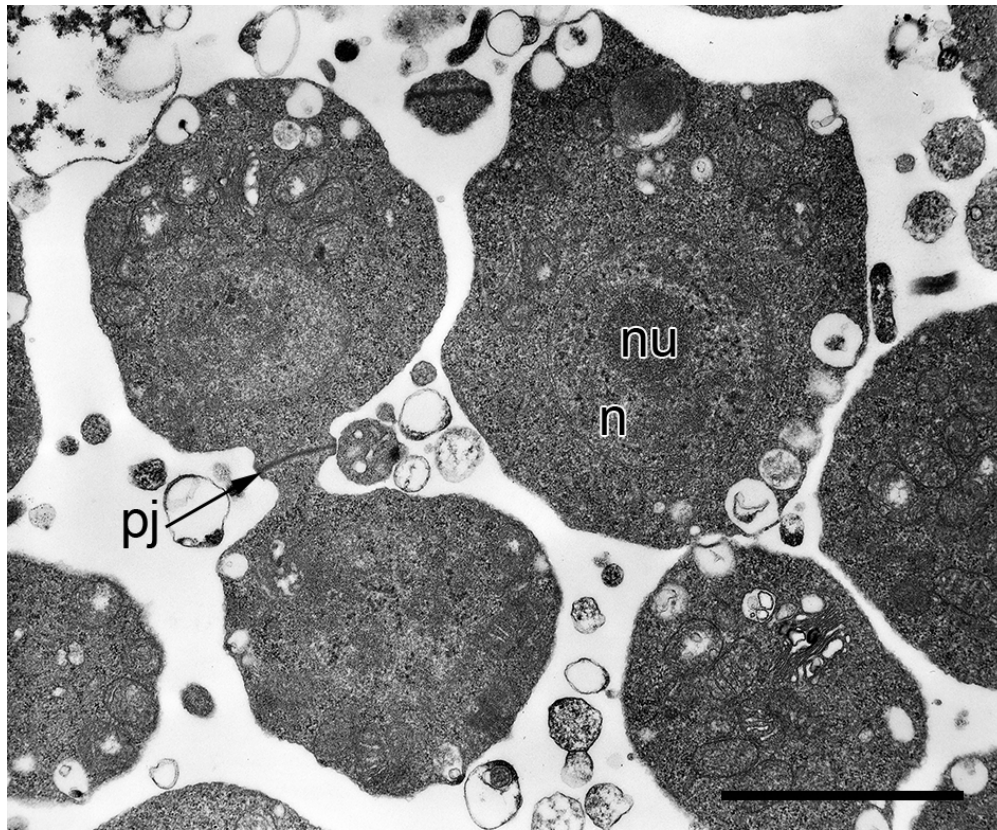


Fig. 13. TEM images of archaeocytes of *Oupsacas minuta* (Hexactinellida) in congeries (credit: J. Vacelet). n, nucleus; nu, nucleolus; pj, plug junction. Scale bar: 2 μ m.



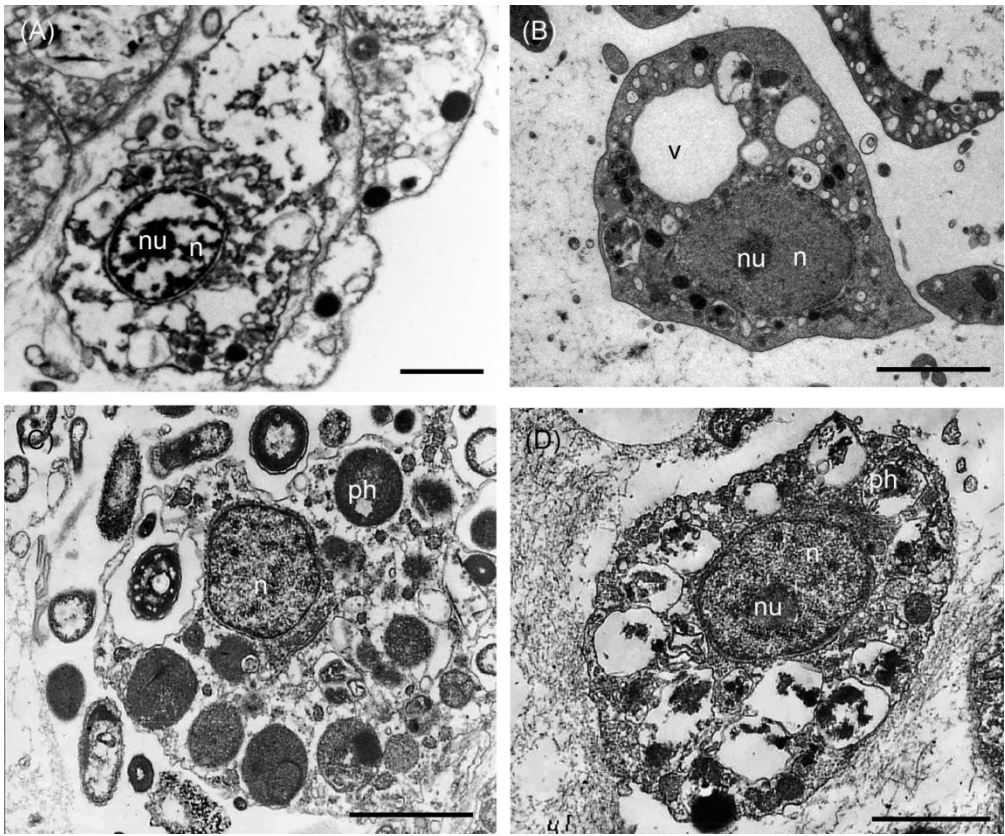
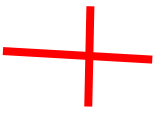


