

**Introduction to the study of Insect Fauna
of Saudi Arabia**

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	الهيكل الخارجي
	التحول
	الكفاءة التناسلية
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	- رتبة مستقيمة الأجنحة

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يتقدم المؤلفان بخالص الشكر لكل من الأستاذة الدكتورة نيفين سامي جادالله والدكتور محمود صالح عبدالدايم والدكتور عبدالفتاح مبروك بكلية العلوم جامعة القاهرة لما قدموه لنا من بعض المواد العلمية والصور التي ساعدت في إتمام هذا العمل. كما نخص بالشكر الدكتور راكيل رو بجامعة كليمنسون بالولايات المتحدة ومصوروا الحشرات بموقع الجامعة وايضا نخص بالشكر مارك نيبور من منظمة الابحاث العلمية والصناعية بدول الكومنولث – استراليا على سماحهم لنا باستخدام بعض الصور.

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(Scale insects)

(Termites)

(Honey bees)

(Silk worm)

(Scale Insects)

(Biological control)

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الباب الأول

الصفحة	الموضوع
	الباب الأول: ما هي الحشرات؟
	Antennae () -
	(Mouth-parts) -
	(Legs) -
	(Wings) -

(Insects)

.(Arthropoda)

(Class: Insecta)

(Phylum: Arthropoda)

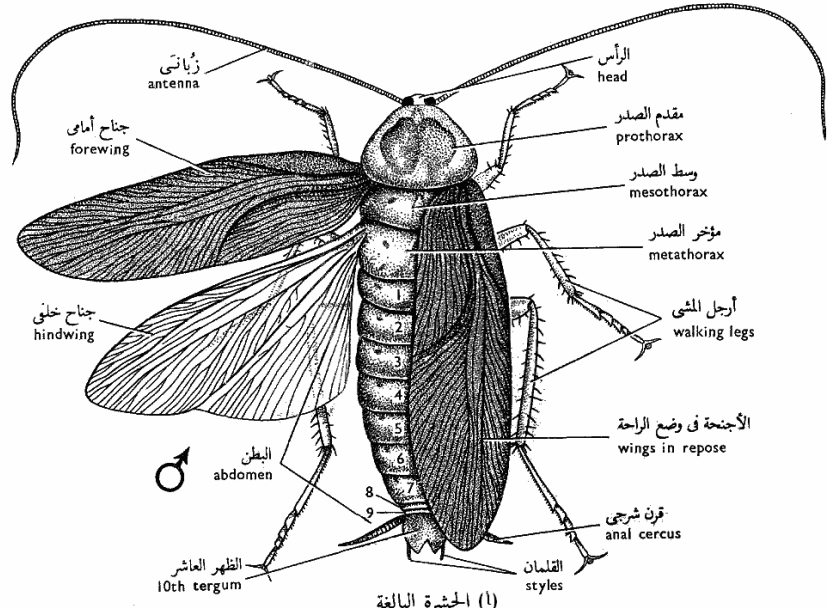
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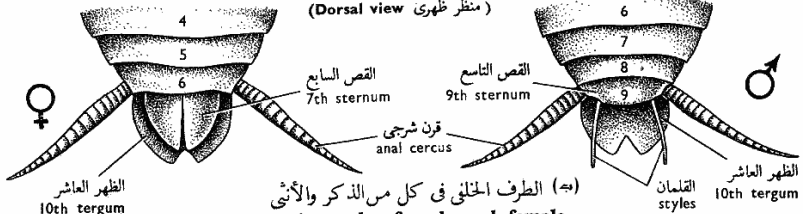
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(1) الحشرة البالغة

Adult insect

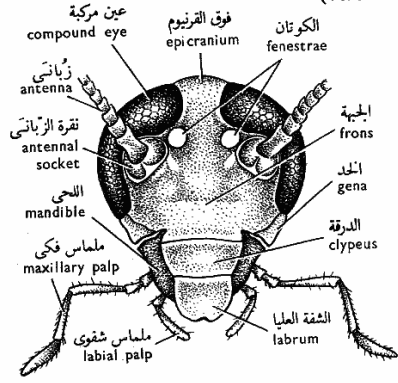
(Dorsal view منظر ظهري)



(2) الطرف الخلفي في كل من الذكر والأنثى

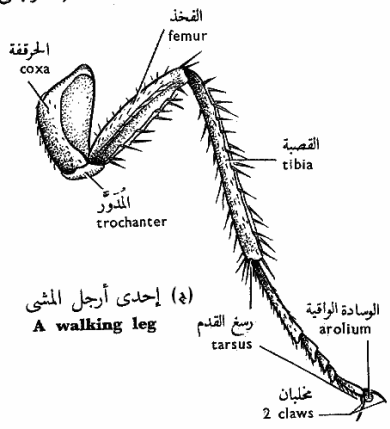
Posterior ends of male and female

(Ventral view منظر بطني)



(3) الرأس

Head (Front view منظر جبهوي)



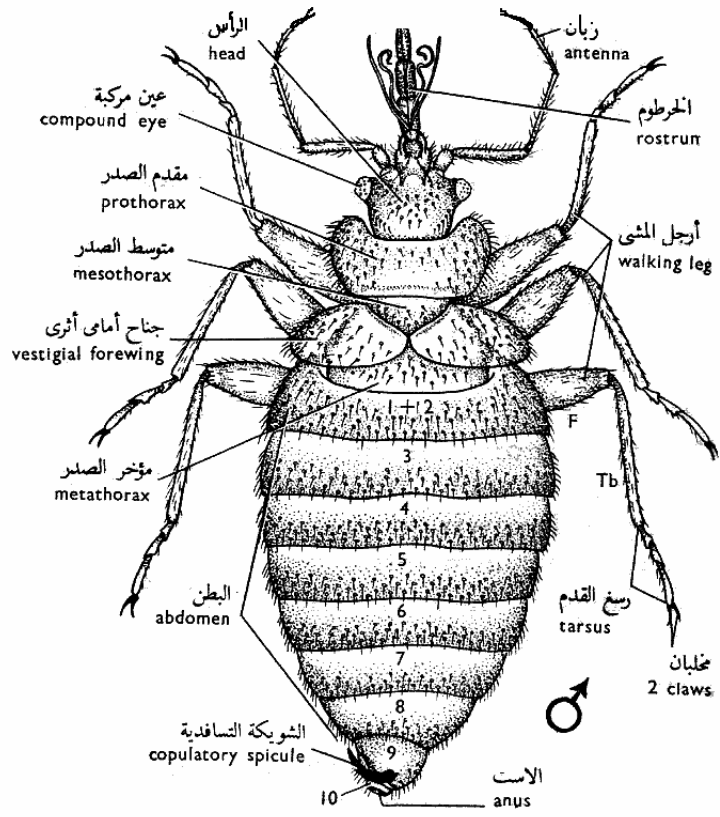
(4) إحدى أرجل المشي

A walking leg

Periplaneta americana

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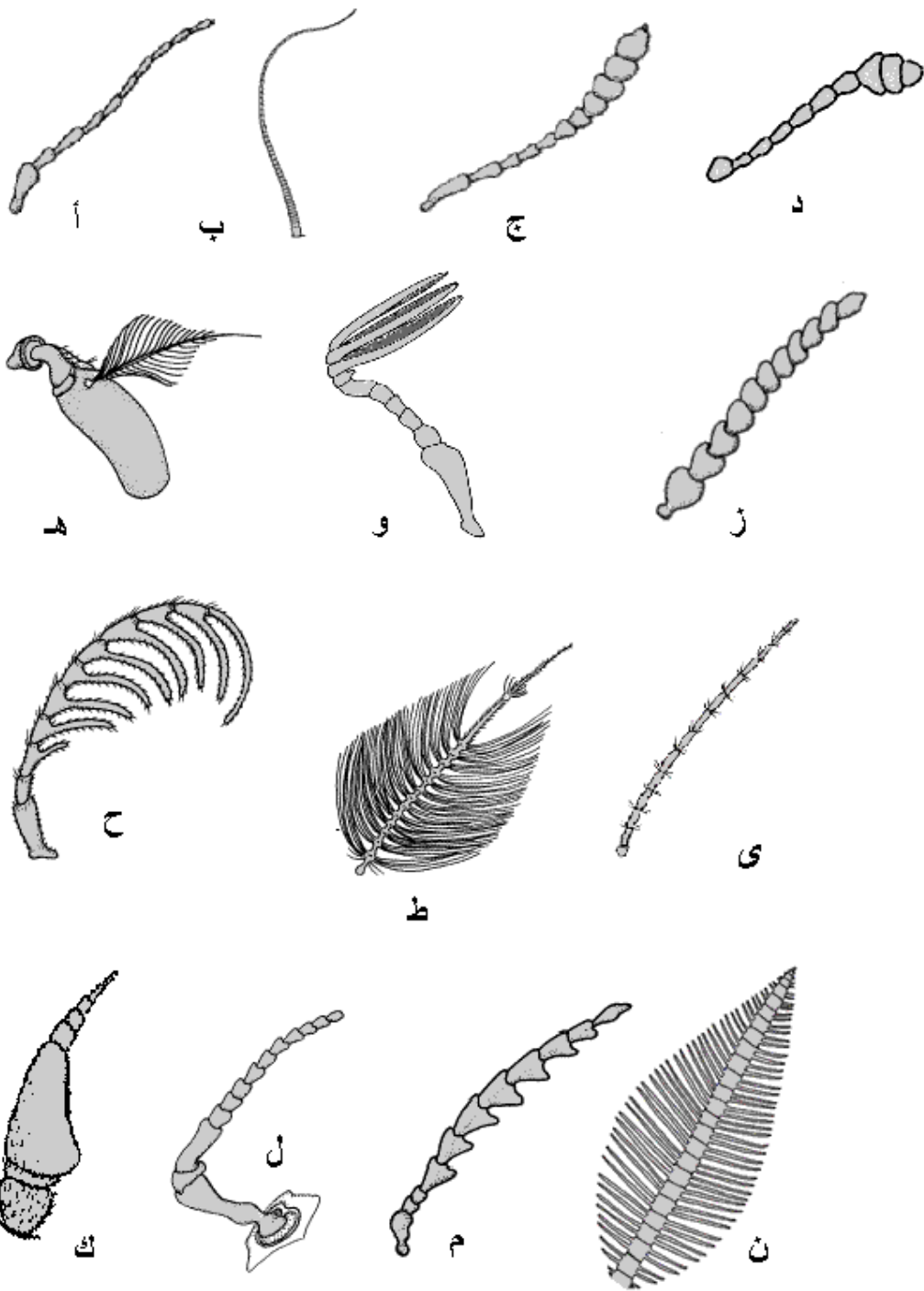


Cimex lectularius

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Antennae ()	-
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	:()
.(-)	Filiform -
.(-)	Setaceous -
.(-)	Clavate -
.(-)	Capitate -
.(-)	Aristate -
.(-)	Lamellate -
.(-)	Moniliform -
.(-)	Pectinate -
.(-)	Plumose -
.(-)	Pilose -
.(-)	Stylate -
.(-)	Geniculate -
.(-)	Serrate -
.(-)	Bipectinate -



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(Mouth-parts) -

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: Biting or Chewing mouth-parts -

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“Labrum”

“Labium”

“Maxillae”

“Mandibles”

“Palpi”

“Salivary duct”

“Hypopharynx”

