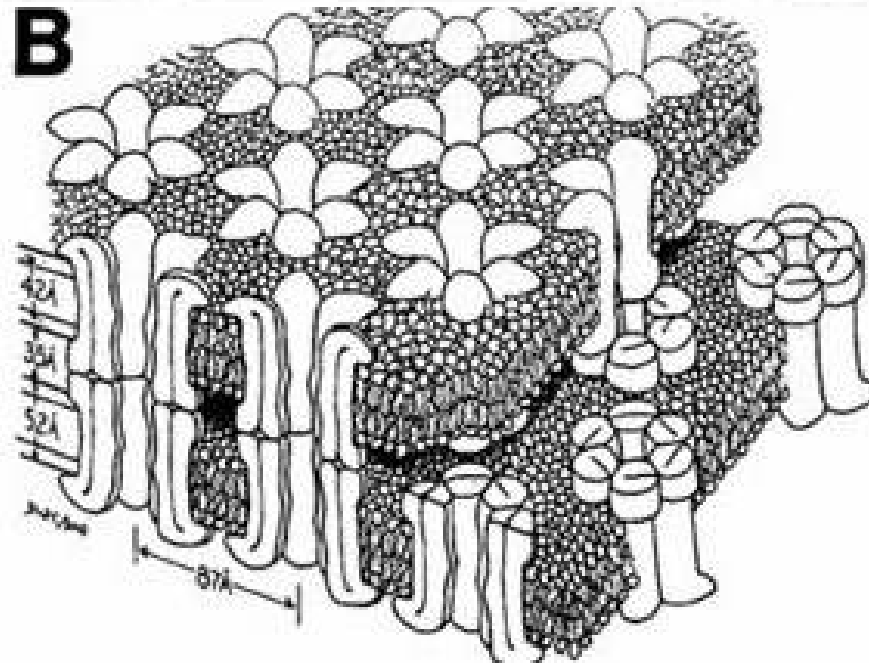
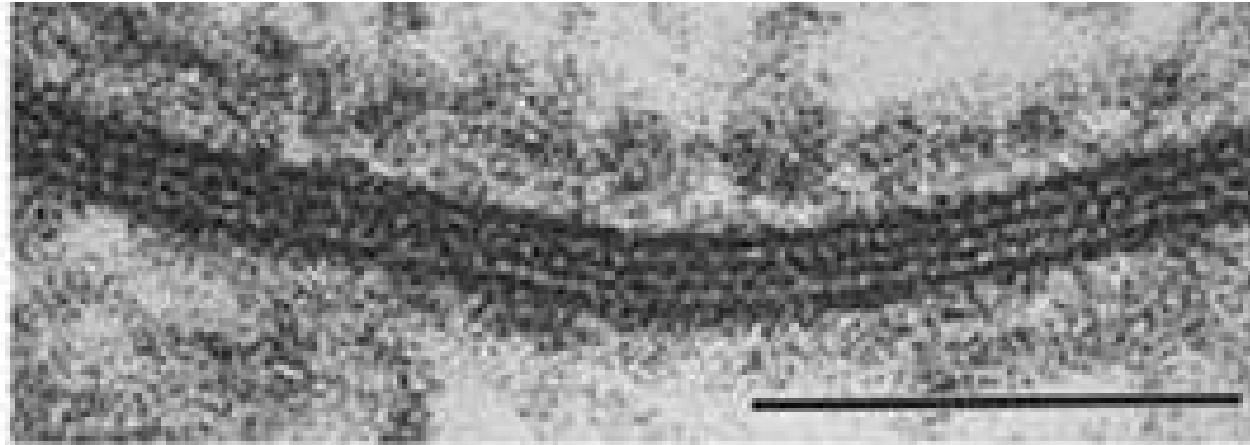