Fig. 14. TEM images of archaeocyte-like cells in Homoscleromorpha. A – *Oscarella malakhovi*; B – *Oscarella pearsei*; C – *Plakina trilopha*; D – *Plakina crypta* (C, D – credit: G. Muricy). n, nucleus; nu, nucleolus; ph, phagosomes; v, vacuole. Scale bars: A - D – 2µm.



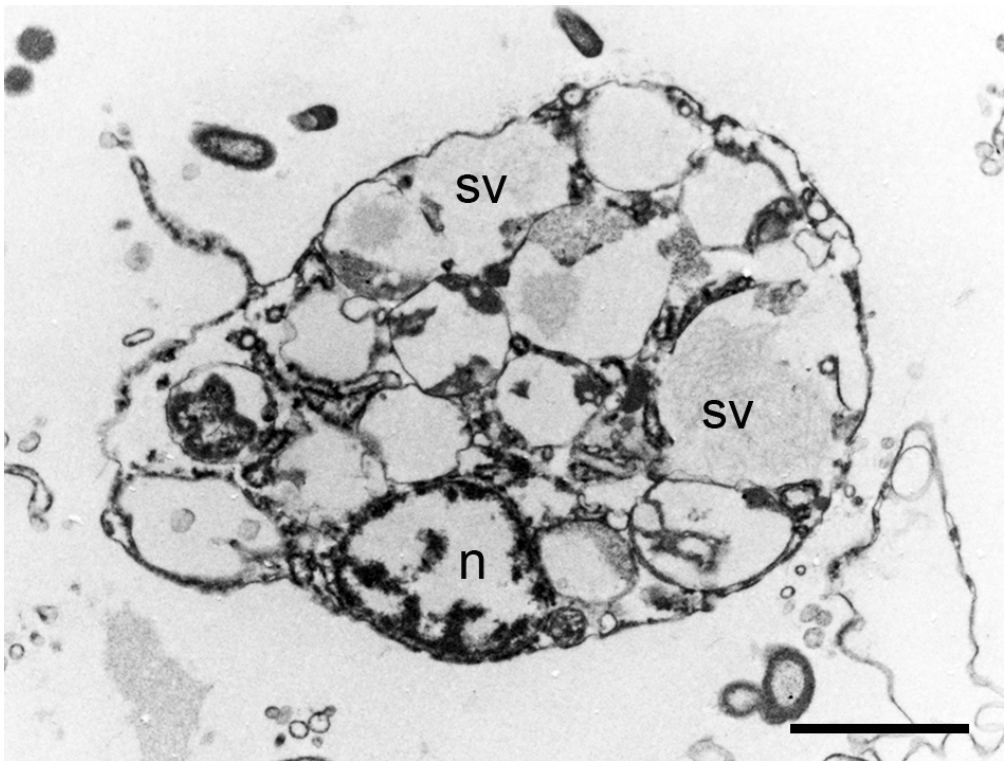


Fig. 16. TEM image of type 2 vacuolar cells in *Oscarella lobularis*. n, nucleus, sv, secretory vacuole. Scale bar: 2 μ m.

