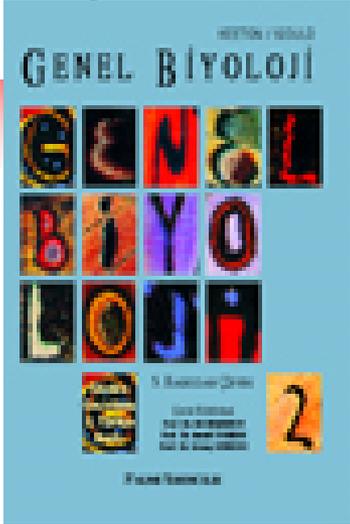


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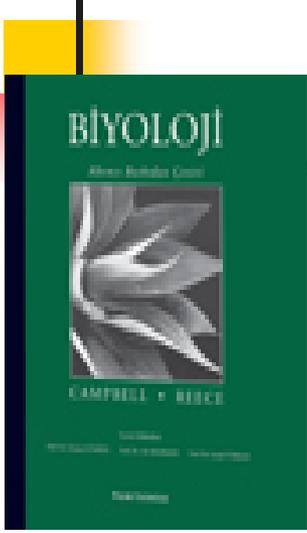
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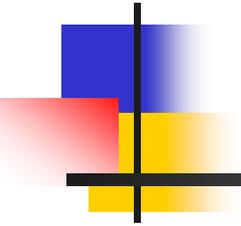
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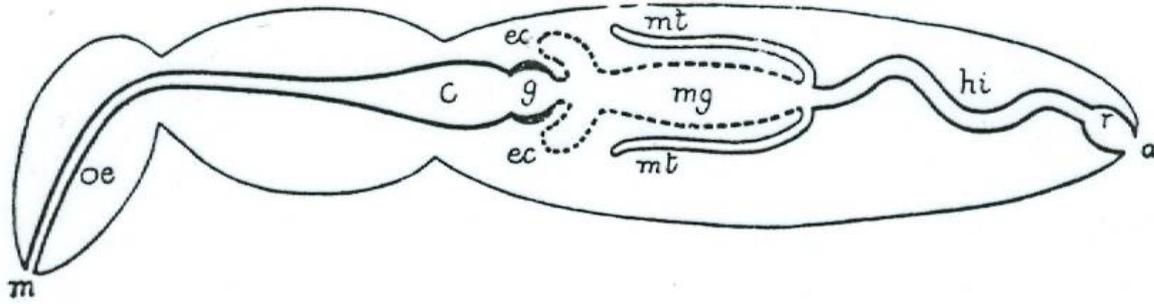
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Sindirim Sistemi





Şekil 54. Böceklerde sindirim sistemi (ektodermal kısımlar kalın çizgiyle, endodermal kısımlar ise kesik çizgiyle gösterilmiştir), (Imms'den).

m. ağız, oe. özofagus, c. kursak, g. proventrikulus, ec. enterik çekum, mg. orta barsak (mide), mt. Malpigi tubülleri, hi. arka barsak, r. rektum, a. anüs.