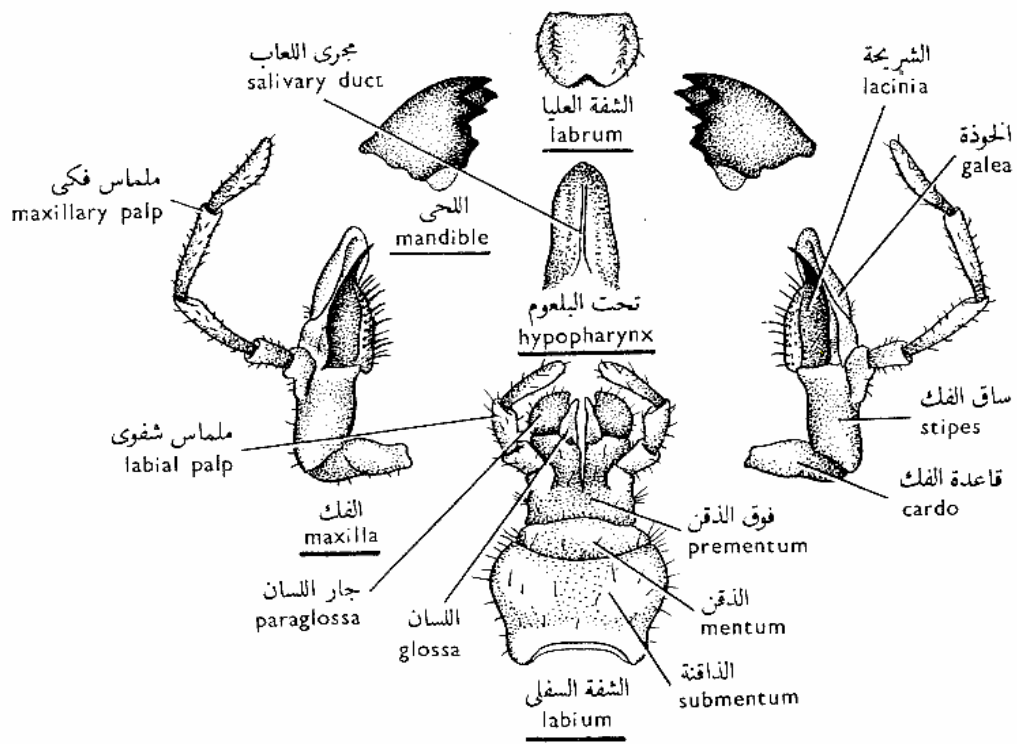
:Sucking mouth-parts -

.(-)

“Galeae of

Maxillae”

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:Biting and Lapping mouth-parts

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:Sponging and Sucking mouth-parts

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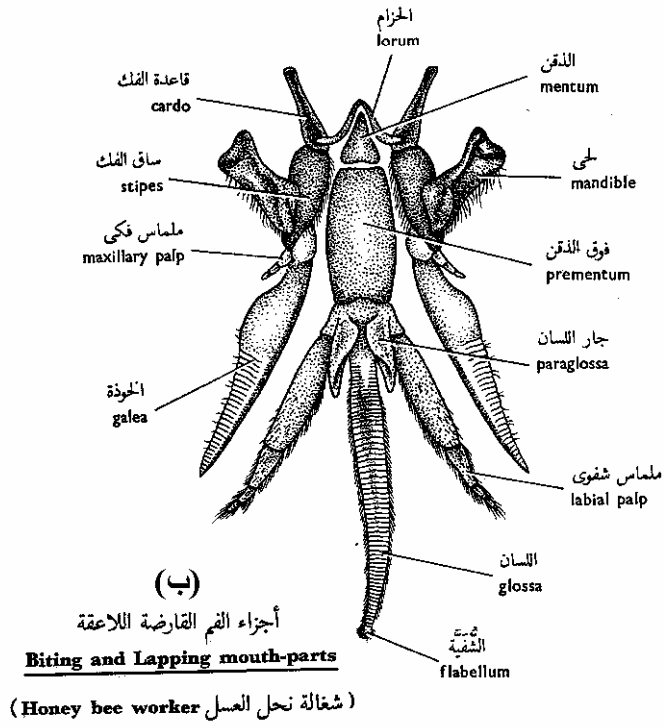
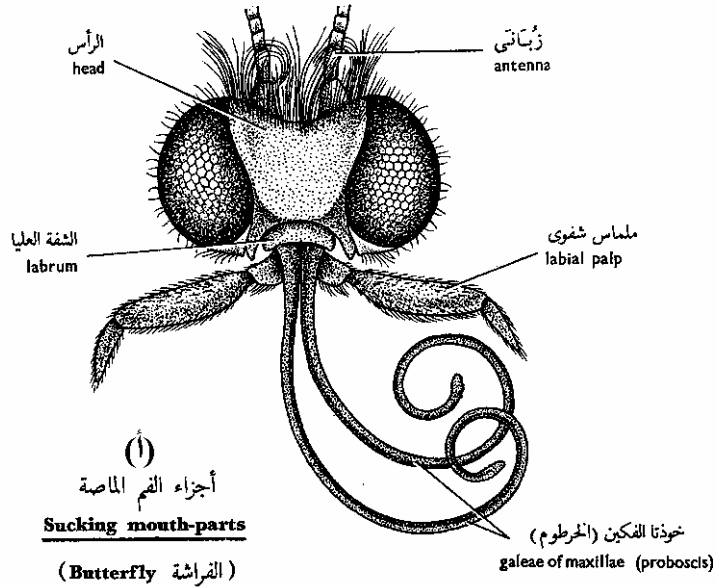
.(-)

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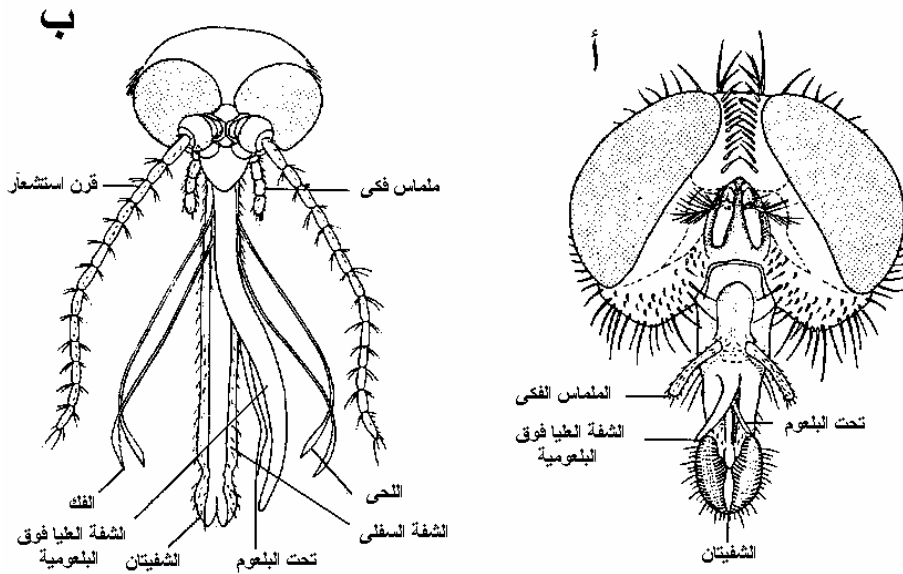


) - () - : ()
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:Piercing and Sucking mouth-parts

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(Daly et al., 1978)

(Legs) -

“Coxa”

”Tarsus”

”Tibia”

”Femur”

”Trochanter”

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:Walking or Running Legs

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:Burrowing Legs

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:Seizing Legs

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:Leaping or Jumping Legs

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:Swimming Legs -

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Legs for walking on smooth -

:and steep surfaces

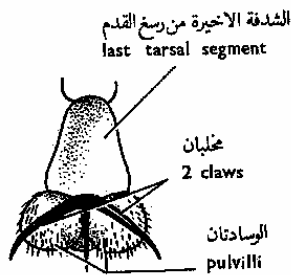
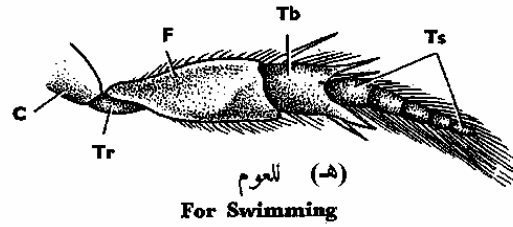
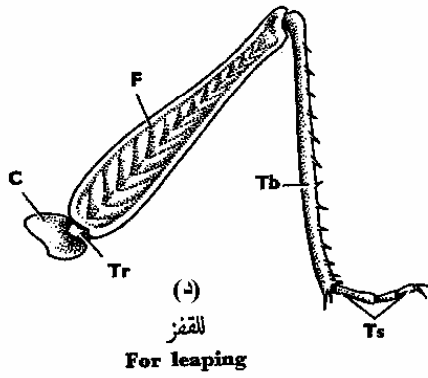
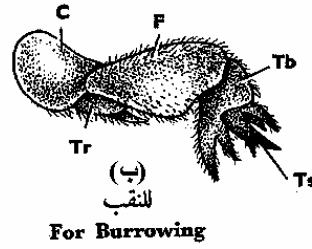
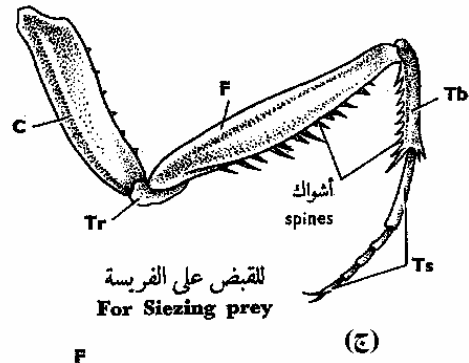
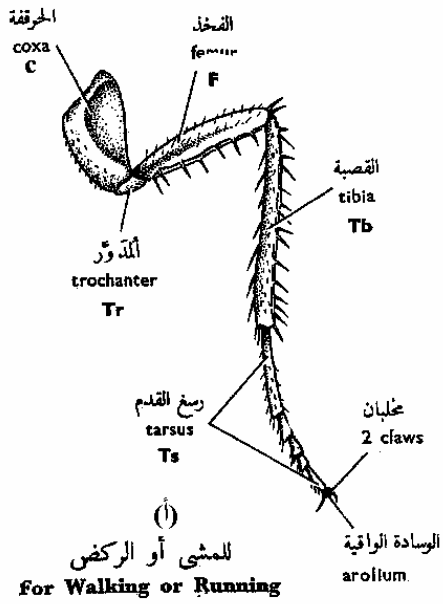
.(-)

:Clinging Legs -

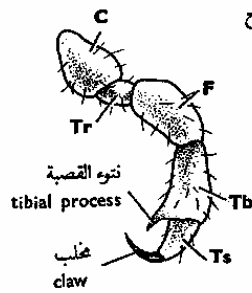
.(-)

:Collecting Legs -

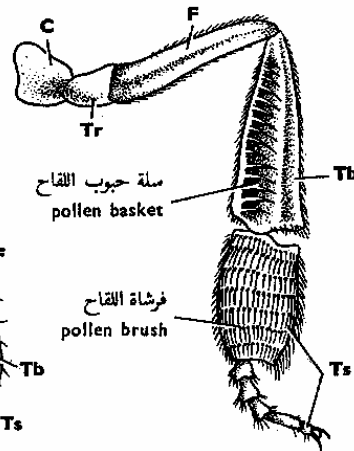
.(-)



(و) للمشي على السطوح المنحدرة والمساء
For Walking on steep and smooth surfaces



(ز) للتشبث
For Clinging



(ح) لجمع الغذاء
For Collecting food

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(Wings) -

“Insect orders”

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:Order Orthoptera -

"Leathery tegmina"

:Order: Isoptera -

:Order Hemiptera -

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:Order Thysanoptera -

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:Order Diptera -

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:Order Lepidoptera -

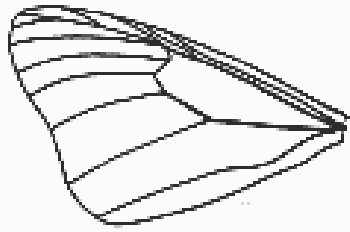
.(-)

:Order Coleoptera -

.(-)

:Order Hymenoptera -

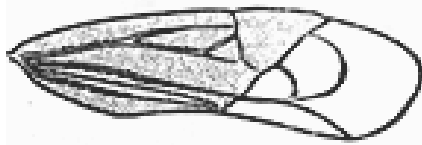
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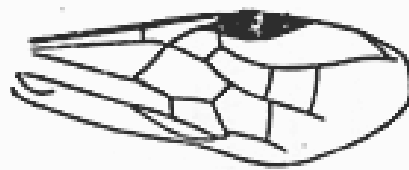
(ب) حرفی