В раздел по регене-
рации и реагрегации
- суммарная схема
всех известных
превращений клеток

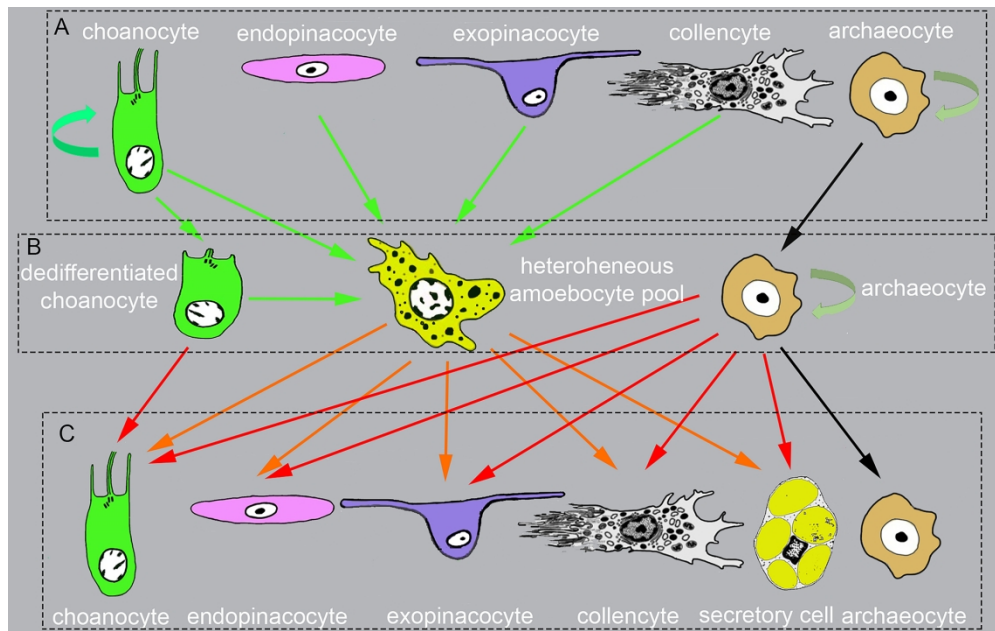


Fig. 19. General scheme of plasticity, self-renewal, and differentiation dynamics in Demospongiae after tissue dissociation. A – cell dedifferentiation; B – primary aggregates; C – new developing sponge. Flash colours: green – dedifferentiation; red – differentiation; blue – transdifferentiation.

???

На основе этой схемы можно сделать финальную
схему: амебоциты заняты в разных физиологиче-
ских функциях, могут переходить в состояние
археоцита