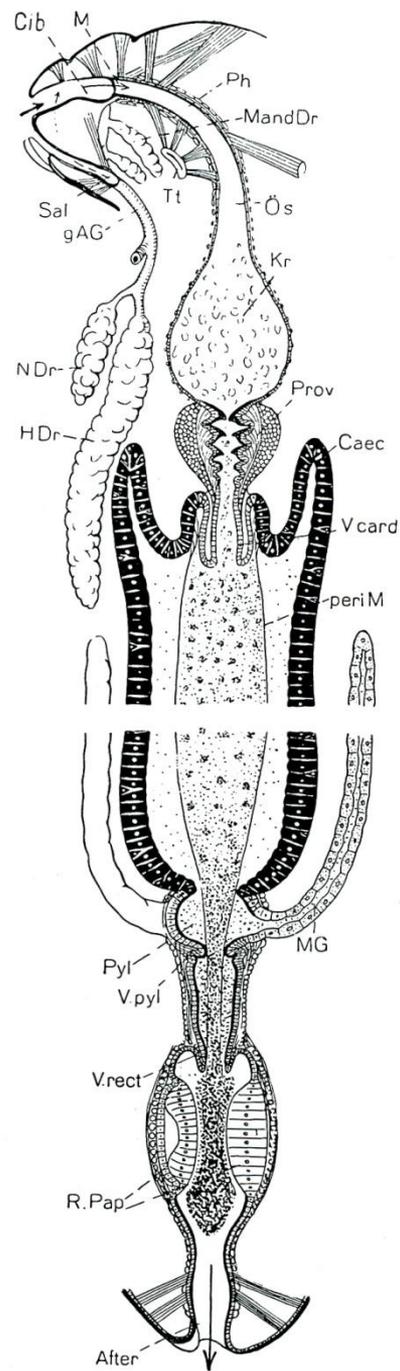
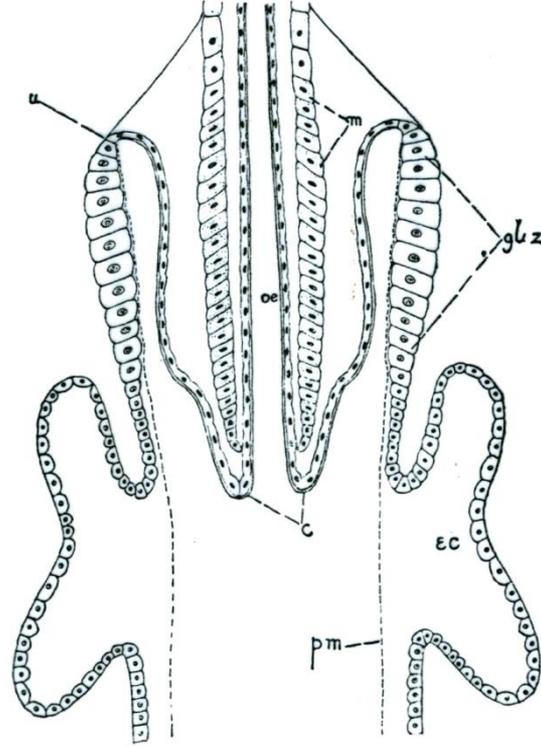
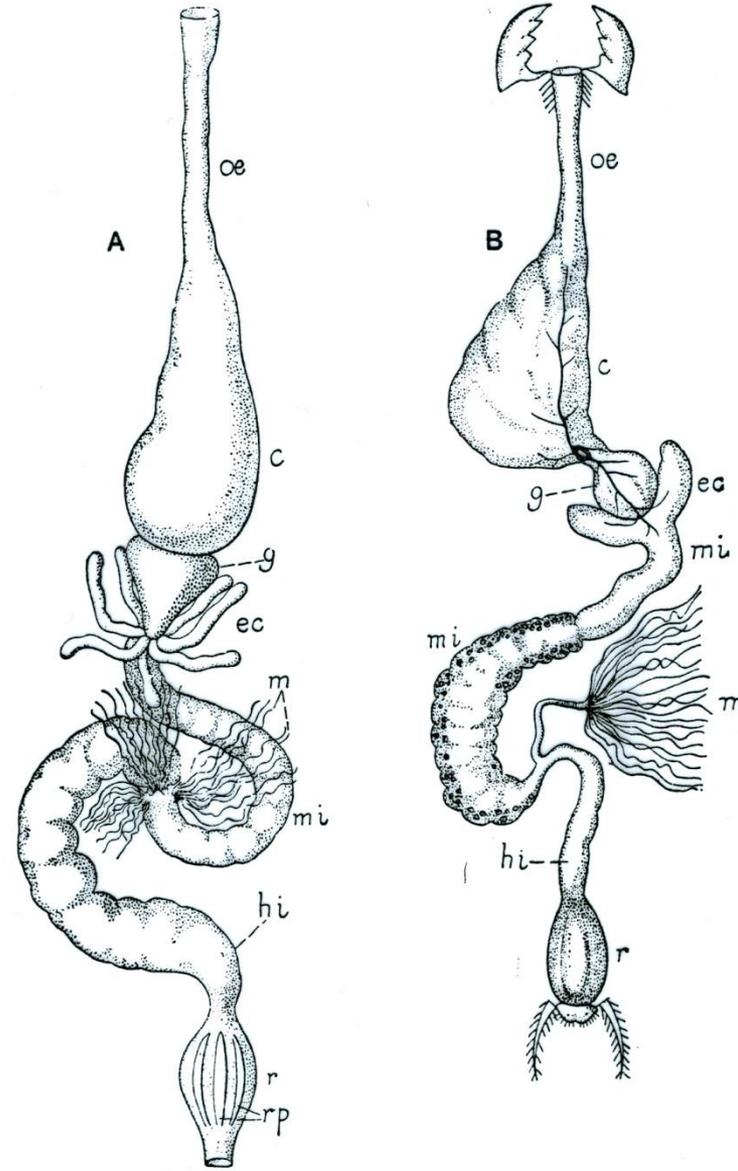