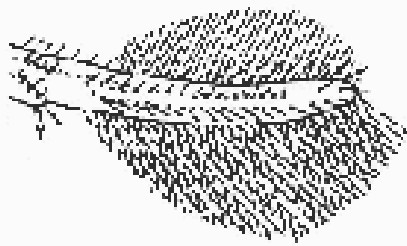
(ا) غمدی



(د) نصفی



(ج) غشائی



(و) هلیپی



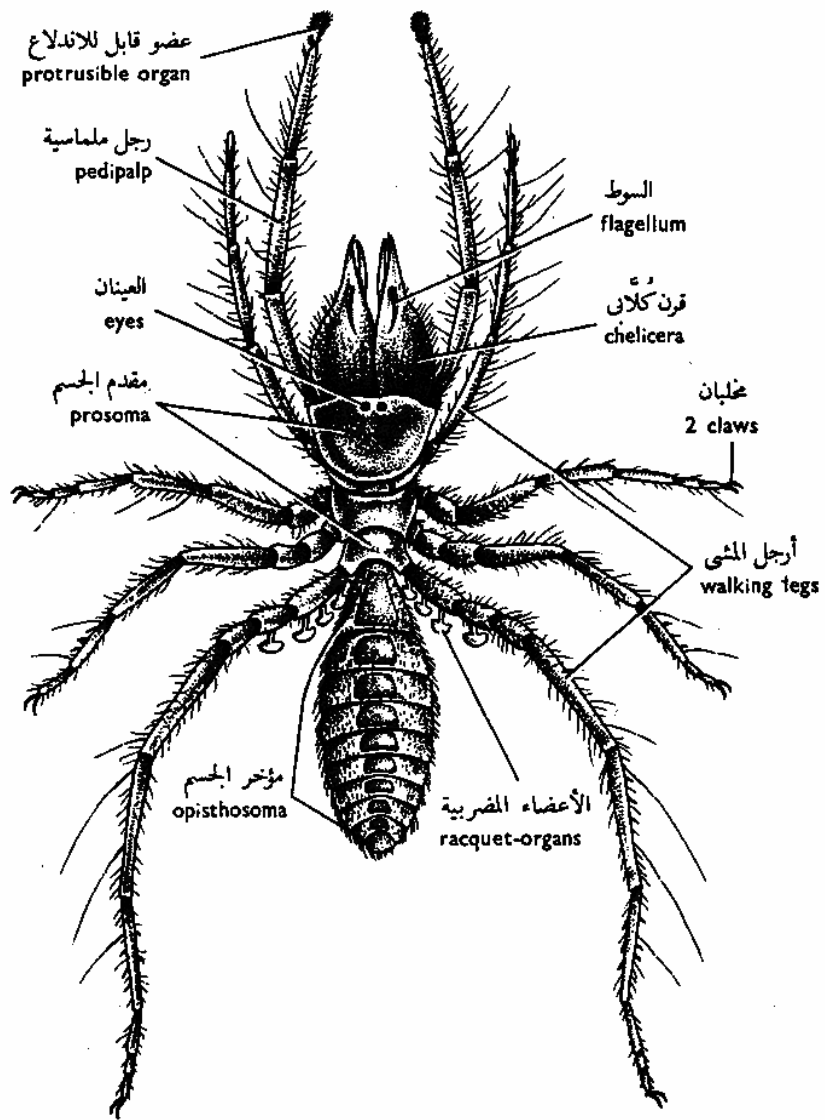
(هـ) دبوس توازن

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(Class: Arachnida)

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الباب الثاني

الصفحة	الموضوع
	الباب الثاني: مميزات وقدرات
	القدرة على الطيران
	التكيف مع البيئة
	صغر الحجم
	الهيكل الخارجي
	التحول
	الكفاءة التناسلية

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:(Flying)

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(Sphingidae)

(Honey bee)

(*Schistocerca gregaria*)

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(Monarch)

:(Adaptability)

-

:(Size)

-

:(Exoskeleton)

-

(Chitinous)

" "

: (Metamorphosis) -

80

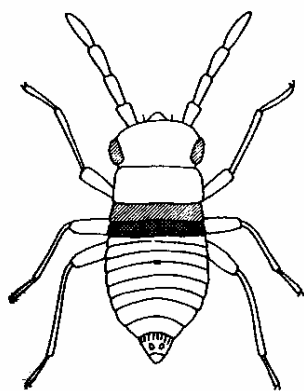
“ ”

.(Ametabolous insect)

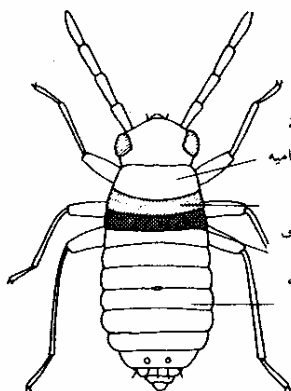
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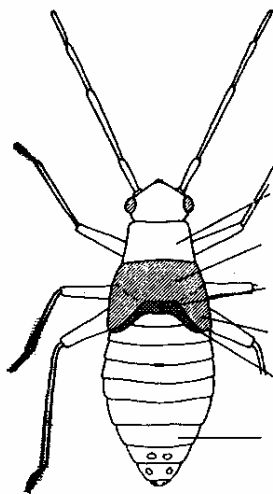
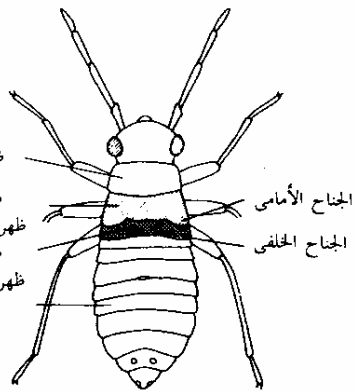
حورية - عمر اول