A chemical synapse, by EM

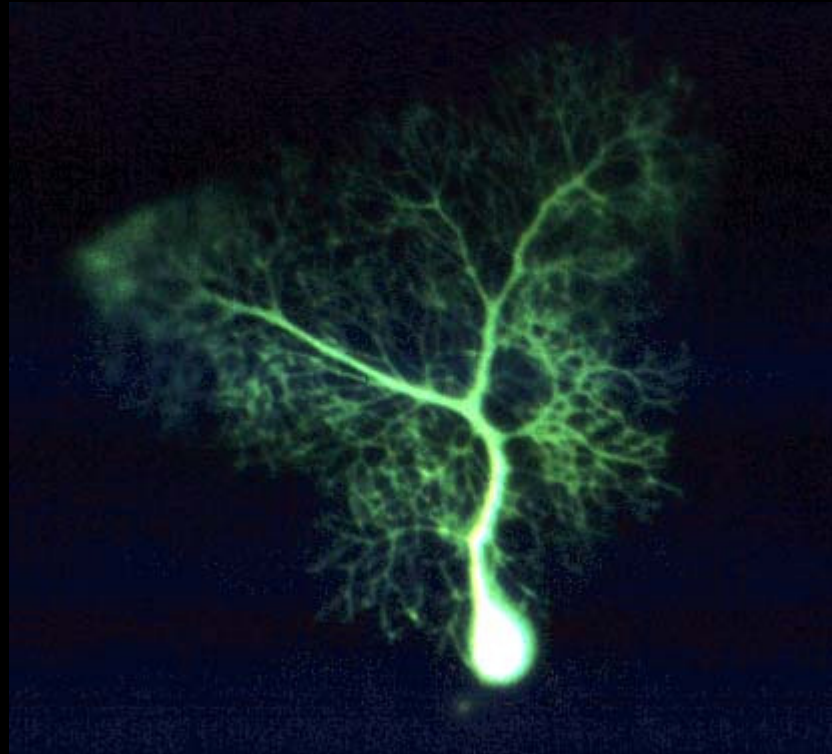


<http://web.as.uky.edu/Biology/faculty/cooper/CooperRes2.htm>

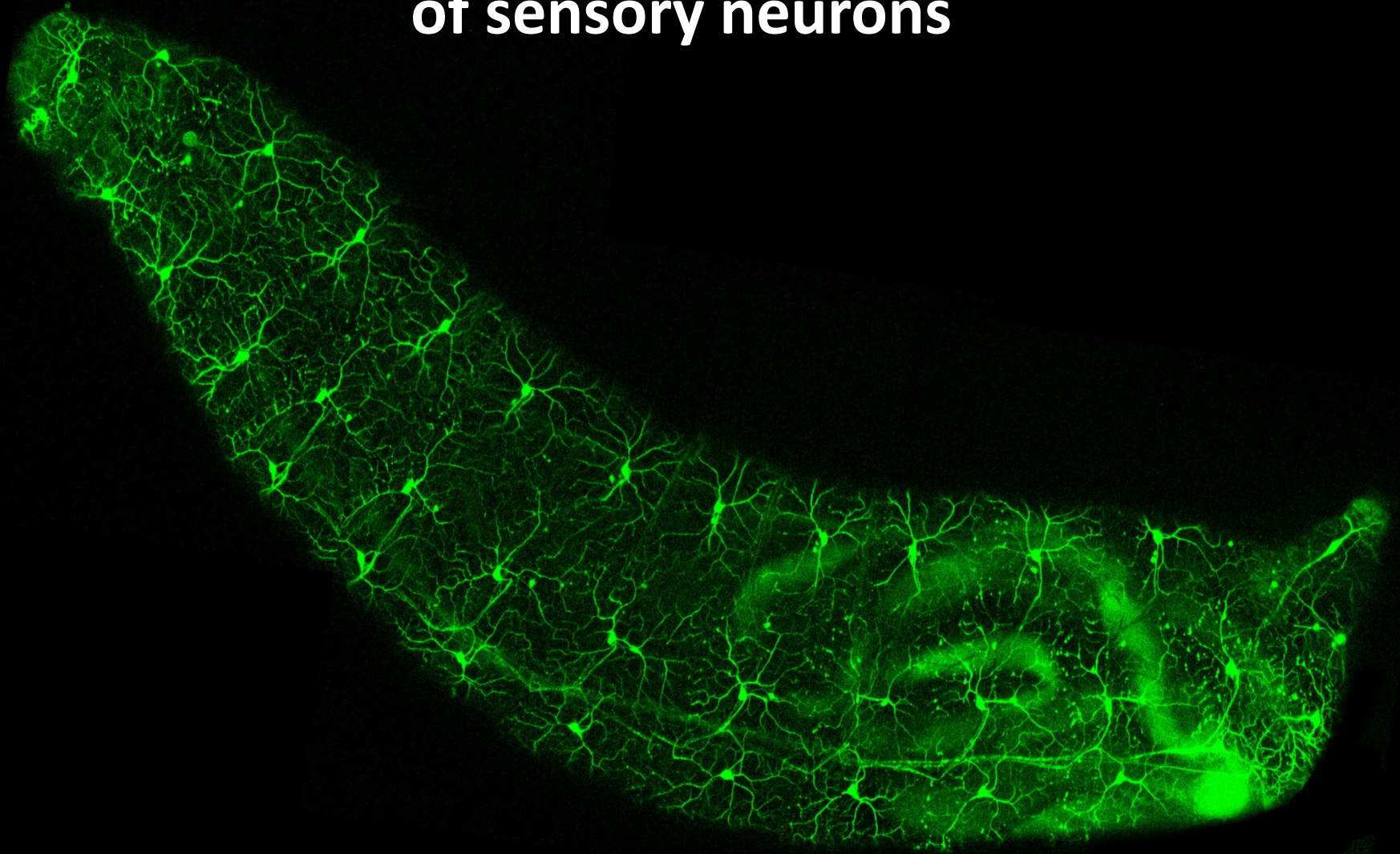