Fig. 59: Typischer Bauplan des Insektdarms, medianer Längsschnitt. Die Kopfdrüsen der rechten Seite sind (plastisch) dargestellt. Mitteldarm schwarz mit weißen Kernen, Kutikula schwarz.

Caec = Caecum, Cib = Cibarium, gAG = gemeinsamer unpaarer Ausführgang der paarigen Labialdrüsen, HDr = deren Hauptdrüse, Kr = Kropf, Mand Dr = Mandibeldrüse, dahinter die Maxillendrüse, MG = Malpighigefäß, M = Mund (Pharynxeingang), NDr = Nebendrüse der Labialdrüse, Ös = Ösophagus, periM = peritrophische Membran, Ph = Pharynx, Prov = Proventriculus, Pyl = Pylorus, R. Pap = Rectalpapille links doppelschichtig hohl, rechts einschichtig), Sal = Salivarium, V. card, pyl, rect = Valvula cardiaca, pylorica, rectalis, Tt = Tentorium. Weitere Erklärungen im Text.



Şekil 56. Dipter larvaları (Nematocera)'da kardiyak kapakçıkların boyuna kesiti (Imms'den).



Şekil 55. A- *Periplaneta americana*'da sindirim kanalı, B- *Nemobius sylvestris* (*Gryllidae*)'de sindirim kanalı (Bordas'tan).

oe. özofagus, c. kursak, g. proventrikulus, ec. enterik çekum, m. malpigi tubülleri, mi. orta barsak (mide), hi. arka barsak, r. rektum, rp. retal papilla.

