جامعة البصرةكلية التربية \القرنة

قسم علوم الحياة

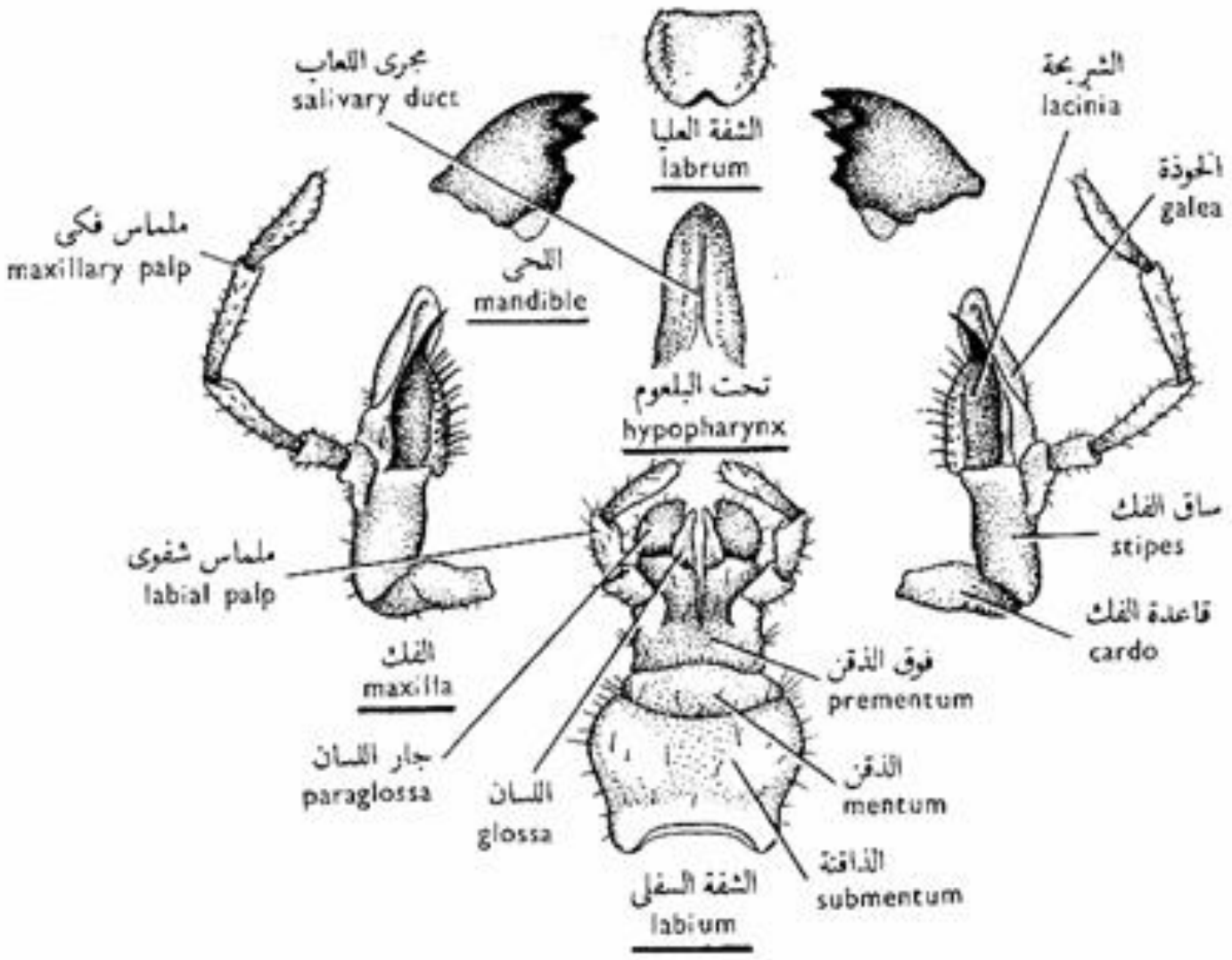
Entomology

أ.د.علي ضرب شعبان

جامعة البصرة

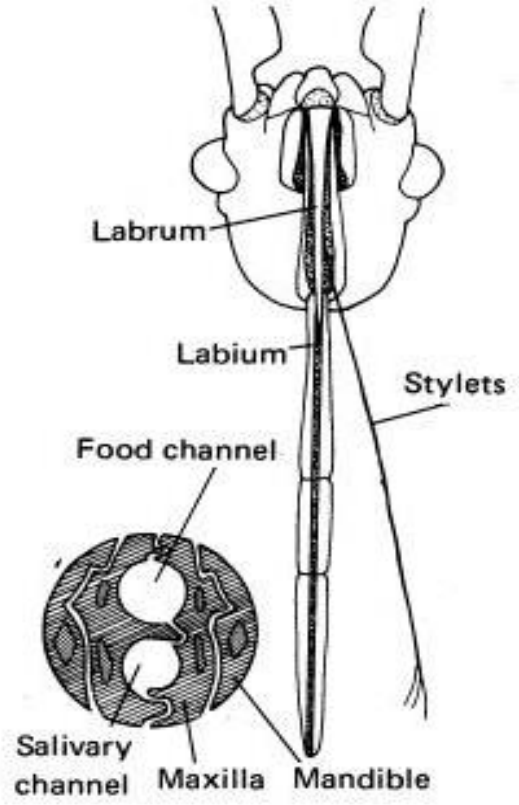
كلية التربية \القرنة \قسم علوم الحياة

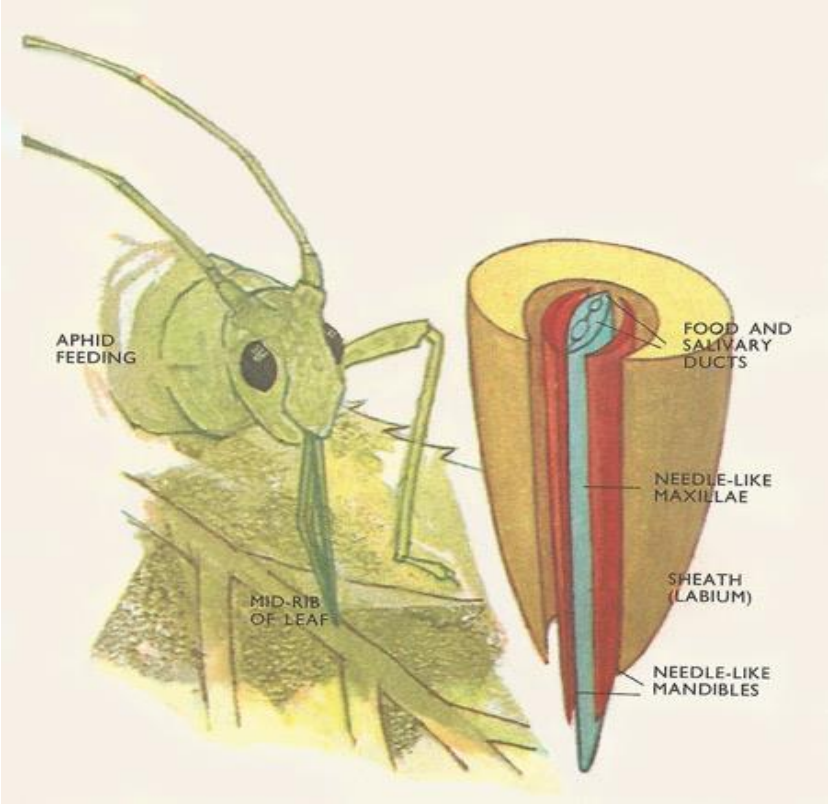
- أ.د علي ضرب شعبان
- تحورات اجزاء الفم


مجرى اللعاب
salivary duct
الشفة العليا
labrum
الشريحة
lacinia
الخوذة
galea
ملماس فكي
maxillary palp
الفكي
mandible
تحت البلعوم
hypopharynx
ساق الفك
stipes
ملماس شفوي
labial palp
قاعدة الفك
cardo
الفك
maxilla
فوق الذقن
prementum
جار اللسان
paraglossa
اللسان
glossa
الذقن
mentum
الذاقنة
submentum
الشفة السفلى
labium