An electrical synapse, by EM



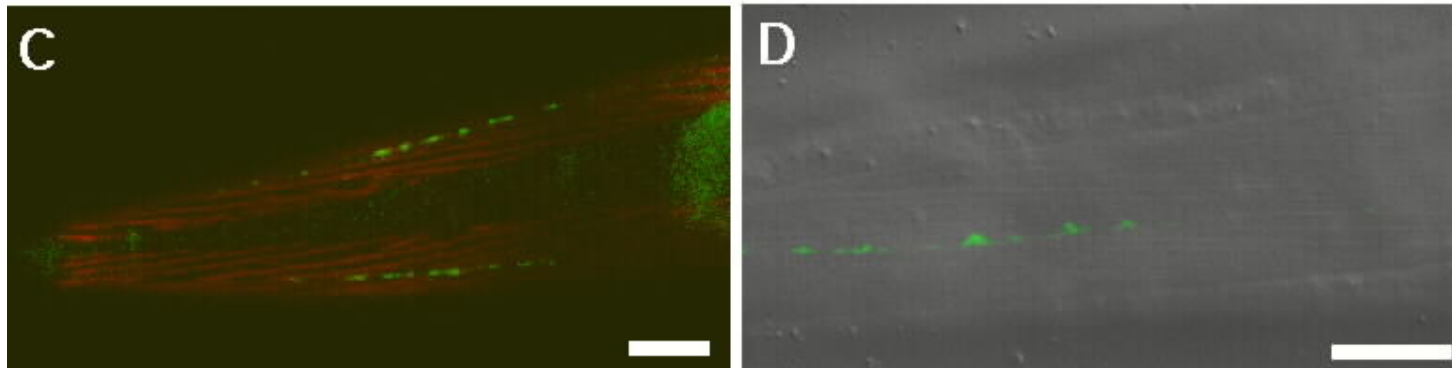
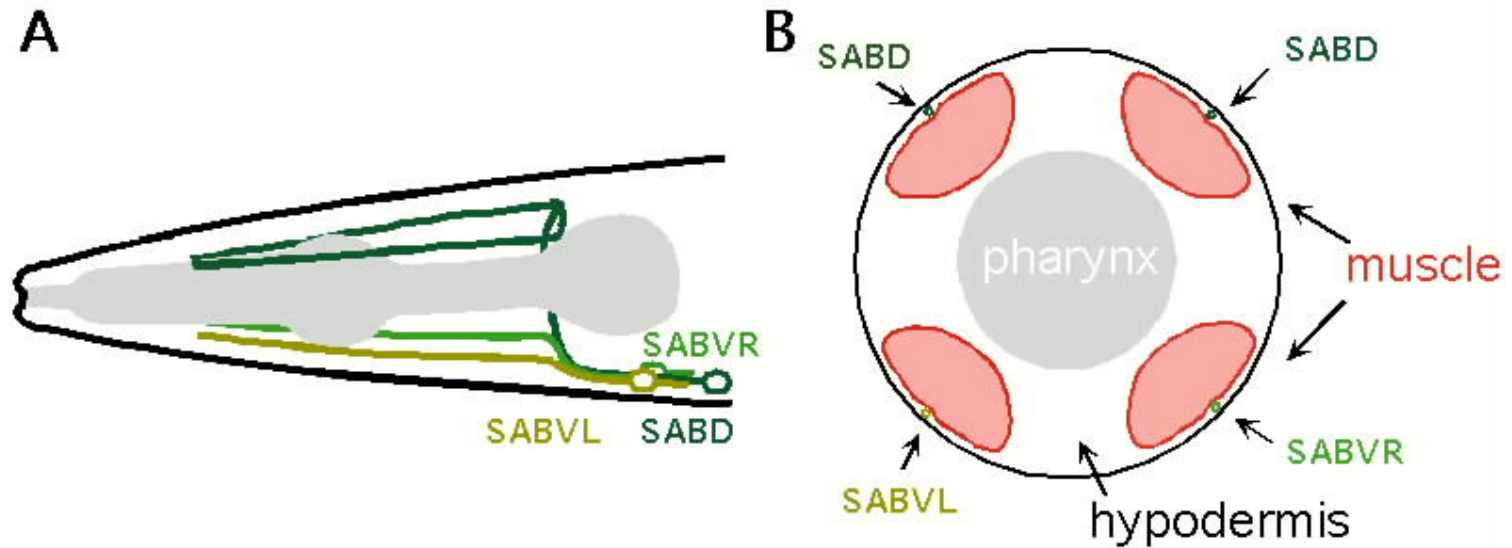
Purkinje neuron filled with fluorescent dye and viewed with a light microscope