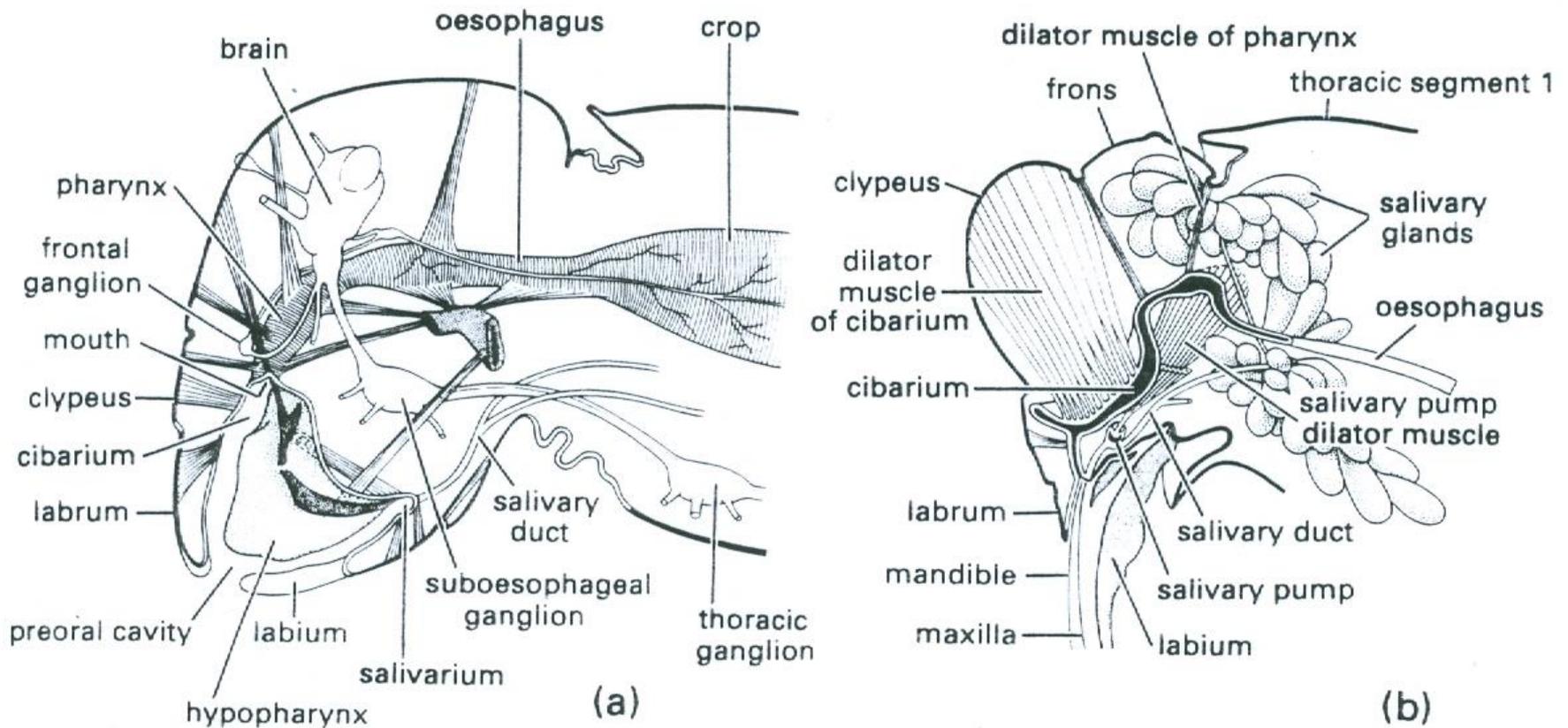
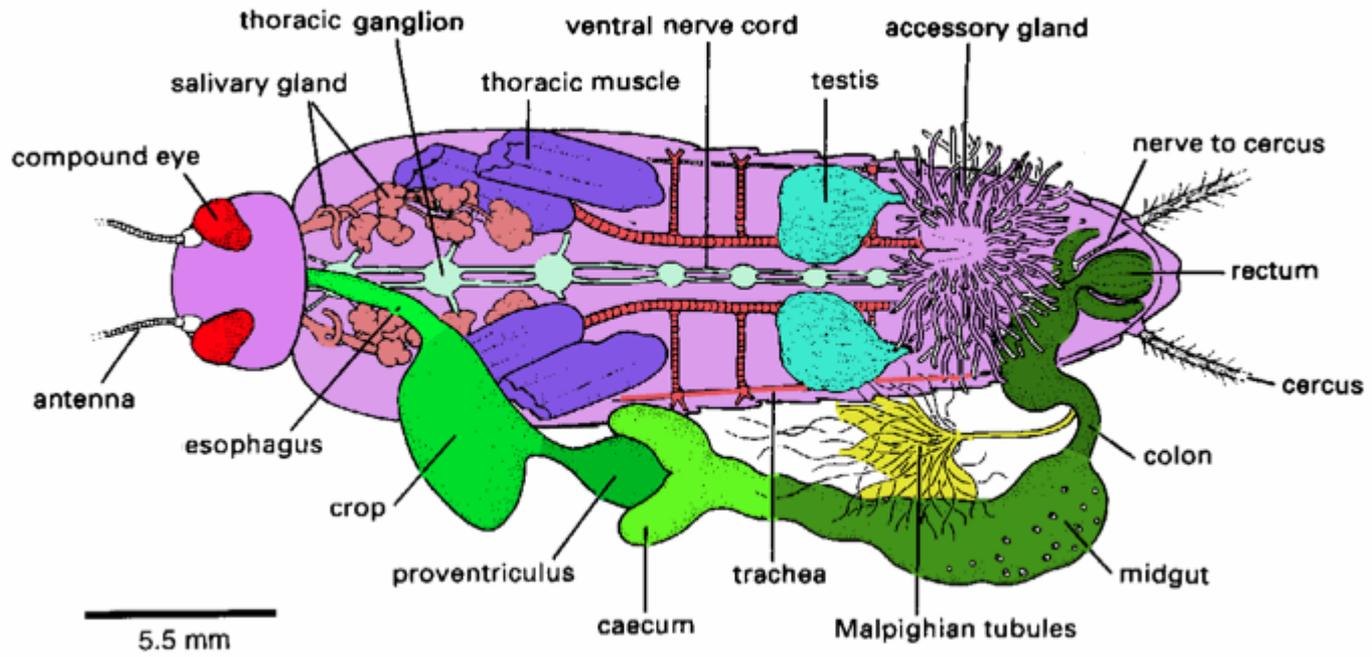