اجزاء الفم في رتبتي
Homoptera,Hemiptera

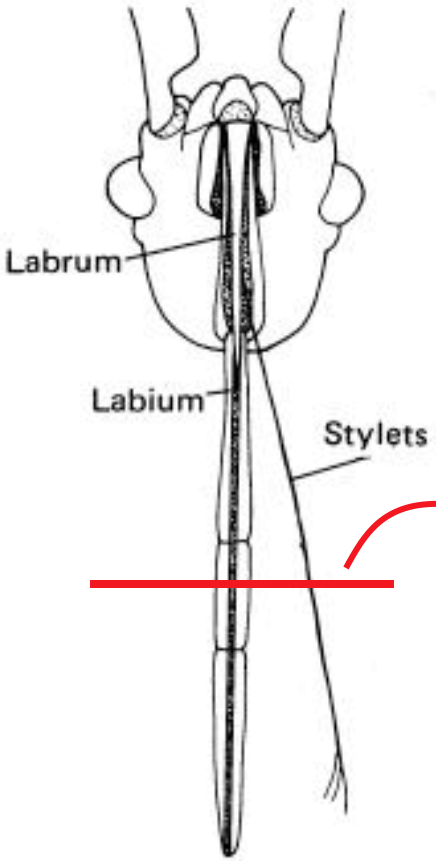
- **اجزاء الفم الثاقبة الماصة Piercing and Sucking mouth parts**