***Drosophila* larva with GFP expressed in a subset
of sensory neurons**

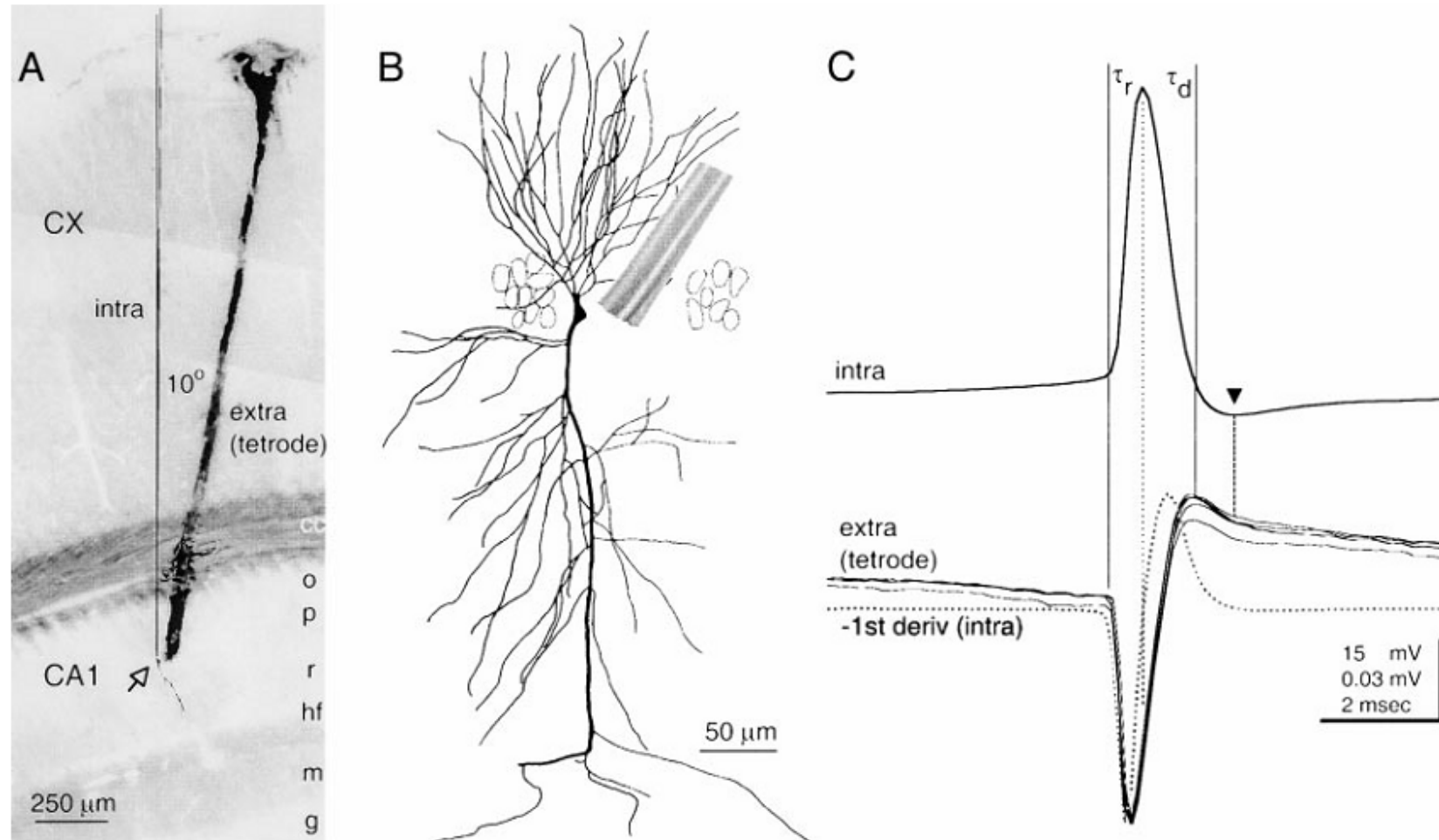


C. elegans with synapses labeled by GFP



