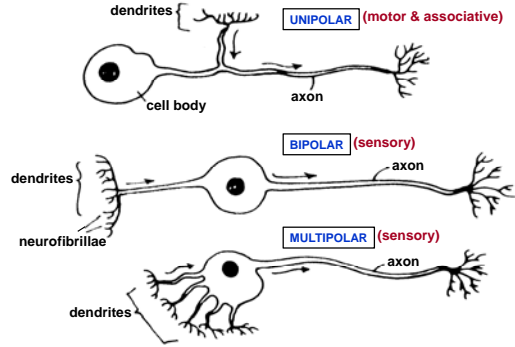
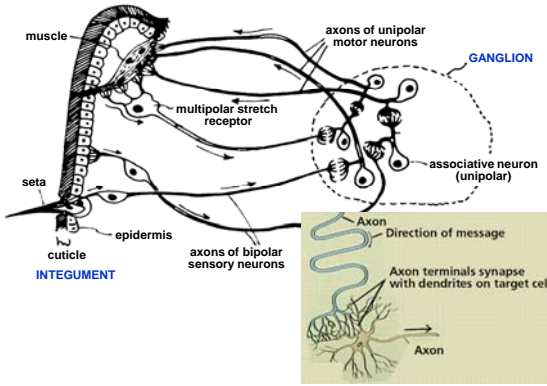