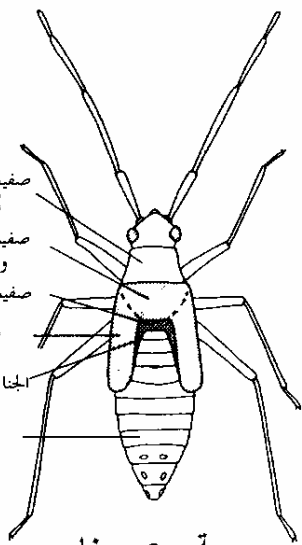
حورية - عمر ثانى



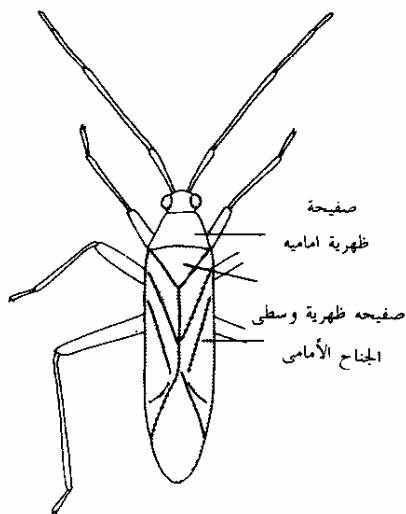
حورية - عمر ثالث



حورية - عمر رابع



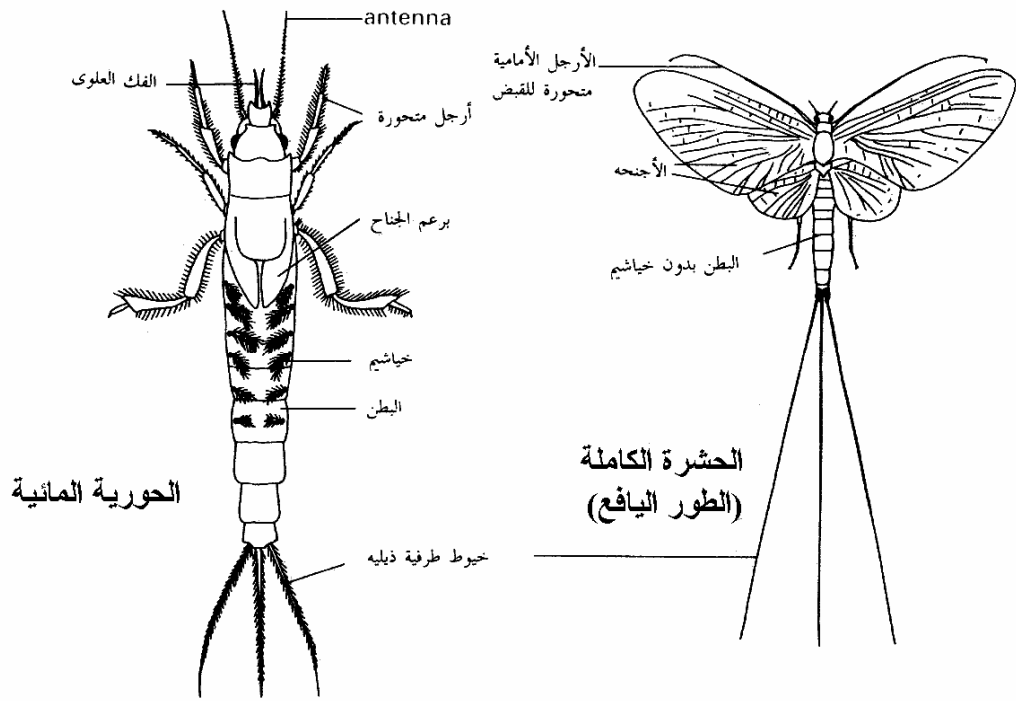
حورية - عمر خامس



حشرة كاملة - طور يافع

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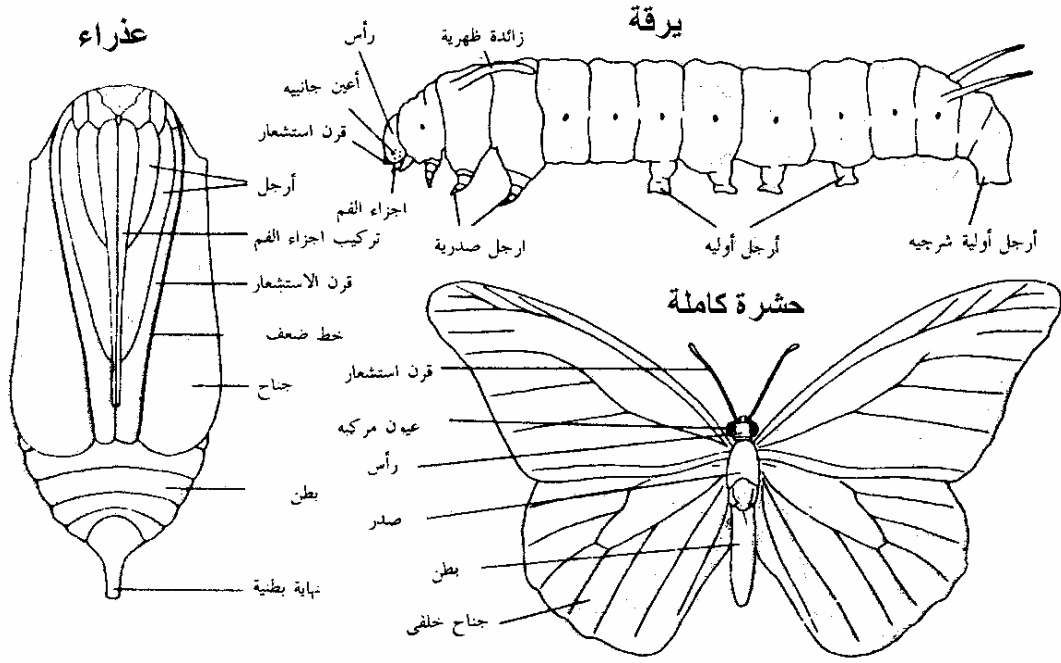
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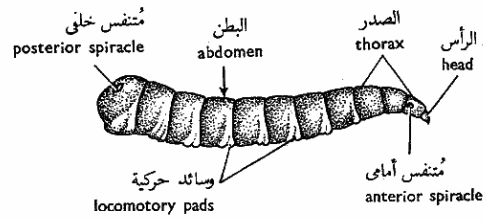
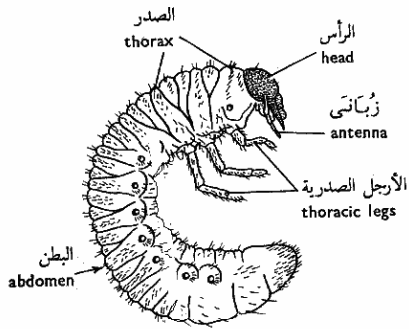
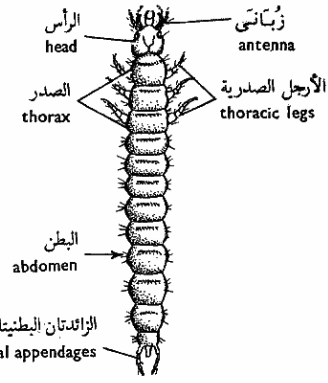
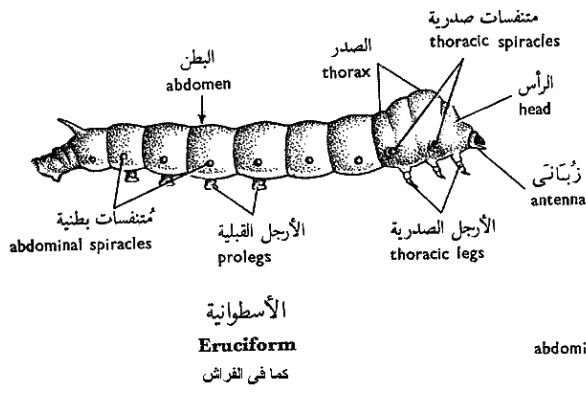
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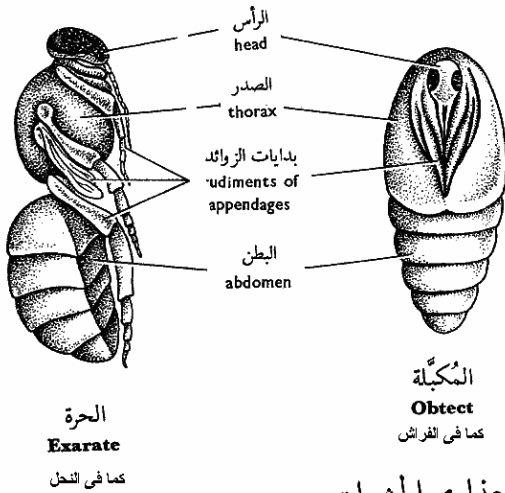


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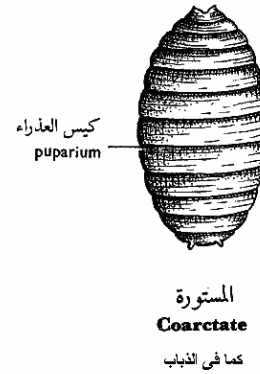
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(أ) طُرُز يرقات الحشرات
TYPES OF INSECT LARVAE



المكبّلة
Obtect
كما في الفراش



(ب) طُرُز عذارى الحشرات
TYPES OF INSECT PUPAE

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. " Pheromones"

الباب الثالث

الصفحة	الموضوع
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Classification of class Insecta

(*Systema Naturae*)

Lepidoptera

Coleoptera

:
Subclass: Apterygota

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Subclass: Pterygota

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(Primitively " " "

(Apterygota)

wingless)

.(Ametabolus insects)

.(External genitalia)

(Cerci)

" "

(Pterygota)

(Secondarily wingless)

.(Metabolous insects)

:

.Division: Exopterygota

:

"Hemimetabolous insects"

.Division: Endopterygota

:

"Holometabolous"

:

Class Insecta

Subclass I: Apterygota

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Order 1: Thysanura

Order 2: Collembola

Order 3: Diplura

Order 4: Protura ()

Subclass II: Pterygota

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Division A: Exopterygota

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Order 1: Ephemeroptera

Order 2: Odonata

Order 3: Blattaria

Order 4: Mantodea

Order 5: Phasmida

Order 6: Orthoptera

Order 7: Isoptera

Order 8: Dermaptera

Order 9: Embioptera

Order 10: Plecoptera ()

Order 11: Psocoptera

Order 12: Zoraptera ()

Order 13: Mallophaga

Order 14: Anoplura

Order 15: Thysanoptera

Order 16: Hemiptera

Order 17: Homoptera

Division B: Endopterygota ()

Order 1: Neuroptera

Order 2: Mecoptera ()

Order 3: Coleoptera

Order 4: Hymenoptera

Order 5: Trichoptera

Order 6: Lepidoptera

Order 7: Siphonaptera ()

Order 8: Diptera

Order 9: Strepsitera

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Palaeartic region

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Afrotropical region

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Oriental region

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Palaeartic region

Afrotropical region

Oriental region

.(Greathead, 1988)

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Protura ()

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() (Furcula)

Collembola ()

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Thysanura ().....

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Diplura ().....

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.....()

Orthoptera ().....
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Blattaria ().....

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Phasmida ().....
.....()

Dermaptera ().....

..... () -

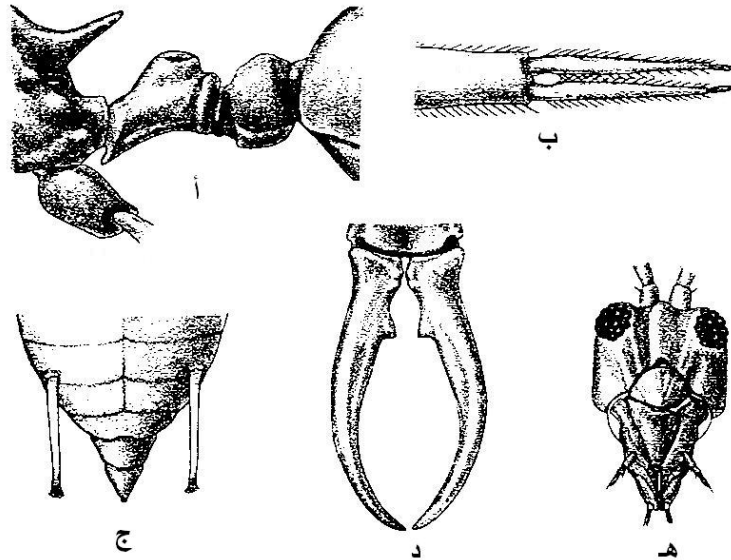
() (Cornicles) .

.....

Homoptera ().....

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(Elzinga, 1999)

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Hymenoptera ().....

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Embioptera ().....

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Thysanoptera ()

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Siphonaptera ()

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Diptera ().....

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Hemiptera ().....

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Lepidoptera ().....

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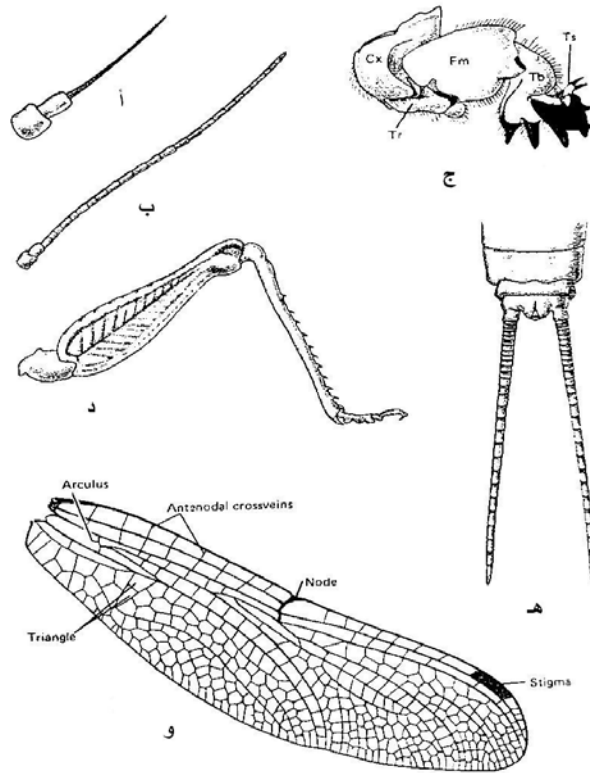
.....

Isoptera ().....

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(Elzinga, 1999)

..... .

Mecoptera ().....

Psocoptera ()..... -

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Diptera ().....

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Mallophaga ()

..... -

Anoplura ()

.....() .

Odonata ()

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Ephemeroptera ()()

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Orthoptera ().....

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.....() () .

Dermaptera ()

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Diptera ().....

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Homoptera ().....

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..... (Palpi)

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Hemiptera ().....

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Hemiptera ().....

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Homoptera ()

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Thysanoptera ()

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Coleoptera ()

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..... .))

Mantodea () () .

..... -

Blattaria ()

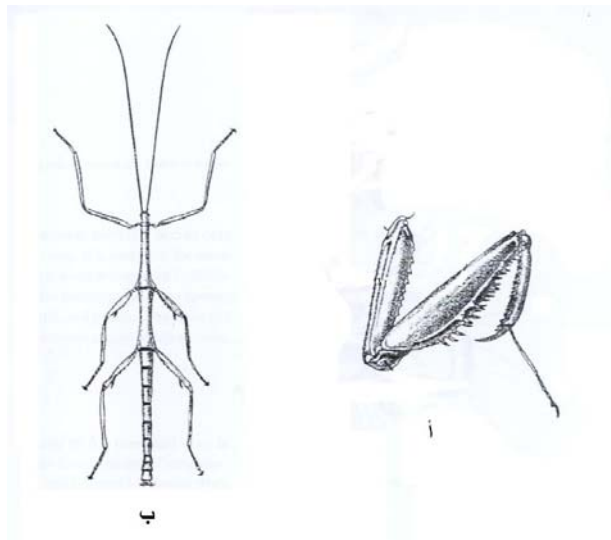
..... () -

Phasmida ()

() .

Plecoptera ()

..... -



: : ()
 (Elzinga, 1999) .