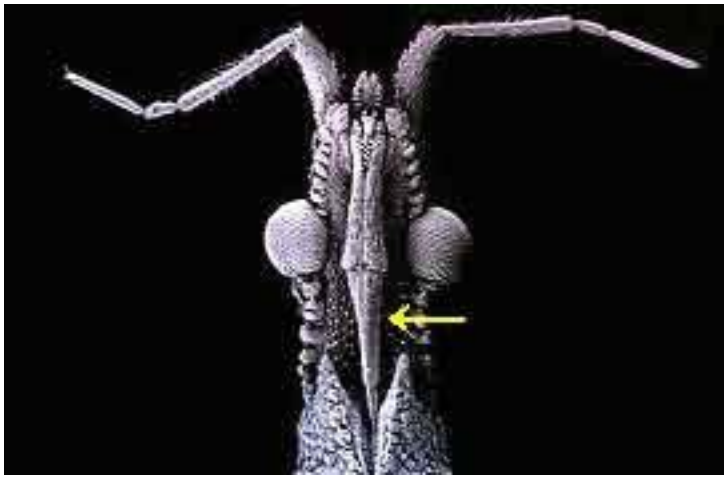


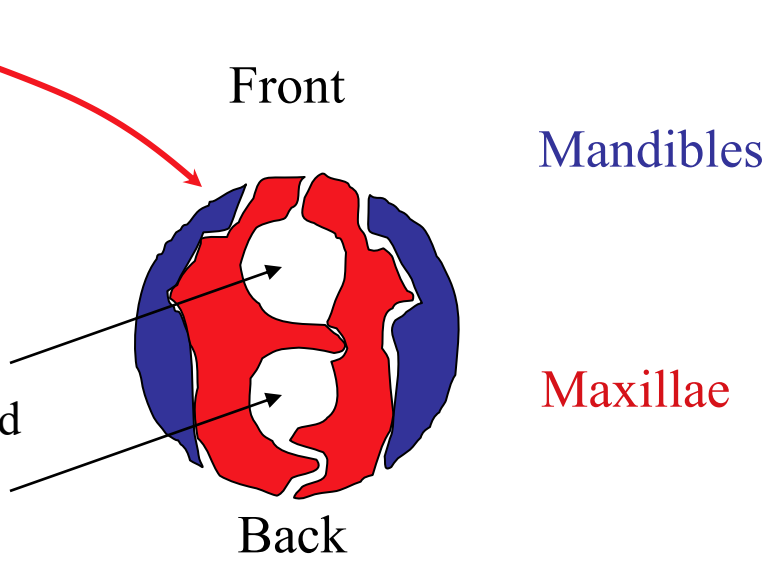


Modifications of Mouthparts

-Piercing and Sucking

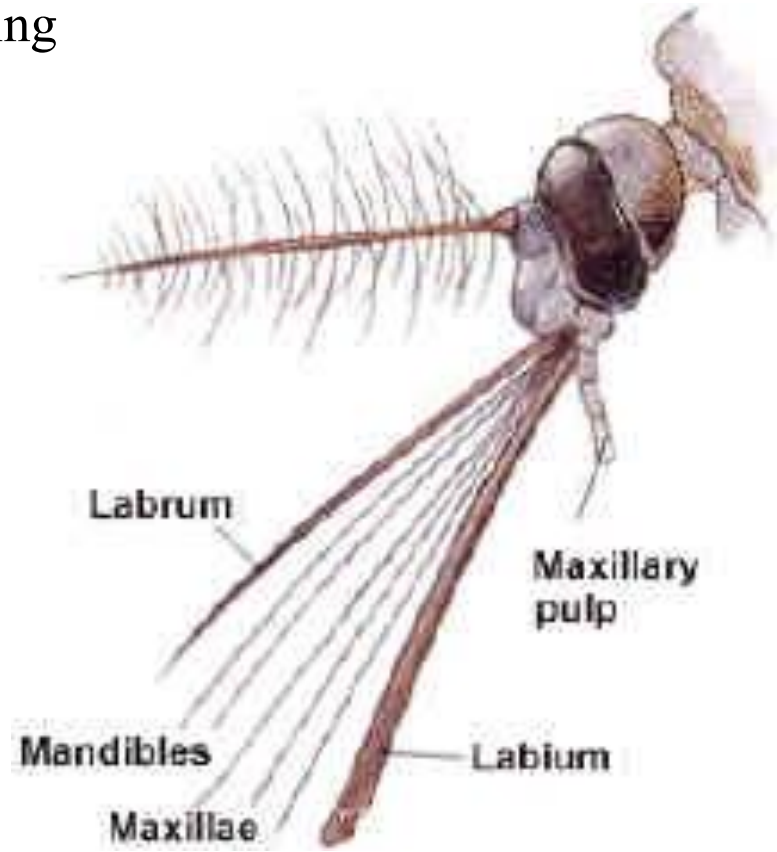


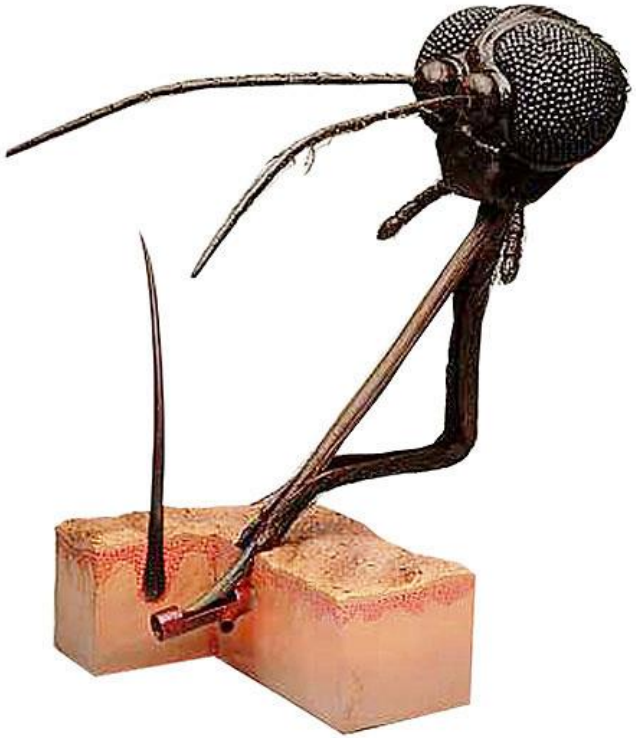




Modifications of Mouthparts

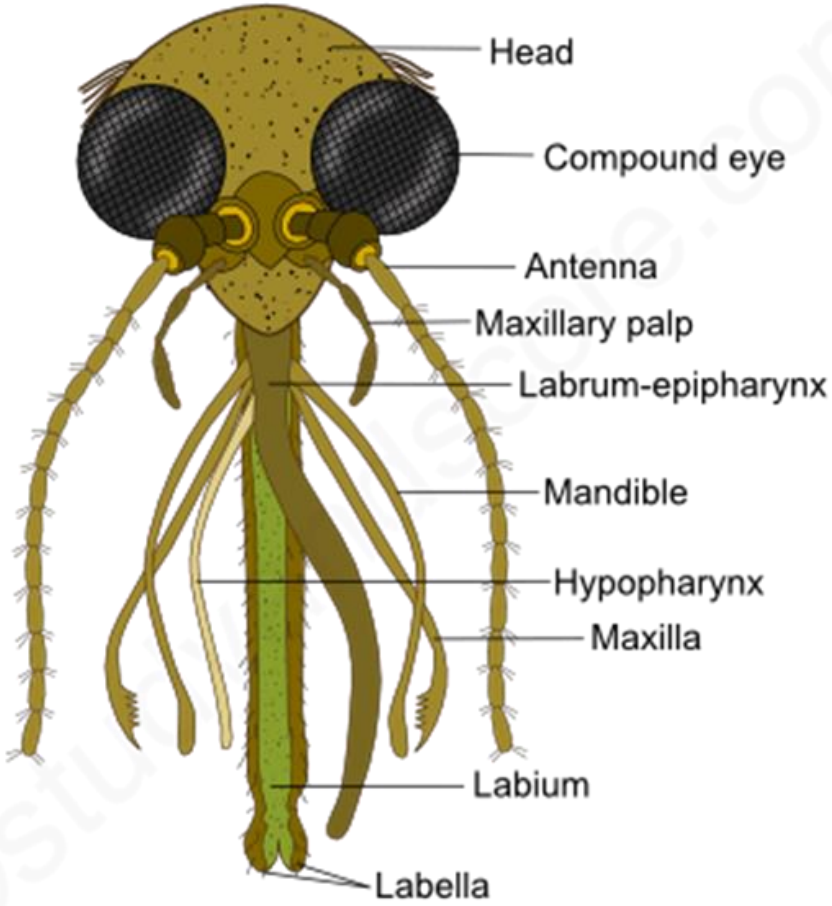
Stabbing





e.g. Mosquito

Diptera
Mouth parts of mosquitose



MOUTHPARTS OF MOSQUITO - PIERCING & CHEWING TYPE

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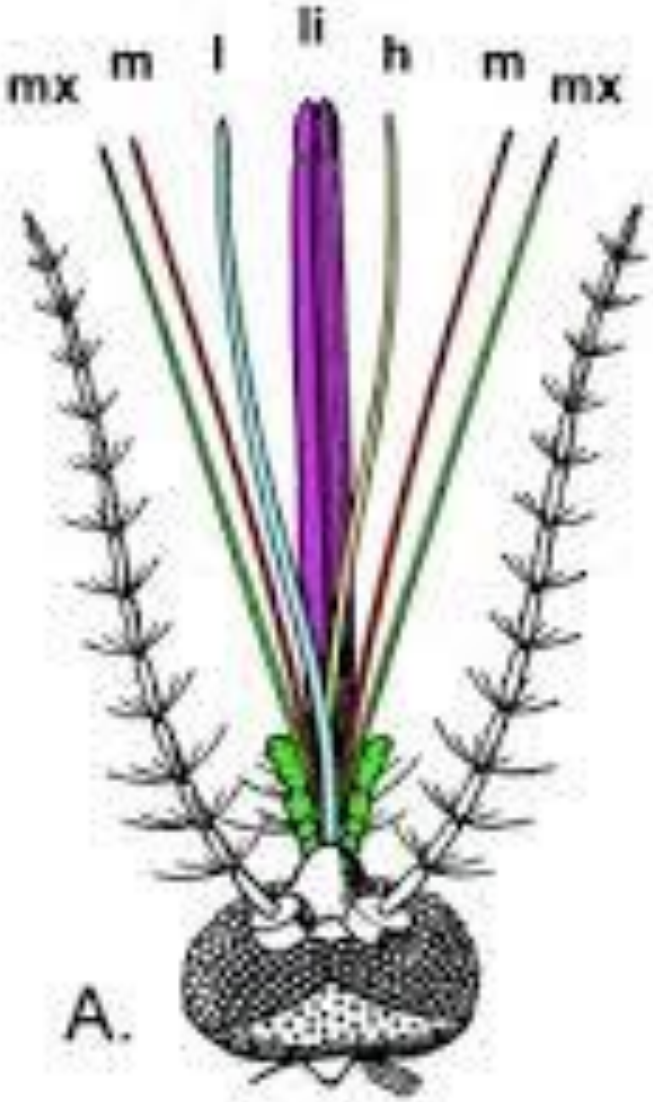
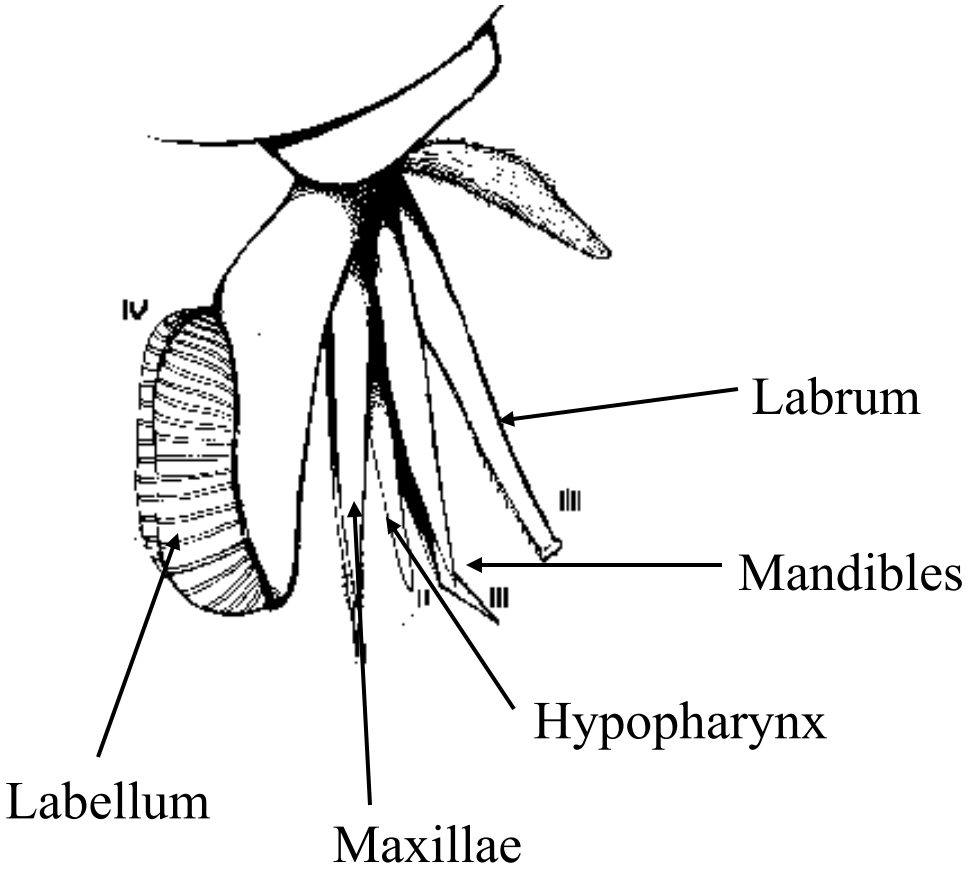


