

BET 402 – MEDICAL AND URBAN ENTOMOLOGY

PRACTICAL CLASS 1

There are 4 sections of urban insect pests in this class, namely cockroaches, pest ants, bed bugs and termites. You are required to go through all the specimens in the class, understand their morphological differences and their identifications, and prepare your report based on the questions below.

Questions

1. What are the cockroach species shown in the class that are exceeding 2 cm in length?
2. How do you differentiate between *Periplaneta americana* and *P. brunnea*? Give 2 major differences.
3. Give 3 main characteristics that you could differentiate a Turkestan (*Blatta lateralis*) and a smooth cockroach (*Symploce pallens*)
4. Differentiate between adult females of *Blattella germanica*, *S. pallens* and *Supella longipalpa*.
5. What are the ant species shown in the class with 1 node, and those with 2 nodes? List them all.
6. How could you tell the difference between *Tapinoma melanocephalum* and *T. indicum*?
7. What is the unique characteristic of *Crematogaster* sp (Acrobat ant)? See the abdomen.
8. Which of the ant species shown in the class which have dimorphic workers?
9. Using a suitable figure, describe what is the morphological difference between *Cimex hemipterus* and *Cimex lectularius*.
10. Examine the mandibles of *Odontotermes* and *Globitermes sulphureus* for tooth/teeth, and describe the difference between them.
11. Describe 3 morphological differences between *Macrotermes gilvus* and *Macrotermes carbonarius*.
12. Hyaline tip is the unique characteristic in *Macrotermes*, while fontanelle is unique to *Coptotermes*. Examine the specimen under microscope, and draw the figure and label these in the respective species.

Cockroaches

1. *Periplaneta americana* (American)
2. *Periplaneta brunnea* (Brown)
3. *Supella longipalpa* (Brown-banded)
4. *Blattella germanica* (German)
5. *Blatta lateralis* (Turkestan)
6. *Symptloce pallens* (Smooth cockroach)
7. *Neostylopyga rhombifolia* (Harlequin)
8. *Nauphoeta cinerea* (Lobster).

Pest ants

1. *Monomorium pharaonis* (Pharaoh).
2. *Tapinoma melanocephalum* (Ghost)
3. *Tapinoma indicum* (Indian ghost)
4. *Paratrechina longicornis* (Crazy)
5. *Anoplolepis gracilipes* (Yellow crazy)
6. *Oecophylla smaragdina* (weaver ant).
7. *Solenopsis germinata* (tropical fire)
8. *Tetraponera rufonigra* (forest fire).
9. *Crematogaster* sp. (Acrobat)

Bed bugs

1. *Cimex lectularius* (common)
2. *Cimex hemipterus* (tropical)

Termites

1. *Coptotermes* sp.
2. *Macrotermes gilvus*.
3. *Macrotermes carbonarius*.
4. *Ancistrotermes pakistanicus*
5. *Odontotermes* sp.
6. *Microcerotermes* sp.
7. *Globitermes sulphureus*