Lepidoptera ()

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Embioptera ()

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Isoptera ()

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Mecoptera ()

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Neuroptera ()

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Trichoptera ()

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Hymenoptera ()

Psocoptera ()

Subclass 1: Apterygota

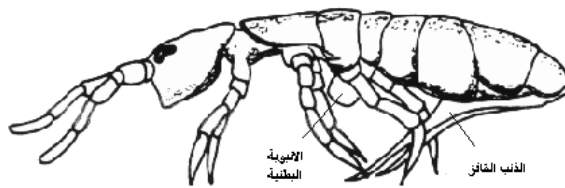
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: -

Order: Collembola

Common name: Springtails

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"Collophore" (

"Hamula" (

"Furcula" (

"Families"

:()

Hypogastrura manubrialis (Tulberg, 1869)

[Family: Hypogastruridae]

Hypogastrura armata (Nicolet, 1842)

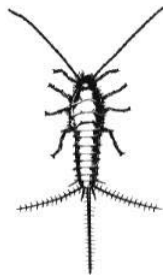
[Family: Hypogastruridae]

: -

Order: Thysanura

Common name: Bristle-tails

()



"

"

"Styli"

."Cerci"

Silver-fish

.() *Lepisma*

Subclass 2: Pterygota

-

Division A: Exopterygota

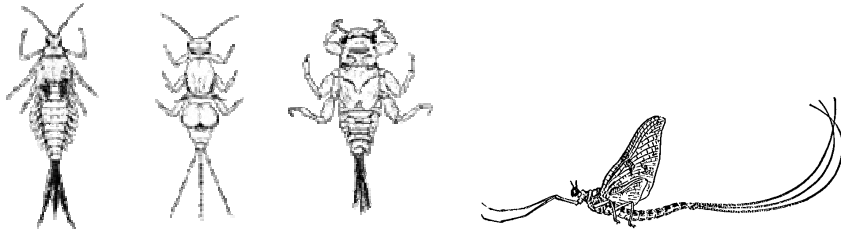
(-)

: - -

Order: Ephemeroptera

Common name: Mayflies

()



()

:

- *Baetis balearicus* (Muller & Soldan, 1981) [Family: Baetidae]

()

- *Cloeon saharensense* (Soldan & Thomas, 1983) [Family: Baetidae]

- *Caenis lucttuosa* (Burmeister, 1839) [Family: Caenidae]

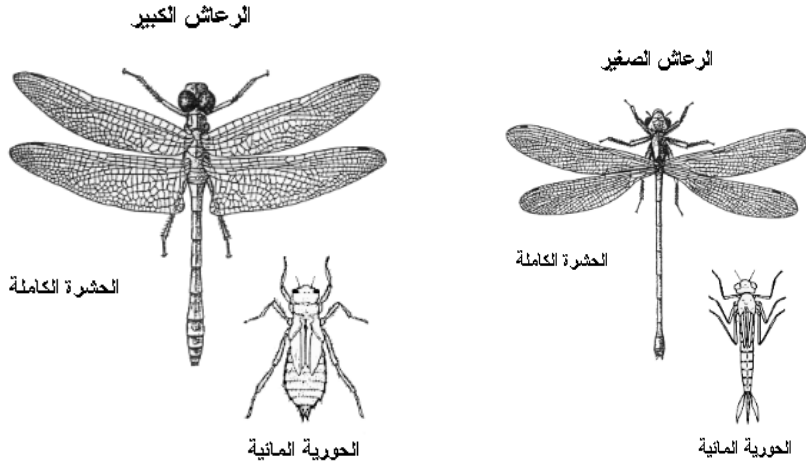
: - -

Order: Odonata

Damselflies

Dragnflies

()



.()

: ()

Suborder : **Anisoptera** (Dragonflies) -

Suborder : **Zygoptera** (Damselflies) -

" " "Dragon"

"Dragonflies"

" " "Damsel"

"Damselflies"

Naiads

:

Suborder: Zygoptera

-

Epallage fatime (Charpenter, 1840)

[Family: Euphaeidae] ()

Araibcnemis caerulea Waterston, 1984

[Family: Platycnemididae]

Suborder: Anisoptera

-

Anax parthenope (Selys, 1859)

[Family: Aeshnidae] ()

Hemianax ephippiger (Burmeister, 1839)

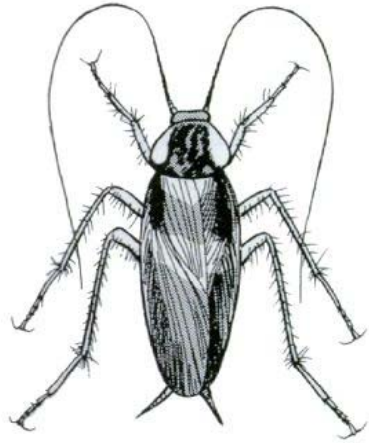
[Family: Aeshnidae] ()

: - -

Order: Blattaria

Common name: Cockroaches

()



."Shield-like"

"Ootheca"

(nymphs)

()

-

Periplaneta Americana (Linnaeus, 1758)

Family: Blattidae

() -

Blatta orientalis Linnaeus, 1758

Family: Blattidae

() -

Polyphaga aegyptiaca (Linnaeus, 1758)

Family: Polyphagidae

() () -

Blatella germanica (Linnaeus, 1767)

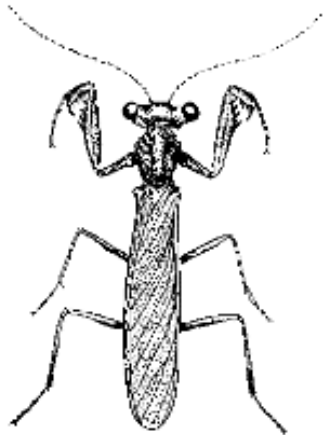
Family: Blatellidae

: - -

Order: Mantodea

Common name: Praying Mantids

()



() "Seizing legs"

"Praying mantid"

(Ootheca)

()

:

()

Sphodromantis viridis (Forsk., 1775)

Family: Mantidae

(Blattaria)

(Mantodea)

.(Dictyoptera)

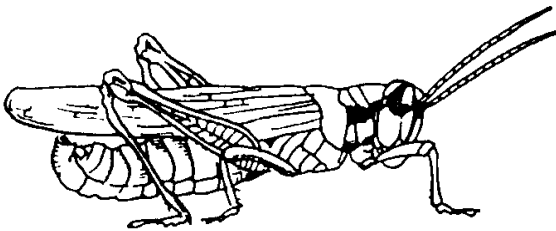
: - -

Order: Orthoptera

Includes: Locusts, Grasshoppers, Crickets, Molecrickets,etc.

(..... - - -)

()



.()

"Stridulation"

"Ovipositor"

":

.() "

:

Caelifera : ()

"Tympanum"

Ensifera : ()

."Tettigoniidae"

"Mole Crickets"

:

() -

Schistocerca gregaria (Forskål, 1775)

(Suborder: Caelifera, Family: Acridiidae)

() -

Anacridium aegyptium (Linnaeus, 1764)

(Suborder: Caelifera, Family: Acridiida)

() -

Gryllus bimaculatus (De Geer, 1773)

(Suborder: Ensifera, Family: Gryllidae)

() -

Gryllotalpa africana Beauvois, 1805

(Suborder: Ensifera, Family: Gryllotalpidae)

() : - -

Order: Isoptera

Common name: Termites or White ants

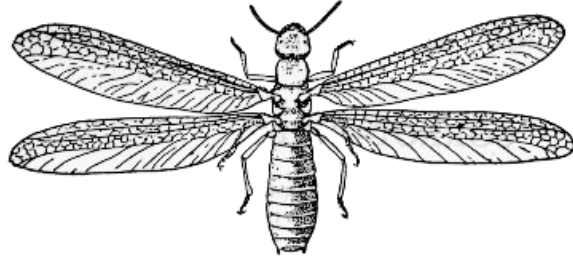
()



عسكري



شغالة



حشرة يافعة مجنحة

()

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" "

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:

:Reproductive cast ()

:

:Queens -

)

(

:Kings -

Replacement or Supplementary -

:Reproductives

:Sterile cast ()

:

:Workers -

:Soldiers -

: _____

: "Drywood termites" :

. "Kalotermitidae"

: "Subterranean termites" :

%

. "Rhinotermitidae"

:()

Epicalotermes aethiopicus (Burmeister, 1839)

[Family: Kalotermitidae]

Acanthotermes saudiensis (Chotani, 1982)

[Family: Hodotermetidae]

Microcerotermes najdensis Harris, 1964

[Family: Termitidae]

Psammotermes hypostoma (Desneux, 1902)

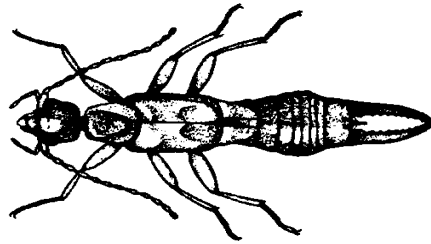
[Family: Rhinotermitidae]

() : - -

Order: Dermaptera

Common name: Earwigs

(23)



()

(23)

Labidura riparia Pallas, 1773

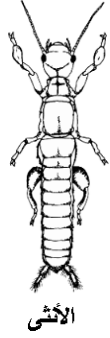
(Family: Lapiduridae)

: - -

Order: Embioptera

Common name: Web-Spinners

(24)



()

."Cannibalism"

:

Oligotoma nigra (Hagen, 1866) ()

(Family: Oligotomidae)

Arabembia biarmata (Ross, 1981)

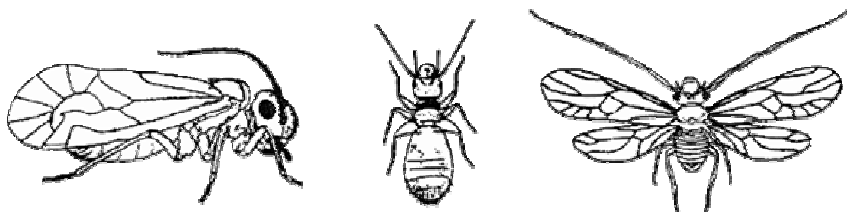
(Family: Embiidae)

: - -

Order: Psocoptera

Common name: Psocids, Book-lice or Bark-lice

()



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()

"booklice"

:()

Cerobasis questfalica (Klobe, 1880)

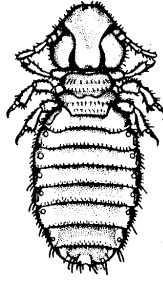
(Family: Trogidae)

: - -

Order: Mallophaga

Common name: Chewing lice

()



(Order:

Anoplura)

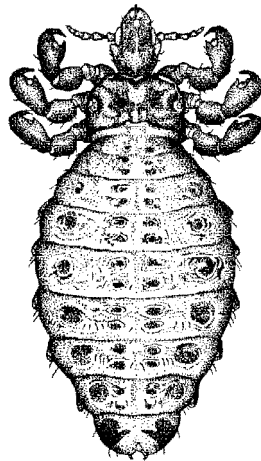
- () -
- Columbicola columbae* (Linnaeus, 1758)
(Suborder: Ischnocera, Family: Philopteridae) -
- Menopon gallinae* (Linnaeus, 1758)
(Suborder: Amblycera, Family: Menoponidae) -
- () -
- Trichodectes canis* (De Geer, 1778)
(Suborder: Ischnocera, Family: Trichodectidae)

: - -

Order: Anoplura

Common name: Sucking lice

()



() ()

Pediculus

humanus Linnaeus, 1758

P. humanus ()

P. humanus capitis ()

.corporis

Phthirus ()

pubis (Linnaeus, 1758)

()

."Crab louse"

() -

Pediculus humanus capitis (Family: Pediculidae)

() -

Pediculus humanus corporis (Family: Pediculidae)

() -

Phthirus pubis (Linnaeus, 1758) (Family: Phthiridae)

() : - -

Order: Thysanoptera

Common name: Thrips

()



()

" "

" "

Tubulifera

Terebrantia

:

()

Thrips tabaci Lindemann, 1888

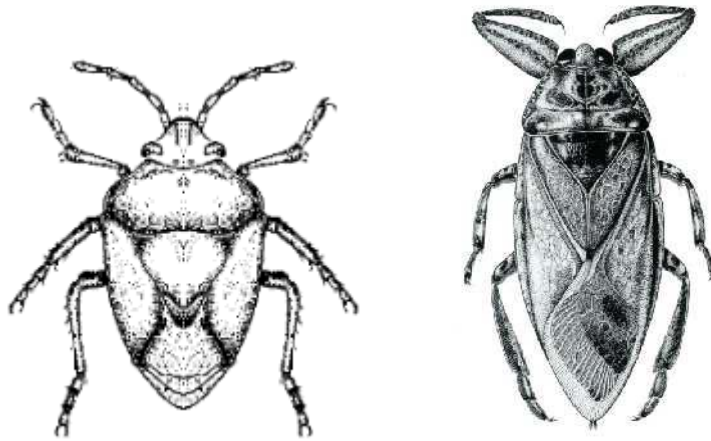
(Thripidae)

() : - -

Order: Hemiptera

Common name: True bugs

()



() "Hemelytron"

.(Scutellum)

Lygaeidae, and Pentatomidae Coreidae, Miridae

Reduviidae

." Chagas' diseases"

:**"Cryptocerata"**

:"Gymnocerata"

)

(

:

:()

-

- *Cimex lectularius* Linnaeus, 1758

Suborder: Gymnocerata

Family: Cimicidae

Common name: Bed bug.