B.

l= labrum
m= mandible
h= hypopharynx
mx= maxilla
li= labium

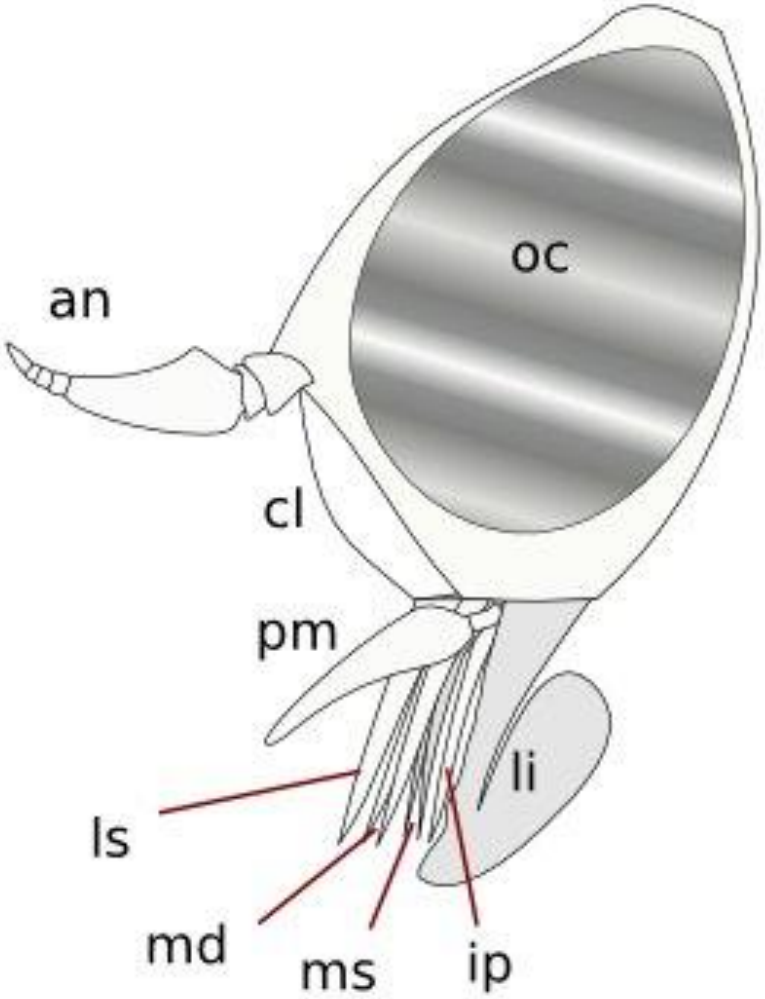
Modifications of Mouthparts

Cutting and Sponging

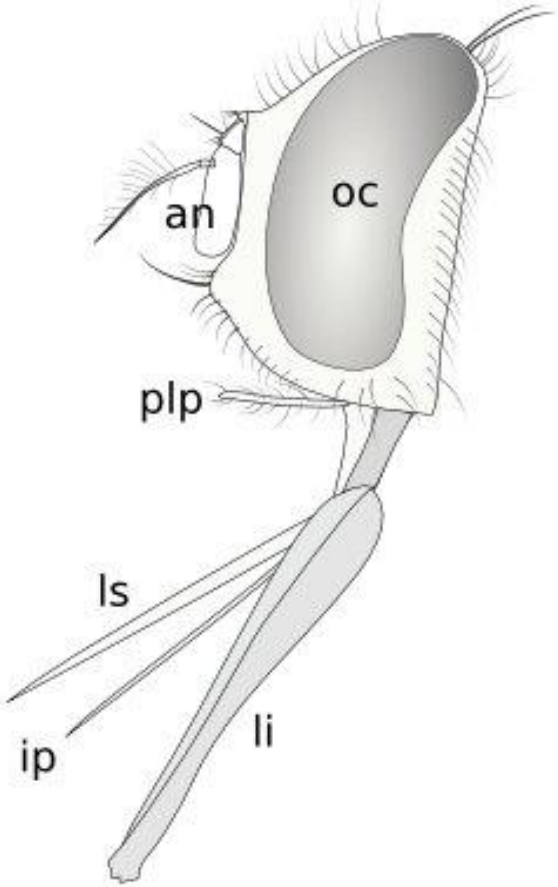


e. g. deerflies

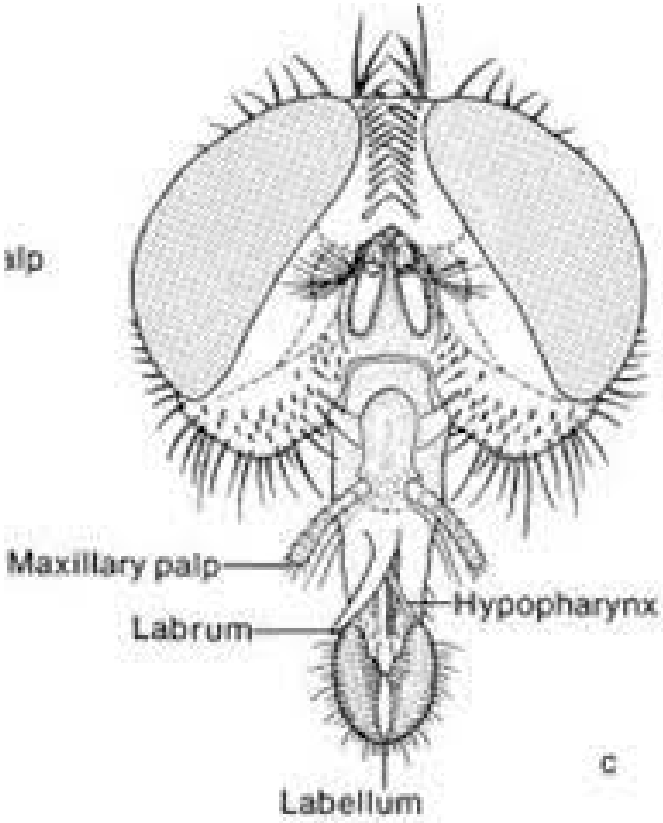
– اجزاء الفم القاطعة الاعقة :