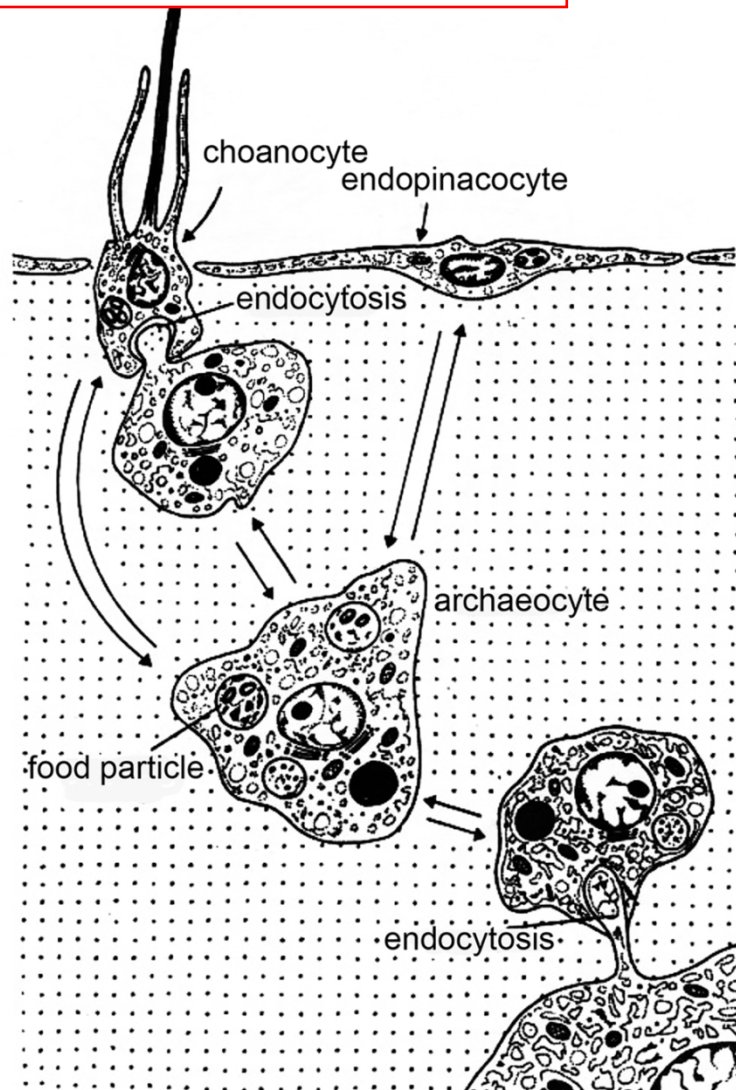


Fig. 17. Schematic representation of nutritional processes in demosponges: ingestion of nutrient substances, dissolved or formed, by choanocytes and by endopinacocytes; digestion of nutrients in vacuoles of choanocytes, endopinacocytes and archaeocytes; distant transport of nutritive materials by mobile archaeocytes in the mesohyl; transfer of nutritive materials through intercellular connections established on the one hand between choanocytes or endopinacocytes and archaeocytes and on the other hand between archaeocytes and all cell categories of the sponge (Modified from Diaz, 1979).

80x128mm (300 x 300 DPI)