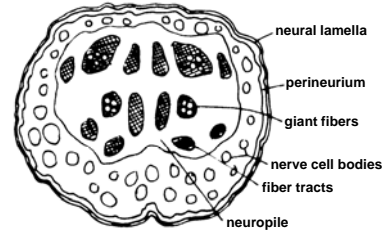
Types of neurons



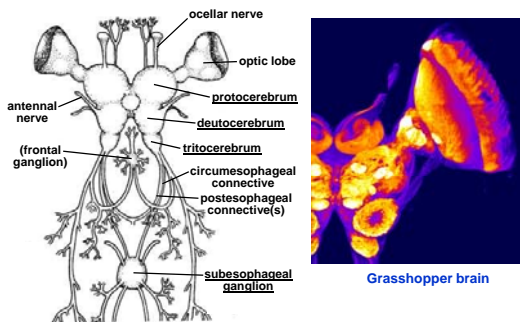
Nerve connections



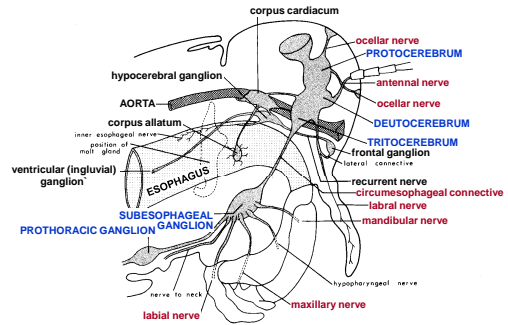
Brain or ganglion, cross-section

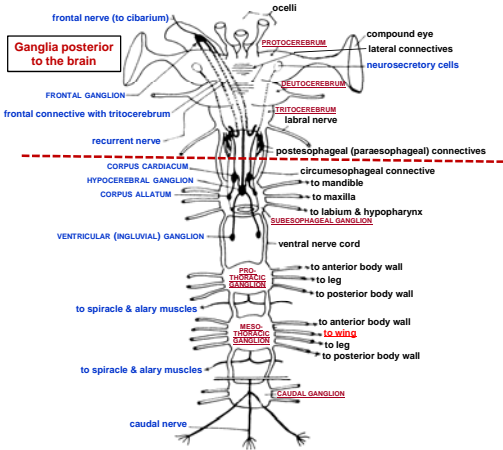


The insect brain



The CNS: anterior components





Ganglia posterior to the brain



Dytiscidae (Coleoptera): 1/4000



Pompilidae (Hymenoptera): 1/400



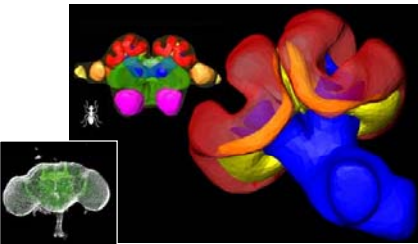
Termitinae (Isoptera): 1/280



Apidae (Hymenoptera): 1/75

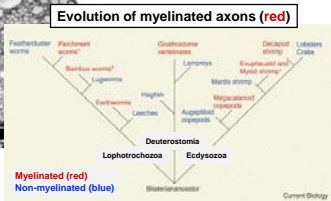
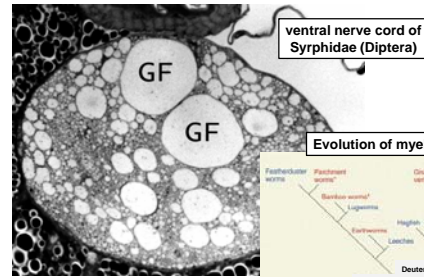
Brain sizes (as fraction of body weight)

Mushroom bodies or corpora pedunculata (Ex. = worker ant brain)

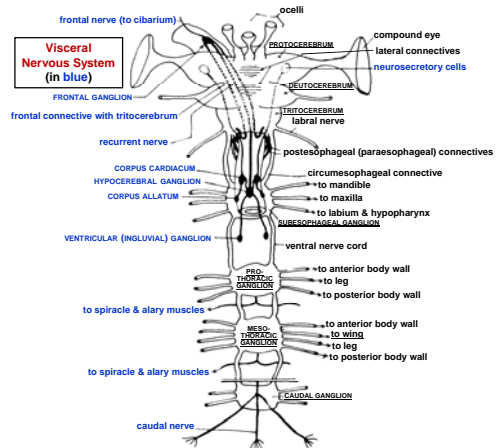
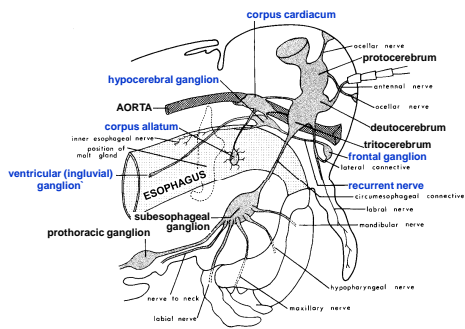


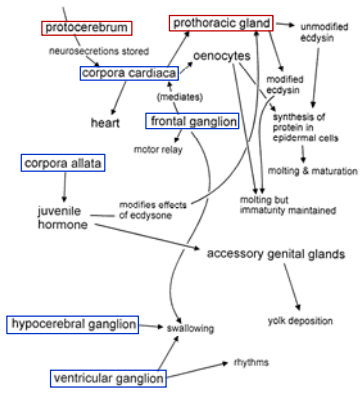
...and in *Drosophila*
 yellow = visual data
 red = olfactory data
 blue = higher associative centers

Giant fibers (axons)



The VNS: stomatogastric components



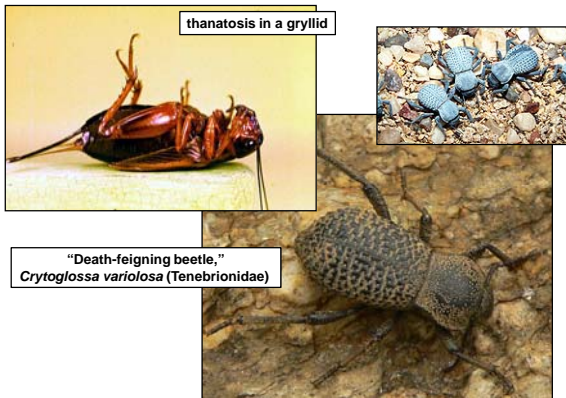


Nymphalis antiopa – the mourning cloak butterfly



(experiments on neural integration)

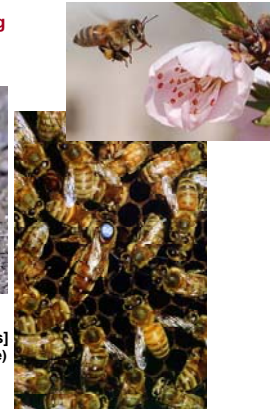
Reflex immobilization (thanatosis)



Learning



Landmark orientation
(Digger wasp – Hymenoptera: Sphecidae)



Conditioning [to nectar sources]
(Honey bee – Hymenoptera: Apidae)

Learning through Imprinting

(host fidelity and speciation – Diptera: Tephritidae: *Rhagoletis pomonella*)

