

# Introduction to Biology. Lecture 21

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- 1 Where we are?
  - Origin of animals
- 2 Animals
  - Basic principles of animal body construction



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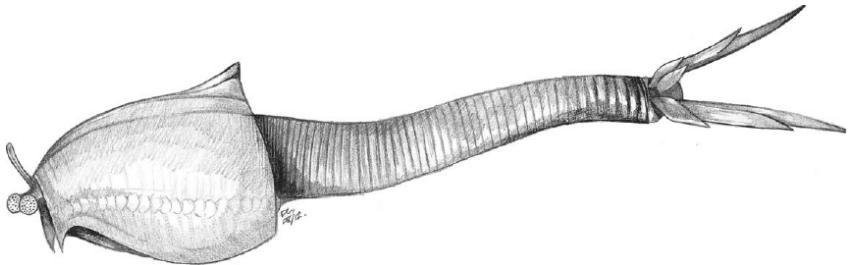


# Where we are?

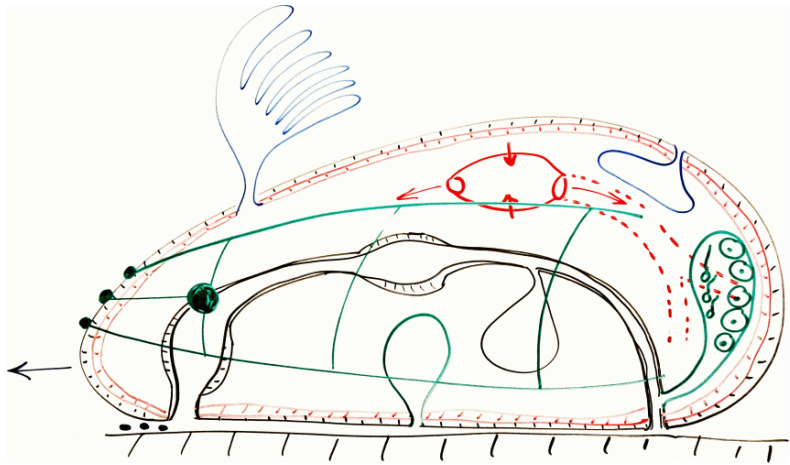
## Origin of animals



# *Neocaris*—fossil Orsten filtrator, ancestor of arthropods



# Generalized animal (another variant: worm)



# Animals

## Basic principles of animal body construction



# Symmetry

- Absent
- Radial
- Bilateral
- Secondary radial





# Body parts

- Cup-shaped whole body
- Vermicular body
- Segmented body
- Body with appendages
- Head and tail



# Locomotion

- Peristaltic motion: crawling without appendages (vermicular motion)
- Bending motion (nematode worms)
- Swimming with appendages
- Crawling with appendages
- Walking with appendages
- Walking with water-vascular system
- Jet motion



# Summary

- Basic organ systems of animals are responsible for
  - locomotion and support;
  - feeding, excretion and osmoregulation;
  - circulation and gas exchange;
  - signaling and reception;
  - reproduction.



# For Further Reading



**Animal.**

<http://en.wikipedia.org/wiki/Animal>