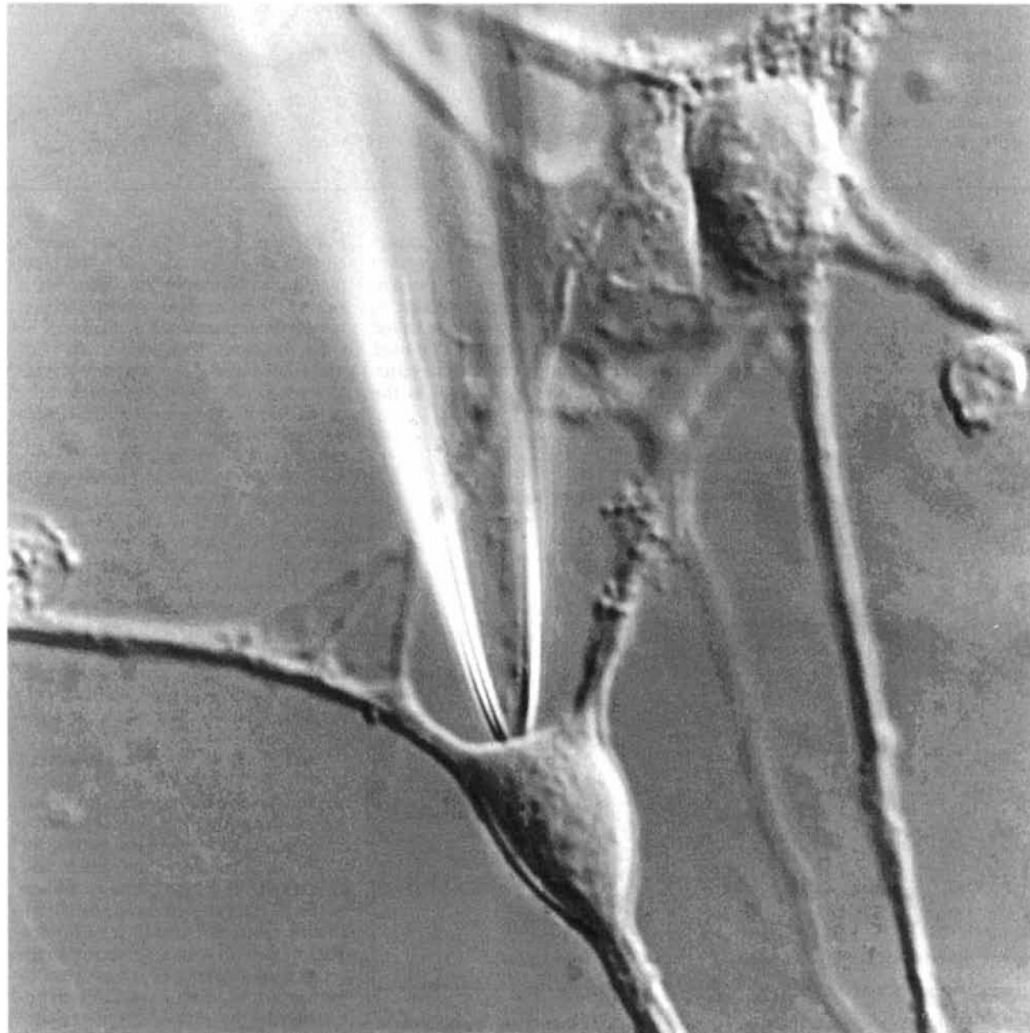
Neuromuscular junctions labeled by tagging a synaptic protein with GFP

Simultaneous intracellular and extracellular recording!