В раздел про эволюционную гипотезу

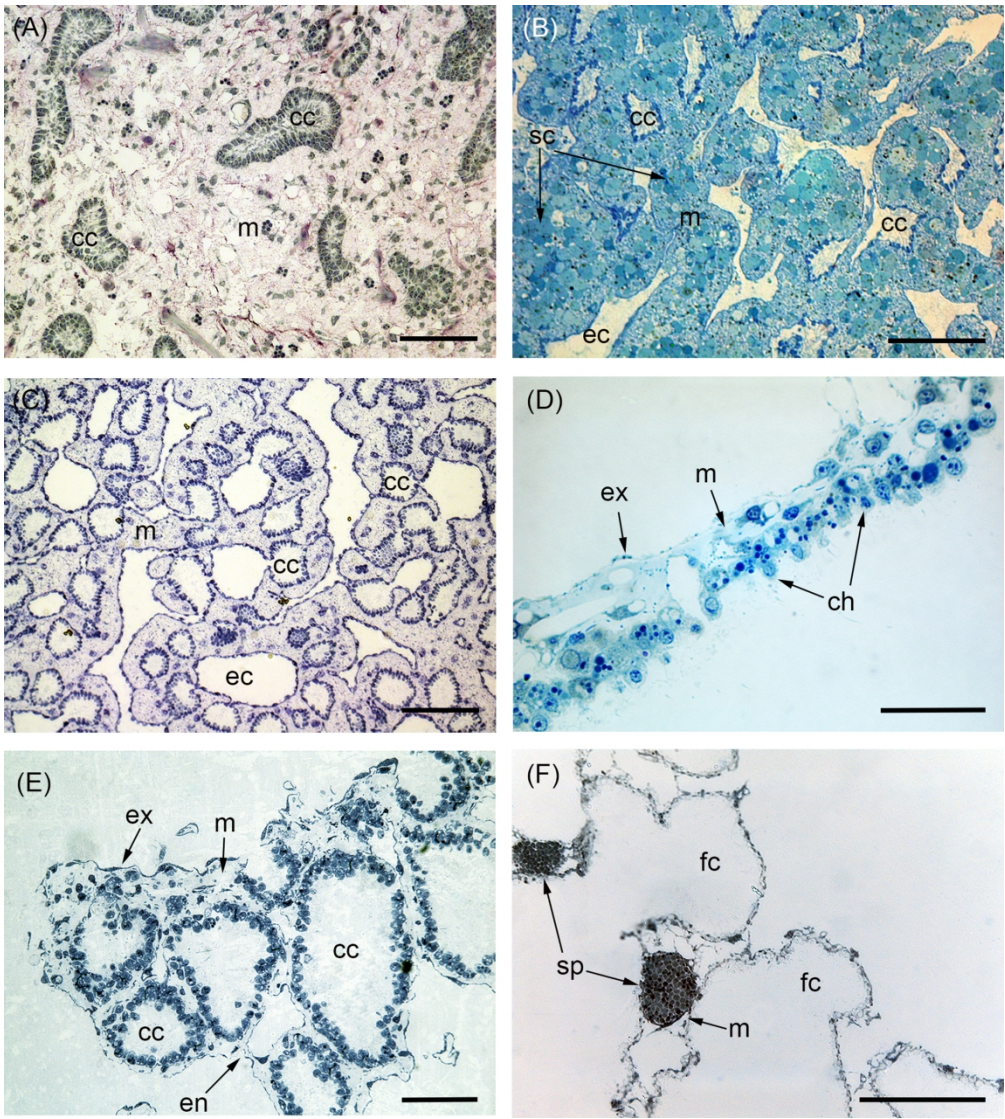


Fig. 20. Semithin sections showing mesohyl volume in various sponges with different organisation of aquiferous system. A – leuconoid organisation in *Halisarca dujardinii* (Demospongiae). B – leuconoid organisation in *Oscarella lobularis* (Homoscleromorpha, Oscarellidae). C – leuconoid organisation in *Plakina jamaicensis* (Homoscleromorpha, Plakinidae). D – asconoid system in *Leucosolenia variabilis* (Calcarea). E – syconoid organisation in *Sycon ciliatum* (Calcarea). F – Organisation of syncytial sponge *Oopsacas minuta* (Hexactinellida). cc, choanocyte chamber; ch, choanocytes; en, endopinacocytes; ex, exopinacocytes; fc, flagellated chamber; m, mesohyl; sc, secretory cells; sp, spermatic cyst. Scale bars: A-C, E, F – 50µm, D – 30µm.

457x509mm (118 x 118 DPI)

В раздел про эволюционную гипотезу

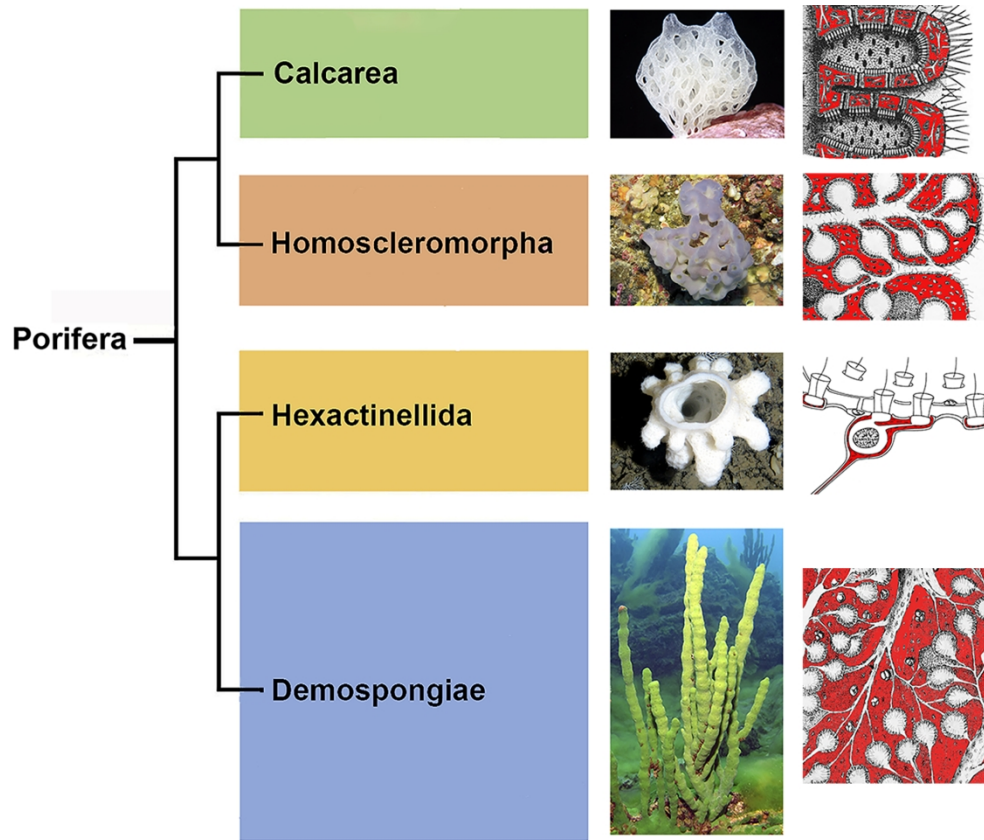


Fig. 21. Diagram showing mesohyl volume in different classes of sponges. Red colour shows mesohyl.

457x384mm (118 x 118 DPI)