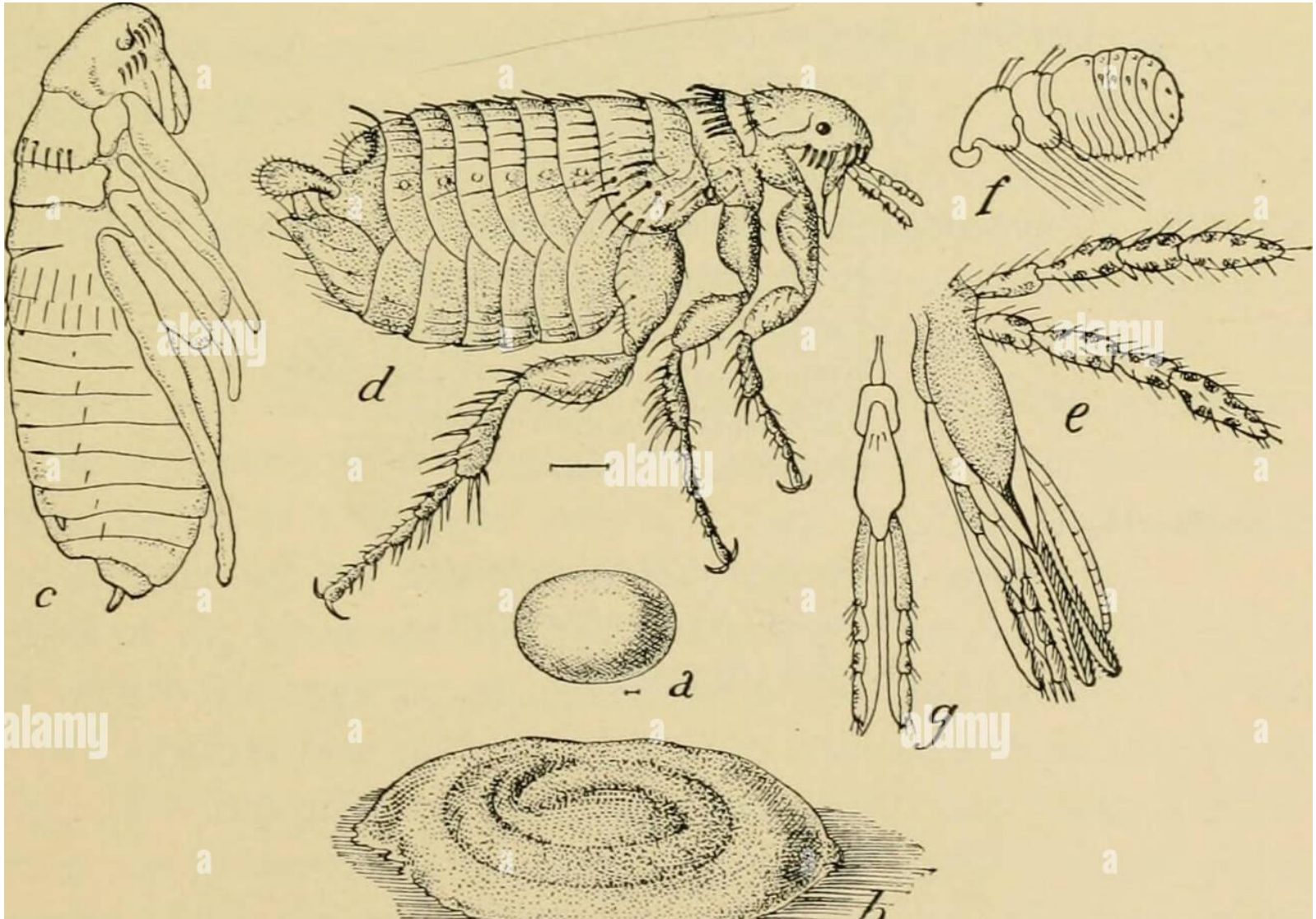
اجزاء الفم القاطعة الماصة :