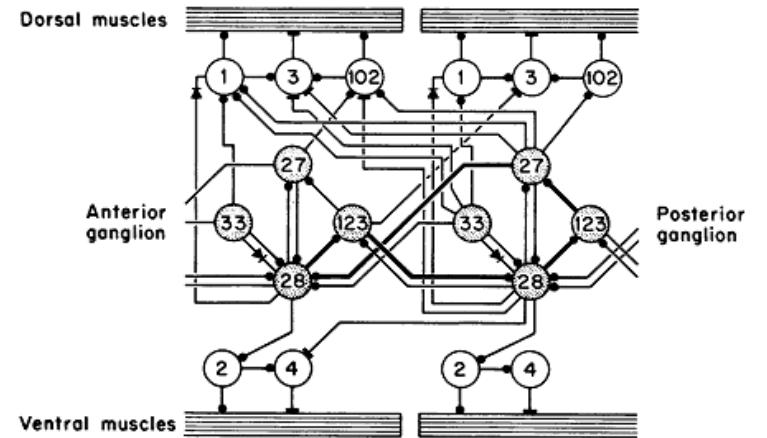
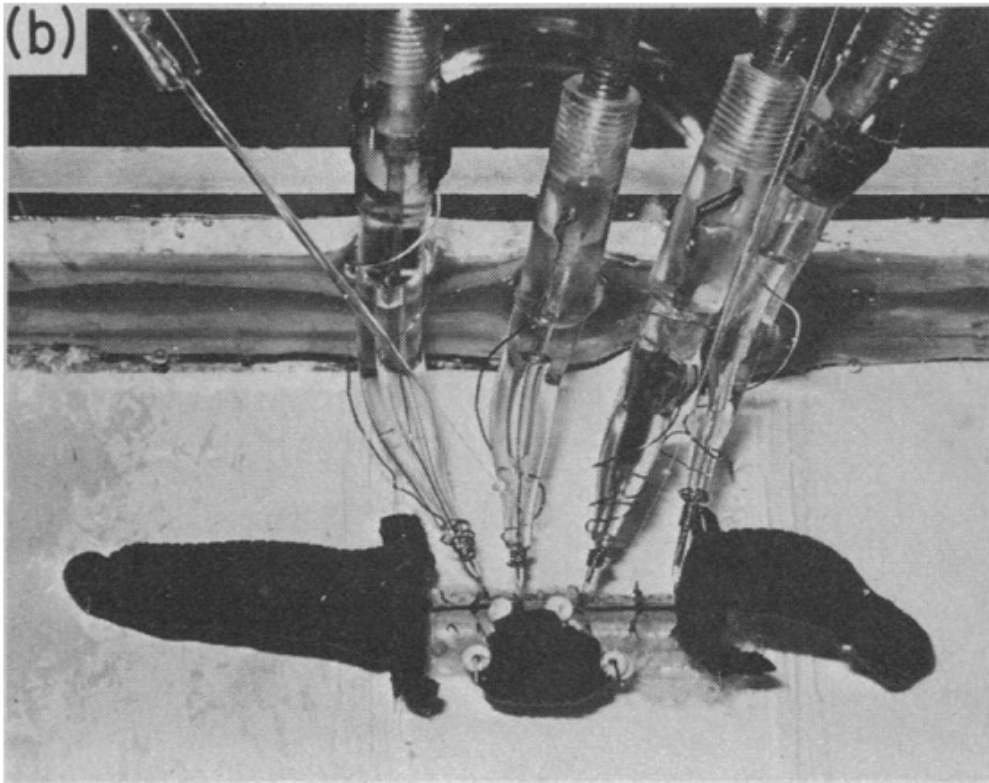
Henze et al. (J Neurophysiol, 2000)