Fig. 3.14 Preoral and anterior foregut morphology in (a) a generalized orthopteroid insect and (b) a xylem-feeding cicada. Musculature of the mouthparts and the (a) pharyngeal or (b) cibarial pump are indicated but not fully labelled. Contraction of the respective dilator muscles causes dilation of the pharynx or cibarium and fluid is drawn into the pump chamber. Relaxation of these muscles results in elastic return of the pharynx or cibarial walls and expels food upwards into the oesophagus. (After Snodgrass, 1935.)

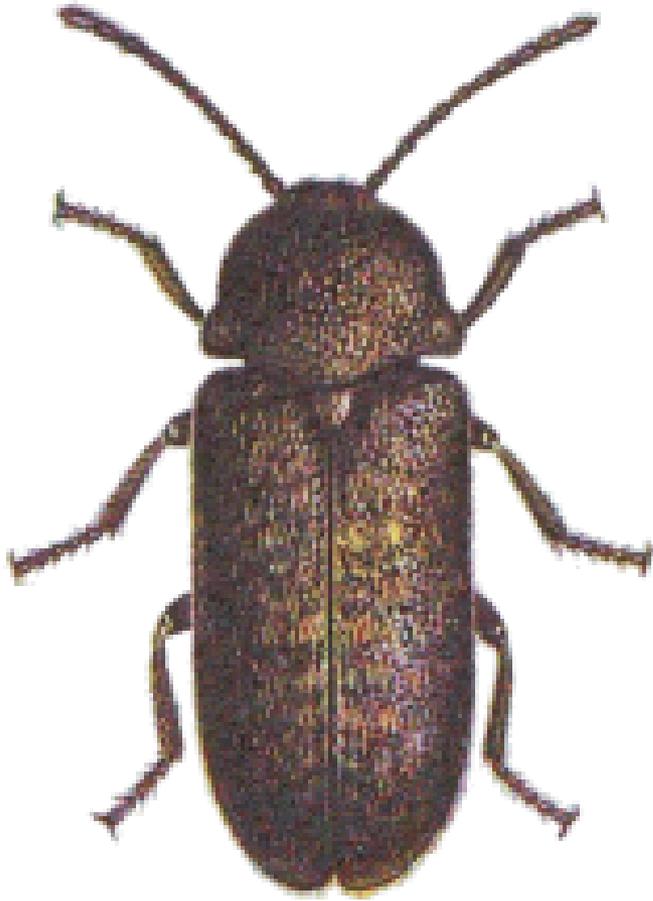






Tineola – Keratinle beslenir





Xestobium rufovillosum –
Selüloz ile sindirim



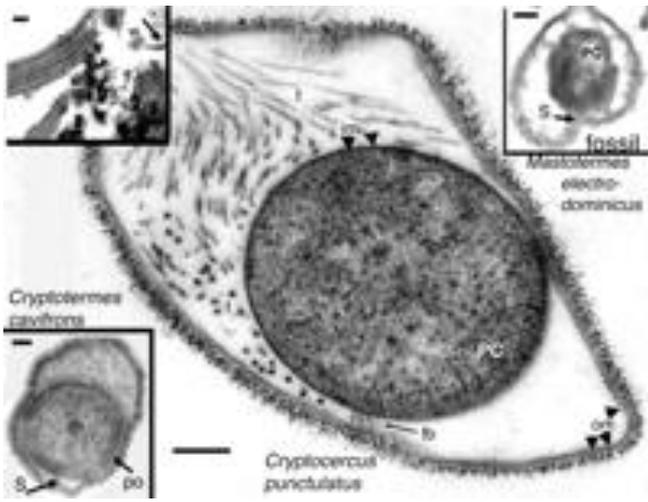
Ctenolepisma lineata



Scarabaeidae

Scarabaeid larvası
Sellüoclastic bakterilerle sindirim





Hollandina pterotermitidis
 Odun yiyen hamamböceği
Cryptocercus punctulatus
 simbiyonu



Trichonympha – Termit simbiyonu



Galleria mellonella

Balmumu ile beslenir





Lucilia larva – collagenaze enzimi ile sindirim