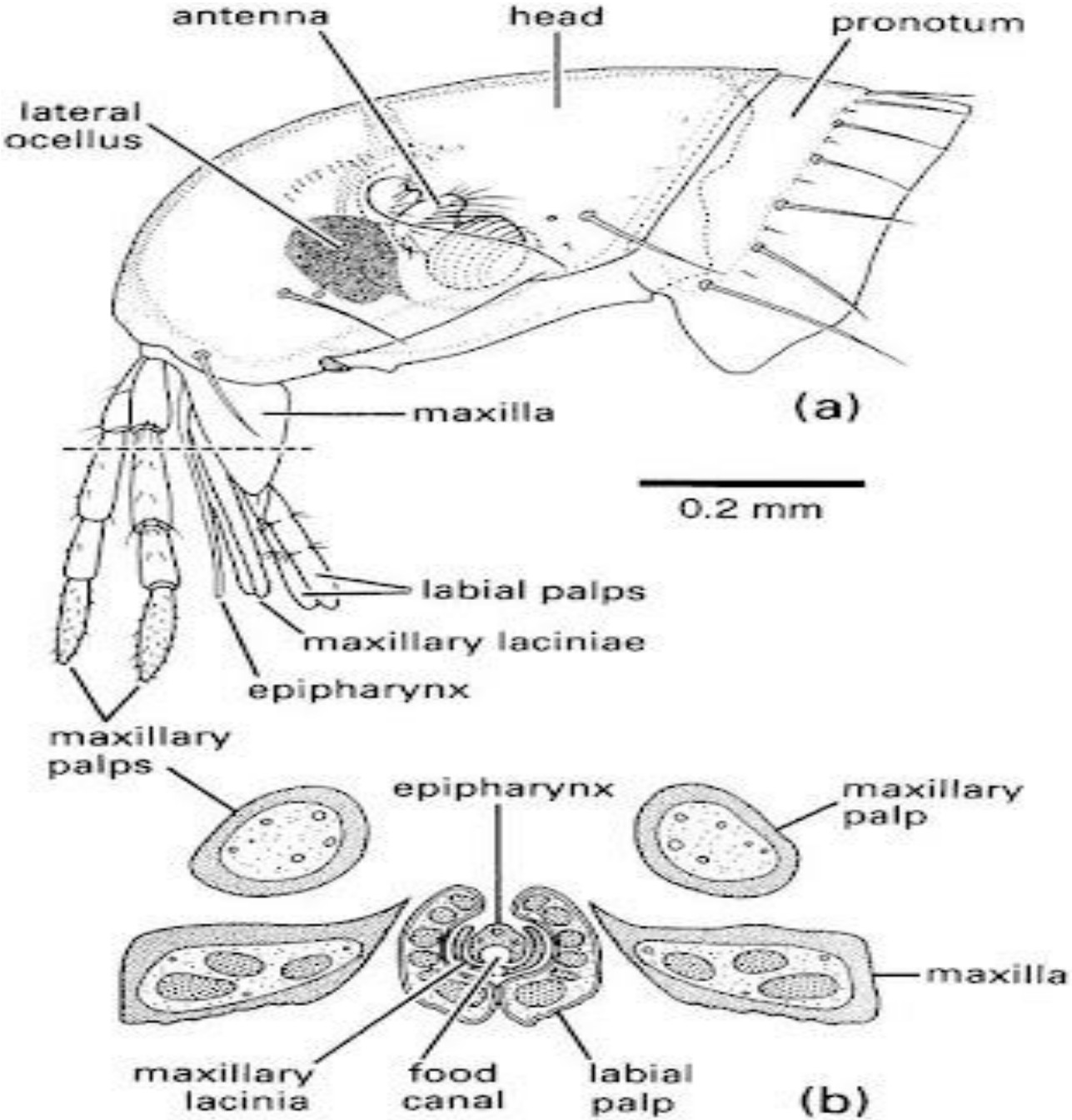


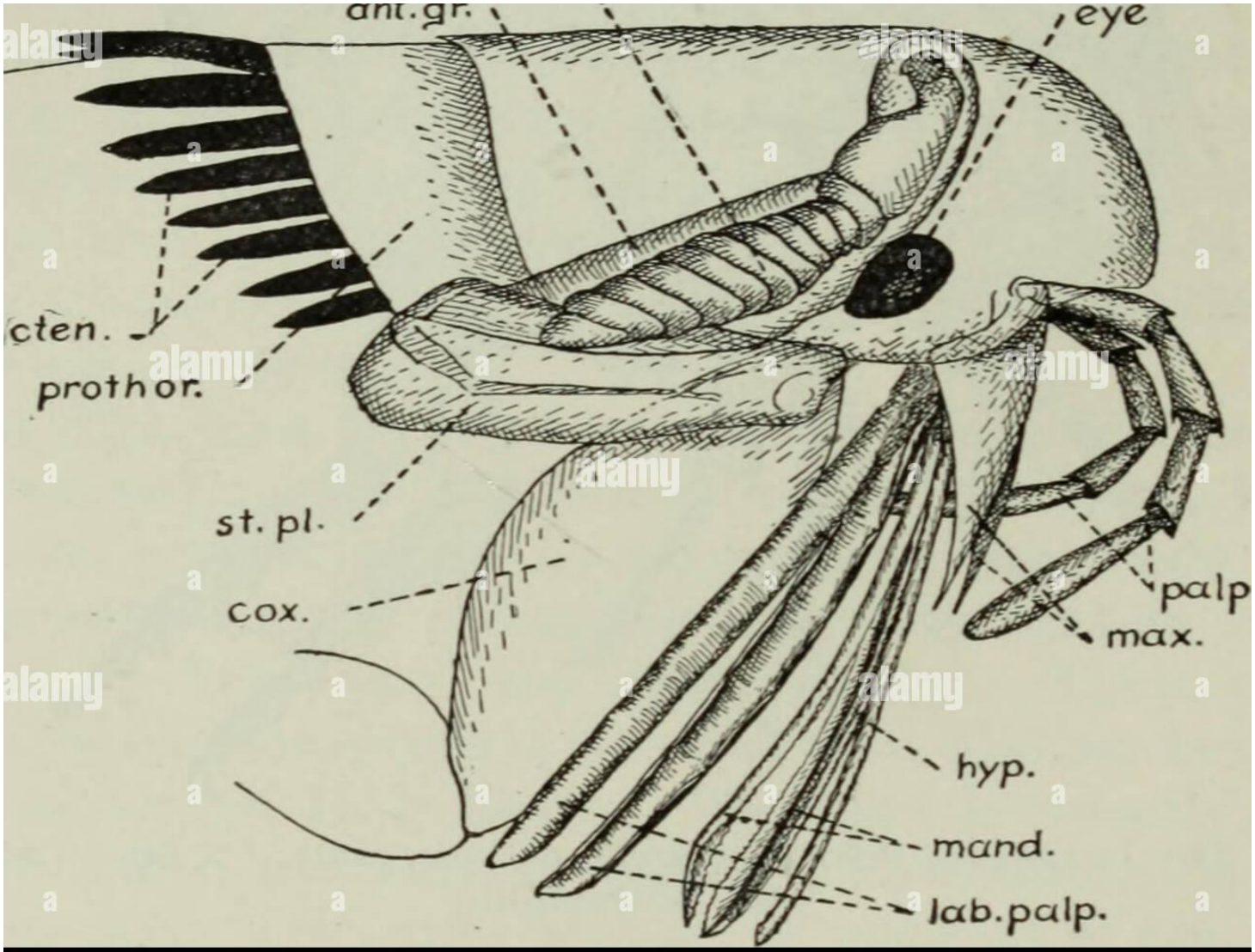
اجزاء الفم الاعقة او الاسفنجية Lapping mouth parts



اجزاء الفم الثاقب الماص في البرغوث
Piercing and Sucking

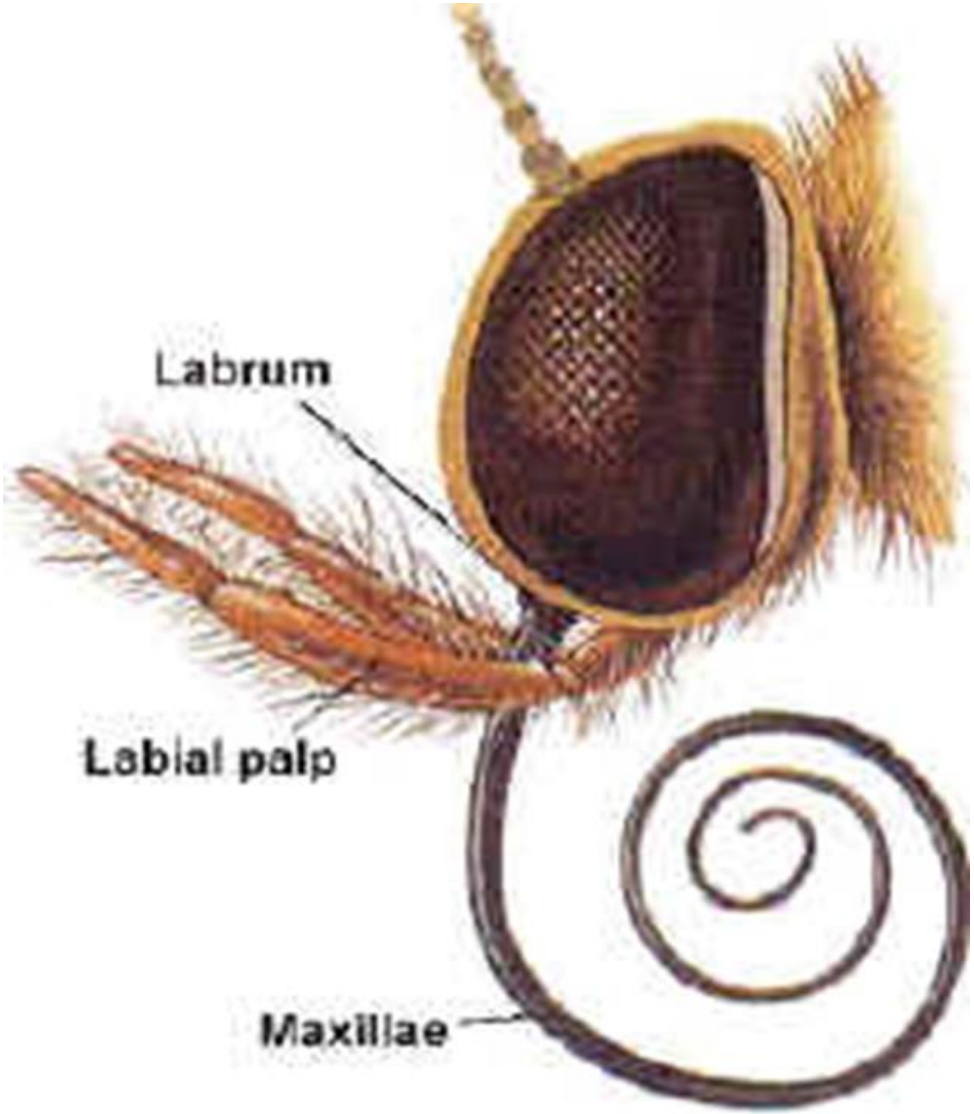



antenna
head
pronotum
lateral ocellus
maxilla
(a)
0.2 mm
labial palps
maxillary laciniae
epipharynx
maxillary palps
epipharynx
maxillary palp
maxilla
maxillary lacinia
food canal
labial palp
(b)