:()

-

- *Nezara viridula* (Linnaeus, 1758)

Suborder: Gymnocerata

Family: Pentatomidae

Common name: Green Stink Bug

:()

-

- *Lethocerus niloticus* Stal, 18..?

Suborder: Cryptocerata

Family: Belostomatidae

Common name: Giant water bug

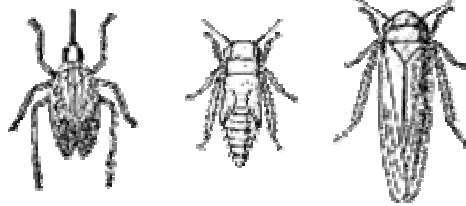
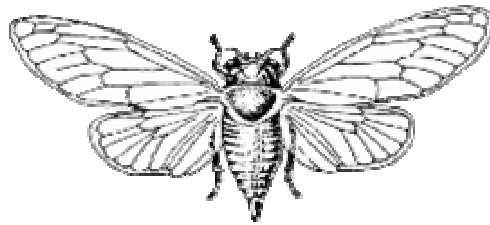
: - -

Order: Homoptera

Includes: Cicadas, Leafhoppers, Treehoppers, Whiteflies, Aphids, Psyllids, and Scale insects.

.....

()



(Aphids)

"Viviparous"

"Oviparous"

.(Cicadas)

(Whiteflies)

(Aphids)

.(Leafhoppers)

(Scale insects)

%

.(Honey dew)

: _____

:

Suborder: Auchenorrhyncha

:

Suborder: Sternorrhyncha

:

Cicadidae, Membracidae, Aphididae, Psyllidae, Coccidae,
Pseudococcidae, and Aleyrodidae.

:

() -

- *Aphis* sp.

Suborder: Sternorrhyncha

Family: Aphididae

() -

- *Icerya purchasi* (Maskell)

Suborder: Sternorrhyncha

Family: Margarodidae

Common name: Mealy bugs

() -

- *Tettigia* sp.

Suborder: Auchenorrhyncha

Family: Cicadidae

Common name: Cicadas

Division B: Endopterygota

(-)

: - -

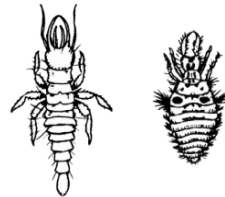
Order: Neuroptera

(Aphid-lion) (Ant-lion) :

()



حشرات كاملة



يرقات

(Ant-lion)

" "

.(Aphid-lion)

:

:() -

- *Chrysoperla vulgaris* (Schneider, 1851)

(Family: Chrysopidae)

Common name: Green lacewings or Aphid-lions)

:(:) -

- *Myrmeleon hyalinus* Olivier, 1811

(Family: Myrmeleontidae)

Common name: Ant-lions

: - -

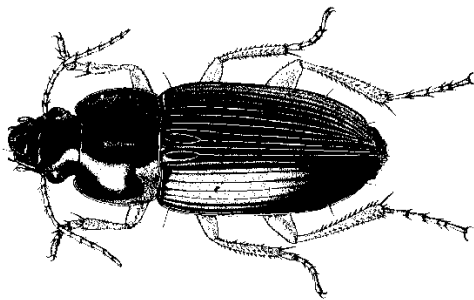
Order: Coleoptera

(Weevils)

(Beetles)

:

(:)



%

%

.() "Elytra"

:

: Suborder: Adephaga () -

: Suborder: Polyphaga () -

:

.() Curculionidae (Weevils) -

.() Chrysomelidae (Leaf beetles) -

- .() Staphylinidae (Rove beetles) -
- Cerambycidae (Long horned beetles) -
- .()
- .() Carabidae (Ground beetles) -
- .() Scarabaeidae (Scarab beetles) -
- .() Tenebrionidae (Darkling beetles) -
- Buprestidae (Metallic wood borers) -
- .()

:

(Tiger beetle) (:) -

Cicindela sp.

(Suborder: Adepaga)

(Family: Cicindelidae)

القضاء (صورة ٤٥) -

Epilachna chrysomelina (Fabricius, 1775)

(Suborder: Polyphaga)

(Family: Chrysomelidae)

(Confused flour beetle) () -

Tribolium confusum Jacquelin du Val, 1863

(Suborder: Polyphaga)

(Family: Tenebrionidae)

- خنفساء أبو العيد ذو الإحدى عشرة نقطه (صورة ٤٦)

Coccinella undecimpunctata (Linnaeus, 1758)

(Suborder: Polyphaga)

(Family: Coccinellidae)

(Larder beetle)

-

Dermestes sp.

(Suborder: Polyphaga)

(Family: Dermestidae)

(Scarab beetle)

()

-

Scarabaeus sacer Linnaeus, 1758

(Suborder: Polyphaga)

(Family: Scarabaeidae)

(Rice Weevil)

()

-

Sitophilus oryzae (Linnaeus, 1758)

(Suborder: Polyphaga)

(Family: Curculionidae)

(Palm Weevil)

()

-

Rhynchophorus ferrugineus (Olivier, 1790)

(Suborder: Polyphaga)

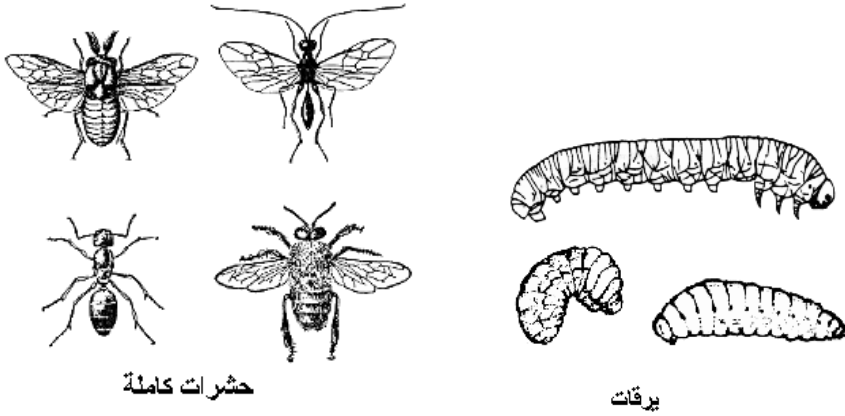
(Family: Curculionidae)

: - -

Order: Hymenoptera

Includes: Bees, Ants, Wasps, and Sawflies

()



()

"Hamuli"

"Mesothorax"

"Petiole"

"Saw"

"Sting"

"Social"

"Drill"

"Nests"

"Casts"

"Mimicry"

"Sawflies"

"Vermiform"

"Parasitoids"

"Hosts"

"Exarate"

"Cocoons"

()

: ()

:(Symphyta) -

:(Apocrita) -

Wheat Stem Sawflies () -

Cephus tabidus (Fabricius, 1775)

Suborder: Symphyta

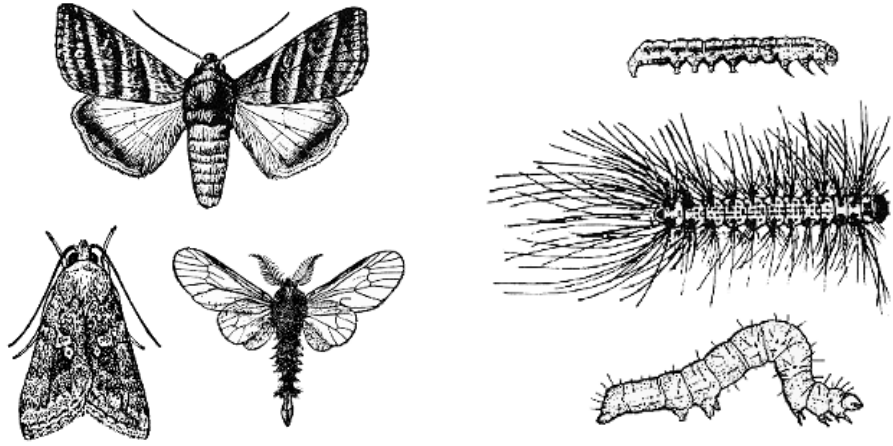
Family: Cephidae

	Braconid Wasp ()	-
<i>Trioxys complanatus</i> Quilis, 1931		
Suborder: Apocrita		
Family: Braconidae		
	Cuckoo wasp	-
<i>Stilbum splendidum</i> (Fabricius, 1775)		
Suborder: Apocrita		
Family: Chrysididae		
		-
<i>Brachymeria vitripennis</i> (Forst, 1859)		
Suborder: Apocrita		
Family: Chalcididae		
	Date Wasp () ()	-
<i>Vespa orientalis</i> Linnaeus, 1771		
Suborder: Apocrita		
Family: Vespidae		
	Honey bee ()	-
<i>Apis mellifera</i> Linnaeus, 1758		
Suborder: Apocrita		
Family: Apidae		
	Pharaoh Ant ()	-
<i>Monomorium pharaonis</i> (Linnaeus, 1758)		
Suborder: Apocrita		
Family: Formicidae		

() : - -

Order: Lepidoptera
(Moths and Butterflies)

(:)



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“ ”

(Mimicry)

()

"Caterpillars"

)

.(

. (*Bombyx mori*)

.()

.*Agrotis ipsilon*

.(*Bombyx mori*)

.(Moths)

(Butterflies)

:

:(Butterflies) **Rhopalocera**

.()

-

-

-

:(Moths) Heterocera

-

-

-

..... () .

:

أ- فصيلة Pieridae وتضم الأنواع التالية:

- أبو دقيق الكرنب (صورة ٦٨)

Pieris rapae (Linnaeus, 1758)

- أبو دقيق برتقالي طرف الجناح (صورة ٧٣)

Colotis liagore (Klug, 1829)

- أبو دقيق الحشائش الأصفر (صورة ٦٦)

Eurema hecabe (Linnaeus, 1758)

ب- فصيلة Lycaenidae وتضم الأنواع التالية:

- أبو دقيق الأزرق ذو العروق الرصاصية (صورة ٧٢)

Anthene amarah (Guerin-Meneville, 1847)

- أبو دقيق الأفريقي (صورة ٧٠)

Azanus jesous (Guerin-Meneville, 1849)

- أبو دقيق جوهرة الحشائش (صورة ٦٩)

Freyeria trochylus (Freyer, 1844)

- أبو دقيق القولييات (صورة ٧١)

Lampides boeticus (Linnaeus, 1767)

ج- فصيلة Nymphalidae وتضم الأنواع التالية:

- السيدة المزركشة (صورة ٦٠)

Cynthia cardui Linnaeus, 1758

- أبو دقيق الملكي (صورة ٦٥)

Danaus chrysippus (Linnaeus, 1758)

:

أ- فصيلة Spinghdae وتضم الأنواع التالية:

- فراشة البطاطا (صورة ٦٢)

Agrius convolvuli (Linnaeus, 1758)

- فراشة الدفلى (فراشة الدفله) (صورة ٦١)

Daphnis nerii (Linnaeus, 1758)

- فراشة دودة ورق العنب (صورة ٦٤)

Hippotion celerio (Linnaeus, 1758)

- فراشة دودة ورق العنب الخضراء (صورة ٦٣)

Hyles livornica (Esper, 1780)

ب- فصيلة Noctuidae وتضم الأنواع التالية:

- فراشة الدودة القارضة (صورة ٥٧)

Agrotis ipsilon (Hufnagel, 1766)

- فراشة ثمار الطماطم (صورة ٥٨)

Heliothis armigera (Hubner, 1808)

- فراشة دودة الذرة (صورة ٦٧)

Mythimna loreyi (Duponchel, 1827)

- فراشة دودة ورق القطن الصغرى (صورة ٥٩)

Spodoptera exigua (Hubner, 1808)

ج- فصيلة Arctiidae وتضم:

- فراشة ورق الحناء النمرية (صورة ٧٤)

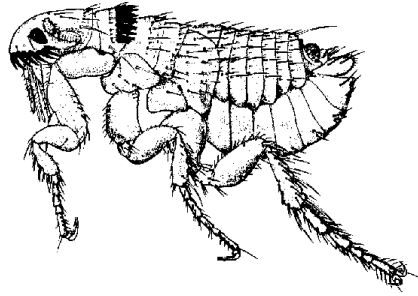
Utethesia pulchella (Linnaeus, 1758)

() : - -

Order: Siphonaptera

Common name: Fleas

(:)



(Coxa)

(Posteriorly projecting spines)

.(Combs or Ctenida)

%

.(Nest fleas)

(Plague)

:

() Human fleas -

Pulex irritans Linnaeus, 1758

() Oriental rat flea -

Xenopsylla cheopis (Rothschild, 1903)

() Cat flea -

Ctenocephalides felis (Bouche, 1835)

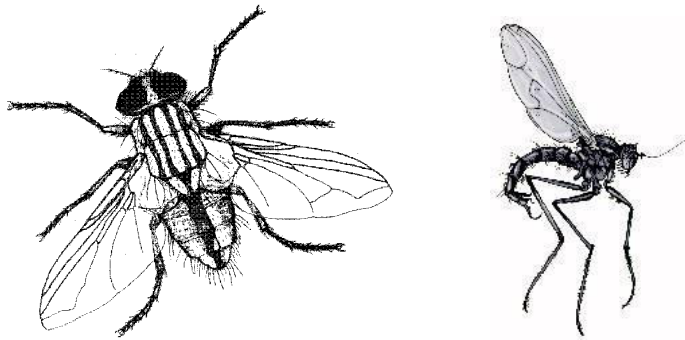
() : - -

Order: Diptera (True flies)

Includes: House flies, Mosquitoes, Sand flies, Midges, ... etc.

