Figure 1. Radula of *Pomacea canaliculata*.
Arthropoda
• **Subphylum Trilobitomorpha**
  – Trilobita – trilobites (extinct)
• **Subphylum Chelicerata**
  – Arachnida – spiders, scorpions, etc.
  – Xiphosura – horseshoe crabs
  – Pycnogonida – sea spiders
  – Eurypterida – sea scorpions (extinct)
• **Subphylum Uniramia**
  – Chilopoda – centipedes
  – Diplopoda – millipedes
• **Subphylum Hexapoda**
  – Insecta – insects
• **Subphylum Crustacea**
  – Branchiopoda – brine shrimp etc.
  – Cephalocarida – horseshoe shrimp
  – Maxillopoda – barnacles, fish lice, etc.
  – Malacostraca – lobsters, crabs, shrimp, etc.
Hemimerus Hansenii
(After Hansen.)
Three Basic Characteristics of Arthropods (Insects and their Relatives)

- Jointed appendages
- Segmented body
- External skeleton

Insect (bed bug)
Spider (Brown recluse spider)
Examples of some arthropods

bee
fly
spider
flea
crab
Complete Metamorphosis: Life Cycle of the Lady Beetle

- Eggs
- Larva
- Pupa
- Adult