Patch-clamp recording



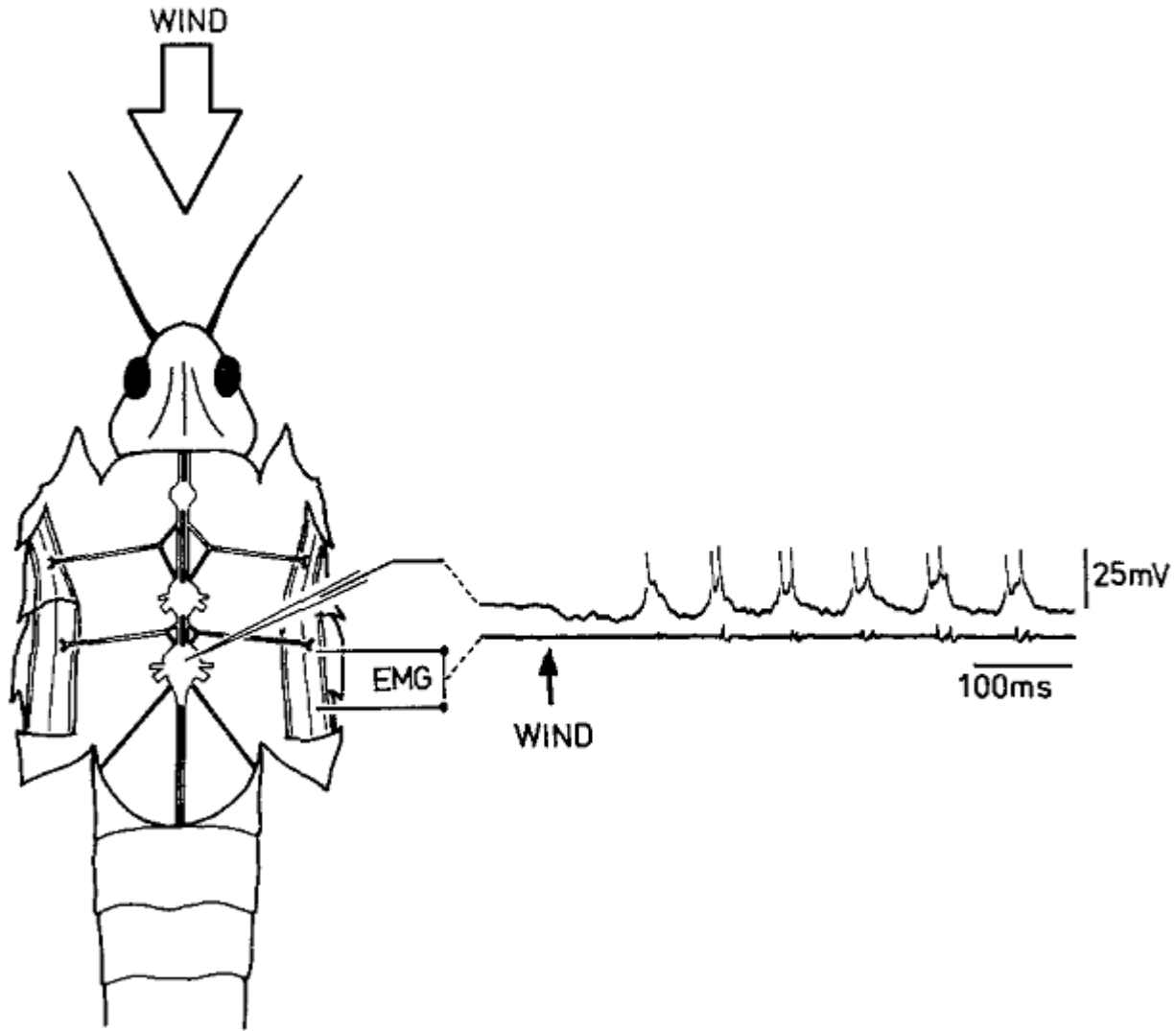
Neher (*Sci Am*, 1992)