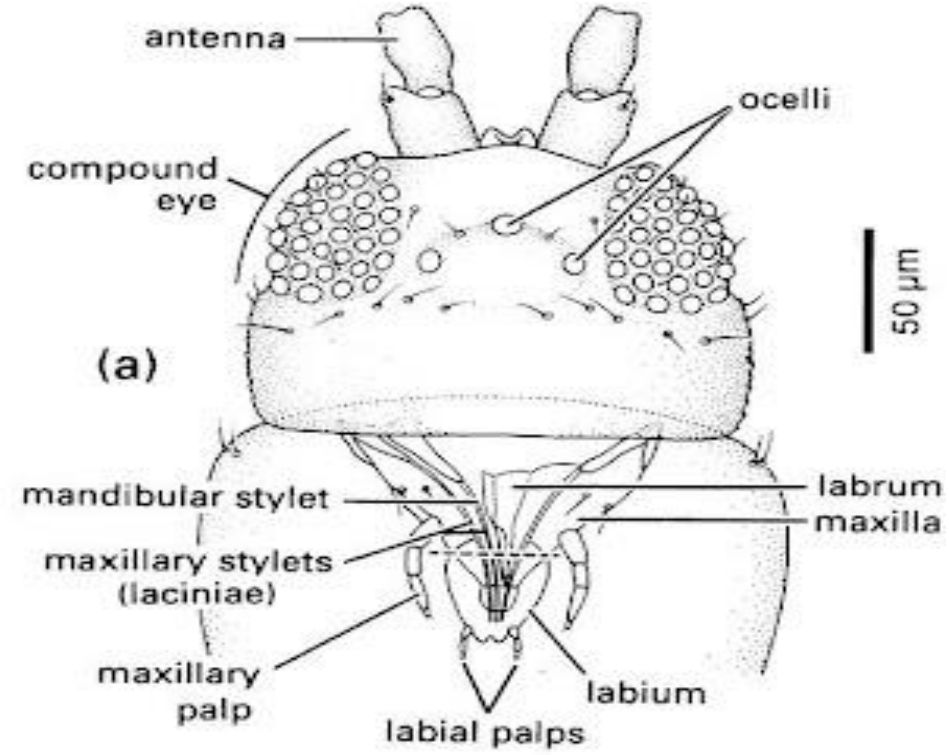


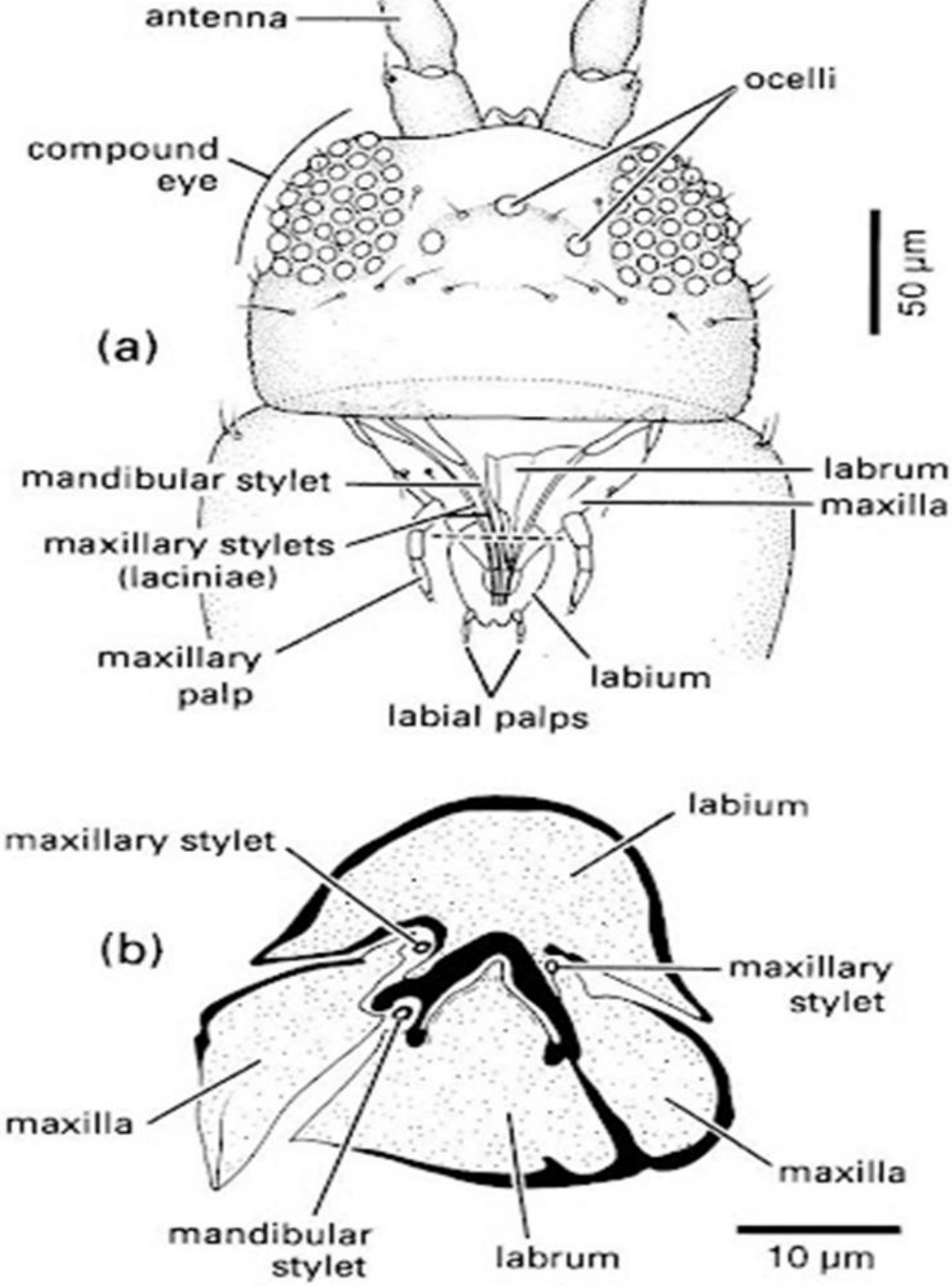
alamy
Image ID: RN42DG
www.alamy.com

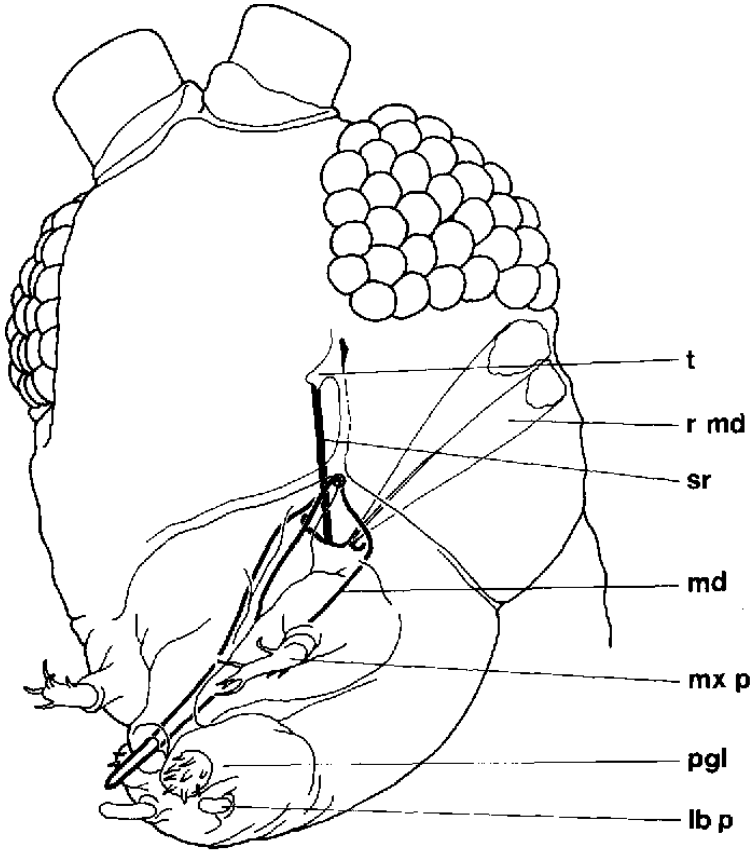
اجزاء الفم الماصة او السيفونية Sucking mouth parts