.. :

()



(,)

.(Halters)

(Piercing sucking)

(Cutting - sponging)

. (Sponging)

(Mesothorax)

."Maggots"

."Puparia"

Ceratitis capitata

(*Oestrus ovis*)

(*Cochliomyia hominivorax*)

.(*Gasterophilus intestinalis*)

(Tsetse

(Horse flies)

(Mosquitoes)

(Stable flies)

(Sand flies)

flies)

Suborder: Nematocera (:) -

:

Phlebotomus papatasi (Scopoli, 1786) () -

(Psychodidae)

Aedes aegypti (Linnaeus, 1762) () -

(Culicidae)

() () -

Anopheles stephensi Liston, 1901

(Culicidae)

() () -

Culex pipiens Linnaeus, 1758

(Culicidae)

Suborder: Brachycera ()

-

:

Tabanus riyadhae Amoudi & Leclercq, 1988

-

() (Tabanidae)

Tabanus taeniola Palisot de Beauvois, 1806

-

(Tabanidae)

Apoclea algira (Fabricius, 1794)

-

() (Asilidae)

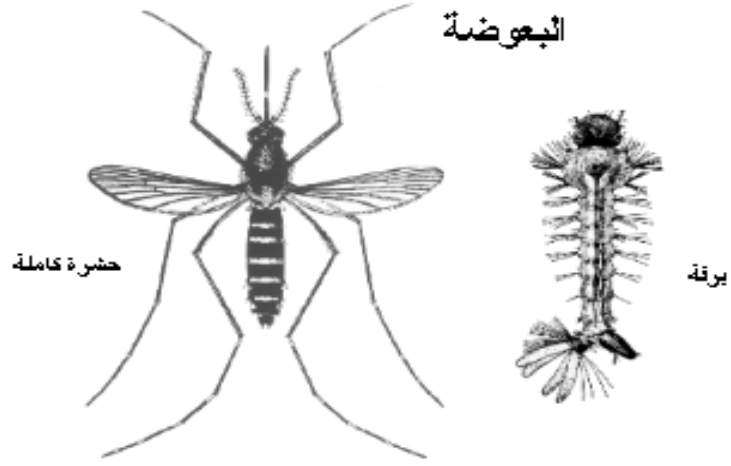
Heteralonia aegina (Wiedemann)

-

Anthrax sp.

Bombylius sp.

() (Bombyliidae)



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()

Suborder: Cyclorrhapha () -

:

Eristalis taeniops (Wiedemann, 1818) -

() (Syrphidae)

Ceratitis capitata (Wiedemann, 1824) -

() (Tephritidae)

Drosophila melanogaster Meigen, 1830 -

() (Drosophilidae) ()

Musca domestica Linnaeus, 1758 -

() (Muscidae)

Stomoxys calcitrans (Linnaeus, 1758) -

() (Muscidae)

Hippobosca camelina Leach, 1817 -

() (Hippoboscidae)

Chrysomya albiceps (Wiedemann, 1819) -

() (Calliphoridae)

Parasarcophaga ruficornis (Fabricius, 1794) -

() (Sarcophagidae)

Gonia capitata (De Geer, 1776)

-

() (Tachinidae)



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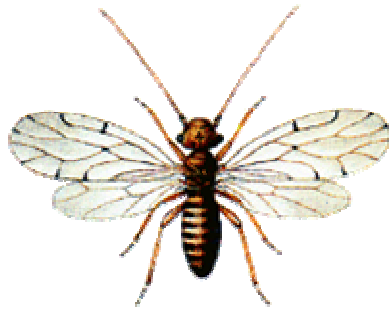
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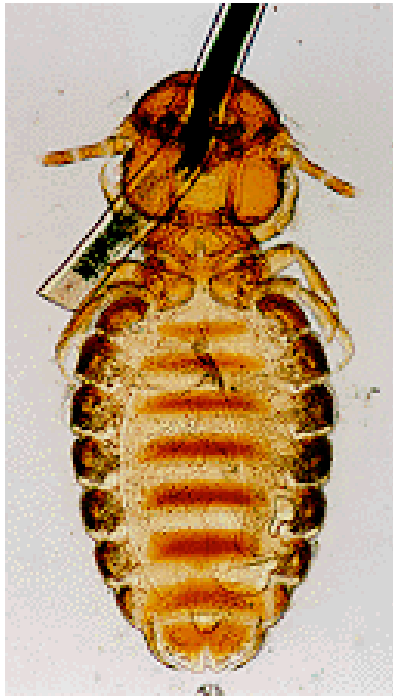


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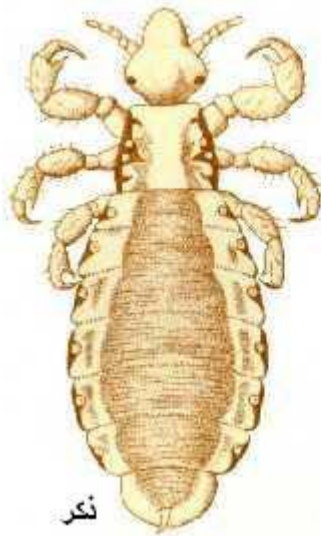
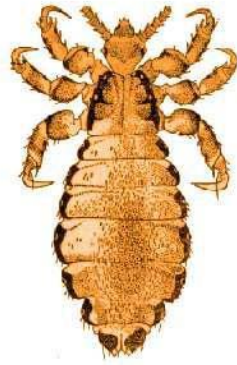
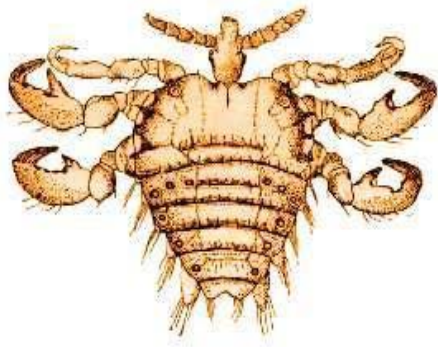


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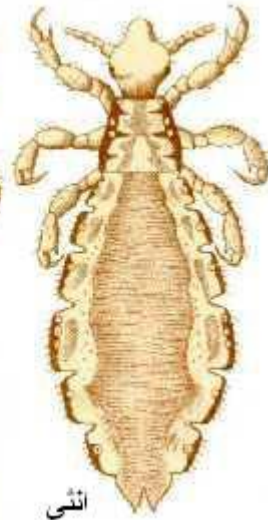
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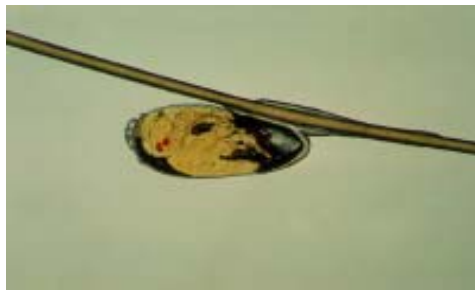
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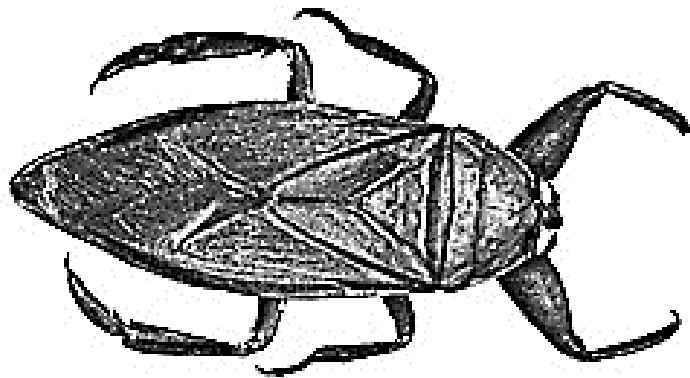
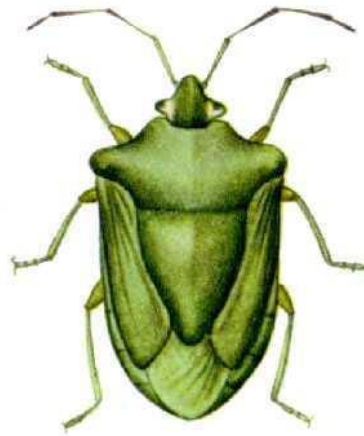
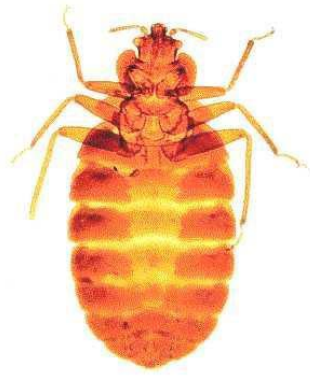


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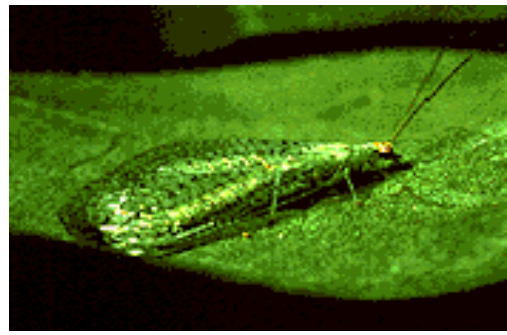
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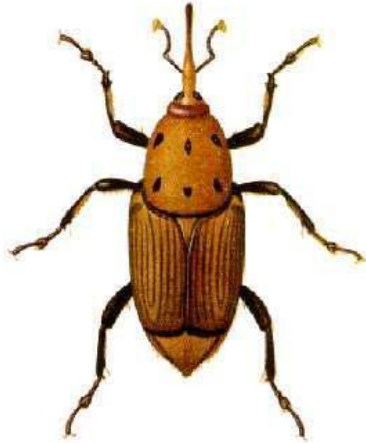