“Semi-intact” preparation

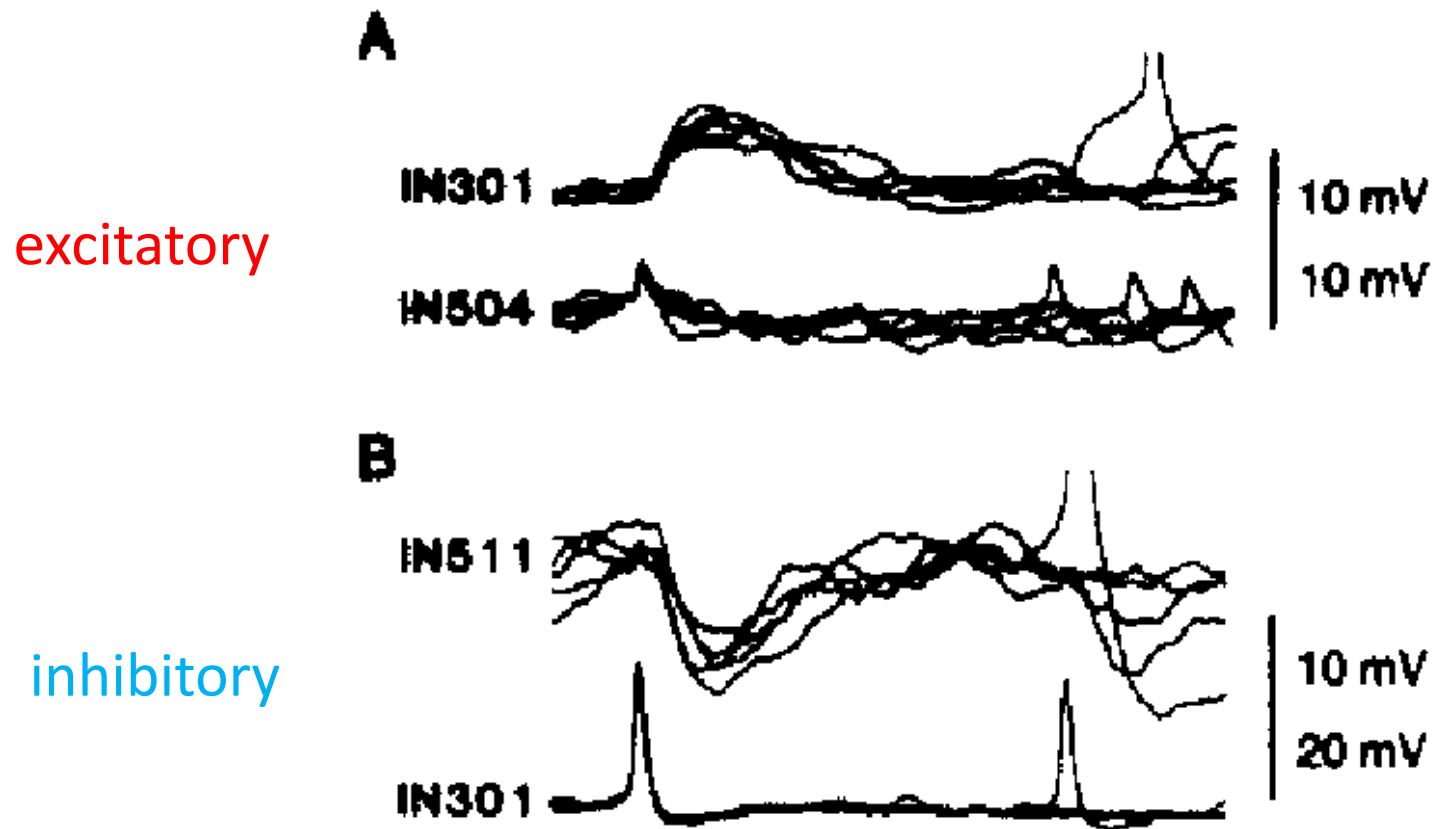


Leech swimming circuit (Stent et al., *Science*, 1978)

Intracellular recording during fictive behavior

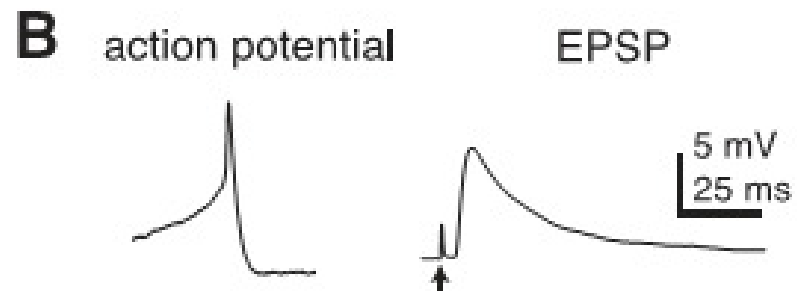
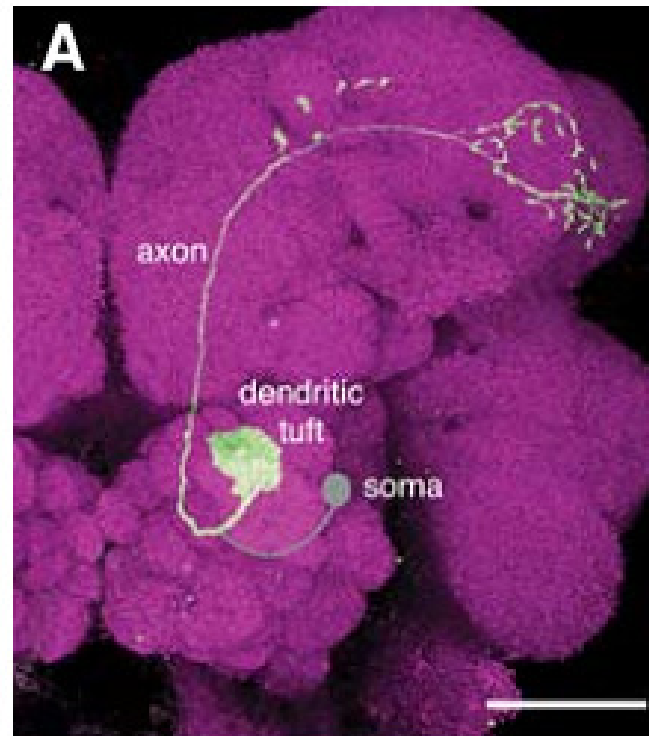


Paired recordings in locusts



Robertson (*Trends Neurosci*, 1996)

Combining genetics with electrophysiology



Antenna lobe projection neuron
(Gouwens & Wilson, 2009)

GCaMP: A fluorescent indicator of neural activity via calcium levels