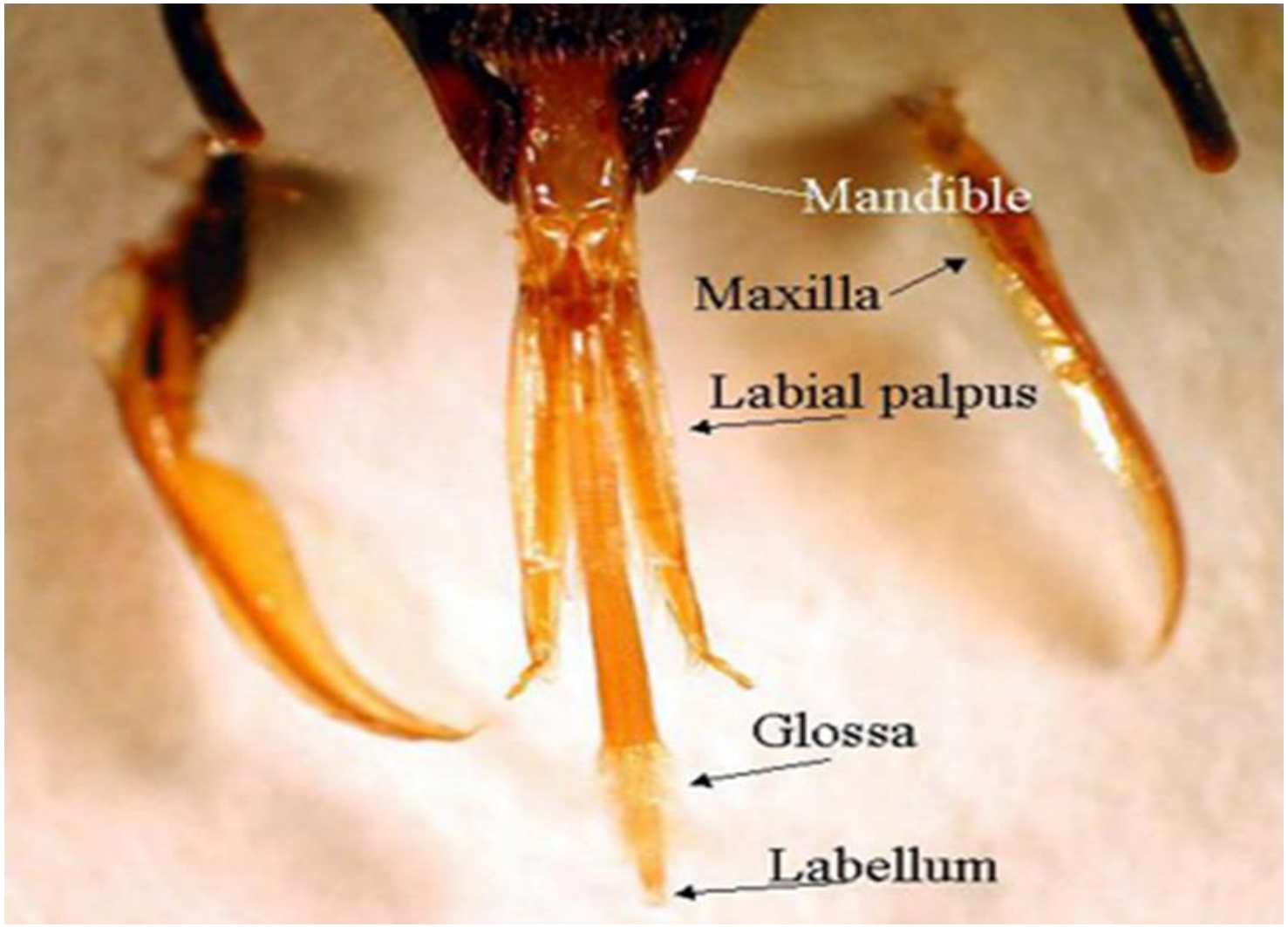
اجزاء الفم الخادشة الماصة (في الثربس)
mouth parts of Thrips

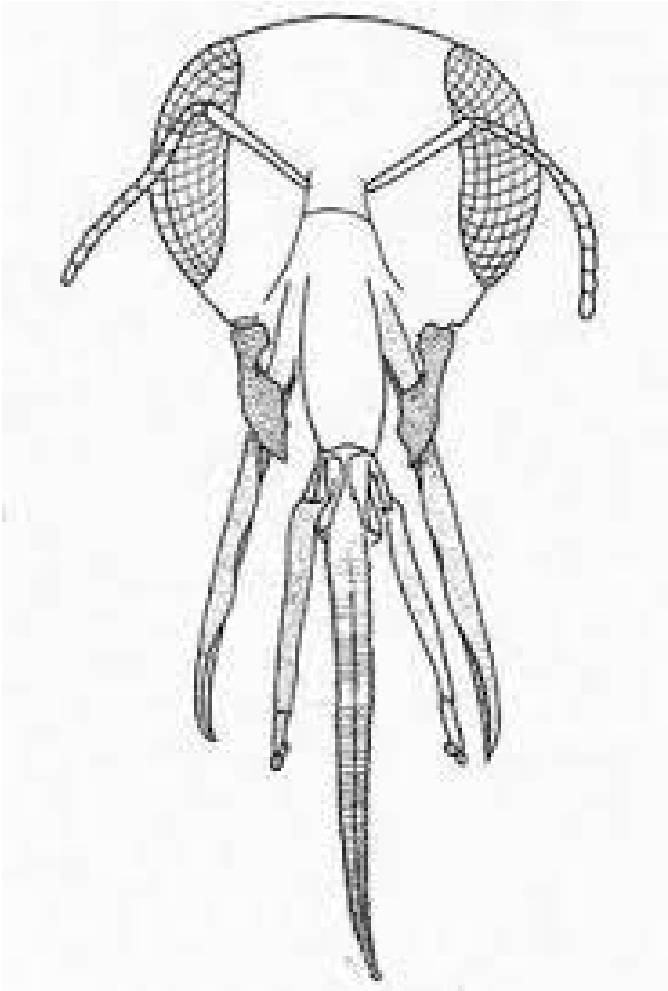


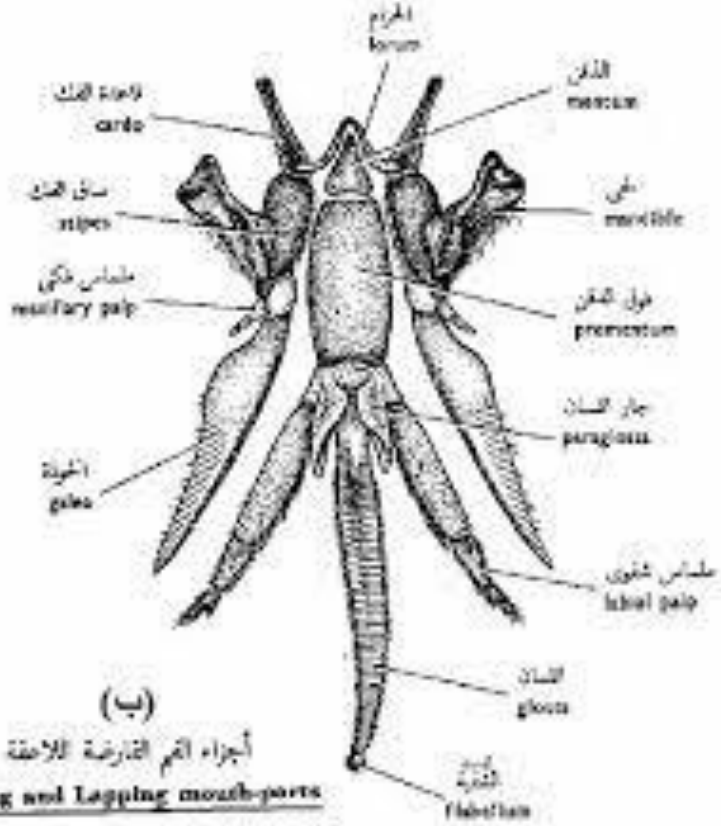

antenna
ocelli
compound eye
50 µm
(a)
mandibular stylet
labrum
maxilla
maxillary stylets (laciniae)
maxillary palp
labium
labial palps
labium
maxillary stylet
(b)
maxillary stylet
maxilla
maxilla
mandibular stylet
labrum
10 µm


t
r md
sr
md
mx p
pgl
lb p

اجزاء الفم القارضة الاعقة: Biting and Lapping mouth parts







(ب)

أجزاء الفم القارضة اللاعقة

Biting and Lapping mouth-parts

(شغالة نحل العسل **Honey bee worker**)