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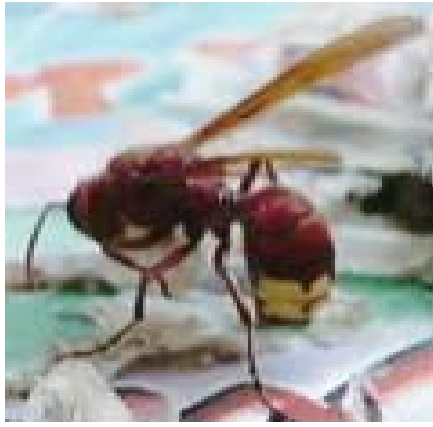
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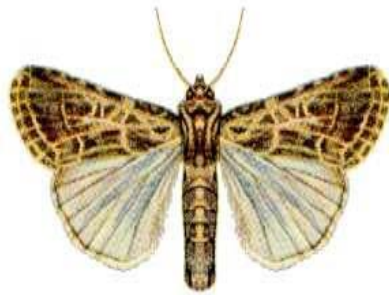
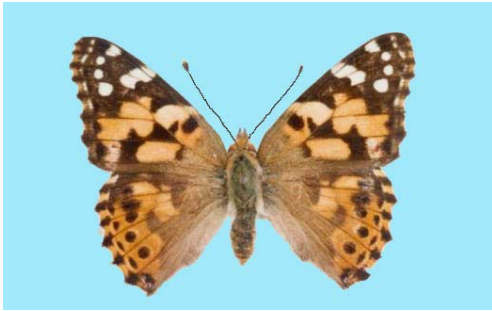
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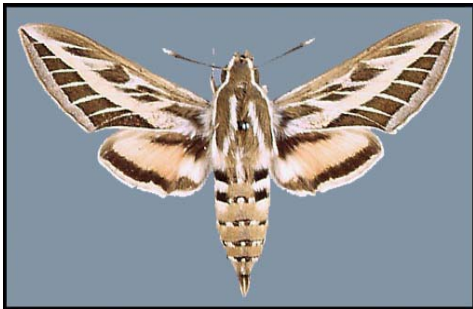
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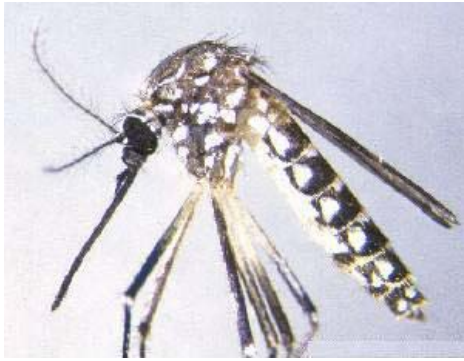
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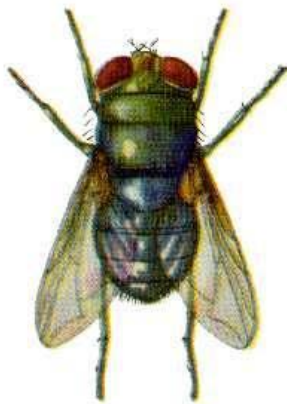
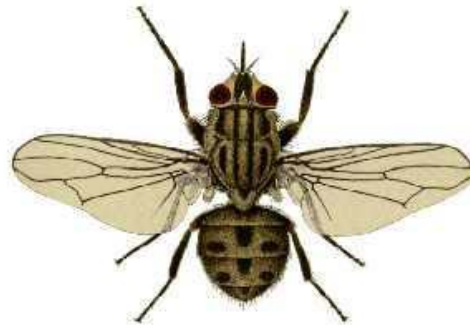
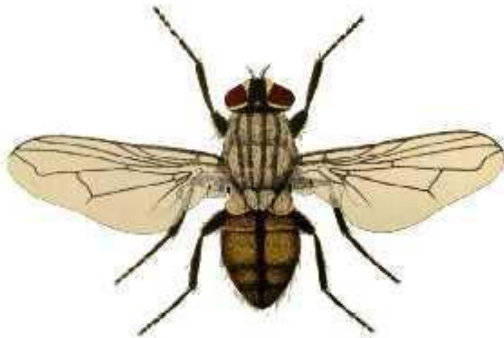
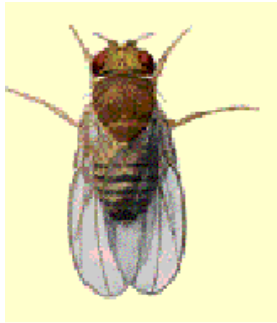
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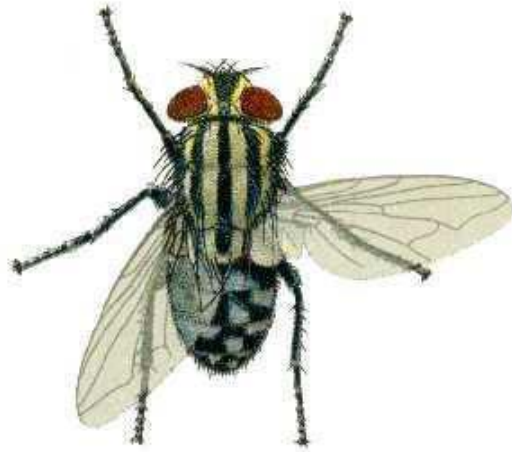
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	Scientific name		Family	Order
	<i>Hypogastrura</i>		Hypogastruridae	Collembola
	<i>Hypogastrura armata</i>			
	<i>Lepisma</i> sp.		-	Thysanura
	<i>Baetis balearicus</i>		Baetidae	Ephemeroptera
-	<i>Cloeon saharensis</i>			
-	<i>Caenis luctuosa</i>		Caenidae	
	<i>Epallage fatime</i>		Euphaeidae	Odonata
-	<i>Araibcnemis caerulea</i>		Platycnemididae	
	<i>Anax parthenope</i>		Aeshnidae	
	<i>Hemianax ephippiger</i>			
	<i>Periplaneta Americana</i>		Blattidae	Blattaria
	<i>Blatta orientalis</i>			

	<i>Polyphaga aegyptiaca</i>		Polyphagidae	
	<i>Blatella germanica</i>		Blatellidae	
	<i>Sphodromantis viridis</i>		Mantidae	أفراس النبي Mantodea
	<i>Schistocerca gregaria</i>		Acridiidae	Orthoptera
	<i>Anacridium aegyptium</i>		Acridiida	
	<i>Gryllus bimaculatus</i>		Gryllidae	
	<i>Gryllotalpa africana</i>		Gryllotalpidae	
-	<i>Epicalotermes aethiopicus</i>		Kalotermitidae	
	<i>Acanthotermes saudiensis</i>		Hodotermetidae	
	<i>Microcerotermes najdensis</i>		Termitidae	
	<i>Psammotermes hypostoma</i>		Rhinotermitidae	
	<i>Labidura riparia</i>		Lapiduridae	Dermaptera

	<i>Oligotoma nigra</i>		Oligotomidae	Embioptera
-	<i>Arabembia biarmata</i>		Embiidae	
	<i>Cerobasis questfalica</i>		Trogiidae	Psocoptera
	<i>Columbicola columbae</i>		Philopteridae	Mallophaga
	<i>Menopon gallinae</i>		Menoponidae	
	<i>Trichodectes canis</i>		Trichodectidae	
	<i>Pediculus humanus</i> <i>capitis</i>		Pediculidae	Anoplura
	<i>Pediculus humanus</i> <i>corporis</i>			
	<i>Phthirus pubis</i>		Phthiridae	
	<i>Thrips tabaci</i>		Thripidae	Thysanoptera
	<i>Cimex lectularius</i>		Cimicidae	نصفية الأجنحة Hemiptera
	<i>Nezara viridula</i>		Pentatomidae	
	<i>Lethocerus niloticus</i>		Belostomatidae	
	<i>Aphis</i> sp.		Aphididae	

	<i>Icerya purchasi</i>		Margarodidae	Homoptera
	<i>Tettigia</i> sp.		Cicadidae	
	<i>Chrysoperla vulgaris</i>		Chrysopidae	Neuroptera
	<i>Myrmeleon hyalinus</i>		Myrmeleontidae	
	<i>Cicindela</i> sp.		Cicindelidae	Coleoptera
	<i>Epilachna chrysomelina</i>		Chrysomelidae	
	<i>Tribolium confusum</i>		Tenebrionidae	
	<i>Coccinella undecimpunctata</i>		Coccinellidae	
-	<i>Dermestes</i> sp.		Dermestidae	
	<i>Scarabaeus sacer</i>		Scarabaeidae	

	<i>Sitophilus oryzae</i>		Curculionidae	Hymenoptera
	<i>Rhynchophorus ferrugineus</i>			
	<i>Cephus tabidus</i>		Cephidae	
	<i>Trioxys complanatus</i>		Braconidae	
-	<i>Stilbum splendidum</i>		Chrysididae	
-	<i>Brachymeria vitripennis</i>		Chalcididae	
	<i>Vespa orientalis</i>		Vespidae	
	<i>Apis mellifera</i>		Apidae	
	<i>Monomorium pharaonis</i>		Formicidae	
	<i>Pieris rapae</i>		Pieridae	
	<i>Colotis liagore</i>			

	<i>Eurema hecabe</i>			
	<i>Anthene amarah</i>		Lycaenidae	Lepidoptera
	<i>Azanus jesous</i>			
	<i>Freyeria trochylus</i>			
	<i>Lampides boeticus</i>			
	<i>Cynthia cardui</i>		Nymphalidae	
	<i>Danaus chrysippus</i>			
	<i>Agrius convolvuli</i>		Sphingidae	
	<i>Daphnis nerii</i>			
	<i>Hippotion celerio</i>			

	<i>Hyles livornica</i>			
	<i>Agrotis ipsilon</i>		Noctuidae	
	<i>Heliothis armigera</i>			
	<i>Mythimna loreyi</i>			
	<i>Spodoptera exigua</i>			
	<i>Utethesia pulchella</i>		Arctiidae	
	<i>Pulex irritans</i>			Siphonaptera
	<i>Xenopsylla cheopis</i>			
	<i>Ctenocephalides felis</i>			

	<i>Phlebotomus papatasi</i>		Psychodidae	Diptera
	<i>Aedes aegypti</i>		Culicidae	
	<i>Anopheles stephensi</i>			
	<i>Culex pipiens</i>			
	<i>Tabanus riyadhae</i>		Tabanidae	
	<i>Tabanus taeniola</i>			
	<i>Apoclea algira</i>		Asilidae	
	<i>Heteralonia aegina</i>		Bombyliidae	
	<i>Anthrax</i> sp.			
	<i>Bombylius</i> sp.			
	<i>Eristalis taeniops</i>		Syrphidae	
	<i>Ceratitis capitata</i>		Tephritidae	
	<i>Drosophila melanogaster</i>		Drosophilidae	
	<i>Musca domestica</i>		Muscidae	

	<i>Stomoxys calcitrans</i>			
	<i>Hippobosca camelina</i>		Hippoboscidae	
	<i>Chrysomya albiceps</i>		Calliphoridae	
	<i>Parasarcophaga ruficornis</i>		Sarcophagidae	
	<i>Gonia capitata</i>		Tachinidae	

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- Abu Yaman, I. K. (1978): Insects and other pests affecting man and animals in Saudi Arabia. *Angewandte parasitologie* 19: 31 – 33.
- Amoudi, M. A., and Leclercq, M. (1988): *Tabanus riyadhae* (Diptera: Tabanidae). A new species from Saudi Arabia. *J. Med. Entomol.* 25(5): 399-401.
- Amoudi, M. A., and Leclercq, M. (1992): The Horse-Flies from Saudi Arabia, Distribution and Zoogeography (Diptera: Tabanidae). *Notes fauniques de Gembloux*, 25: 3-15.
- Buttiker, W. (1981): Observations on Urban Mosquitoes in Saudi Arabia. *Fauna of Saudi Arabia*, 3: 472-479.
- Elzinga, R. J. (1999): *Fundamentals of Entomology*. 5th edition. Prentice Hall, Upper Saddle River, New Jersey 07458.
- Greathead, D. J. (1988): Diptera family Bombyliidae of Saudi Arabia. *Fauna of Saudi Arabia*, 9: 90-113.
- Daly, H.V., Doyen, J.T. and Paul, R.E. (1978): *Introduction to Insect Biology and Diversity*. McGraw-Hill Kogakusha, LTD. London.,
- Pont, A. C. (1991): A review of the Faniidae and Muscidae (Diptera) of the Arabian Peninsula, *Fauna of Saudi Arabia*, 12: 312-365.