

Agricultural insect pests in order Isoptera (Termites or white ants)

Social and polymorphic species living in large communities composed of reproductive forms together with numerous apterous sterile soldiers and workers. Mouth parts of the typical biting type, Antennae moniliform, head round in workers and reproductive forms (winged forms). Large, elongate or bear-shaped in soldiers. Mandibles in soldiers elongate and much extended forward. Wings very similar elongate and membranous, Walking legs, tarsi almost always 4--5 segmented, cerci very short. Gradual metamorphosis. Small or median size, color pale, compound eyes well developed in reproductive forms.

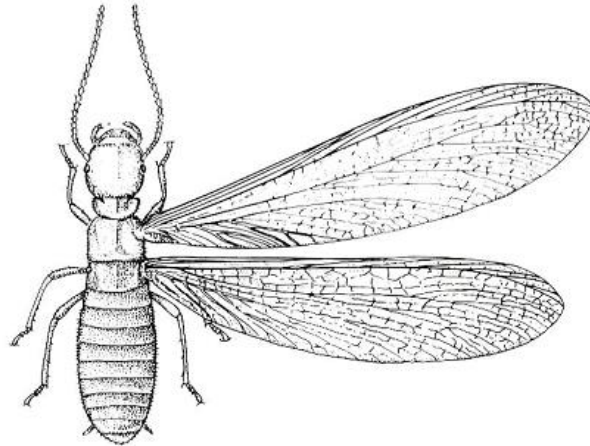


Figure 1 Adult female termite, Hodotermitidae (*Zootermopsis nevadensis*).
(Adapted from Daly, H.V. et al. 1978)

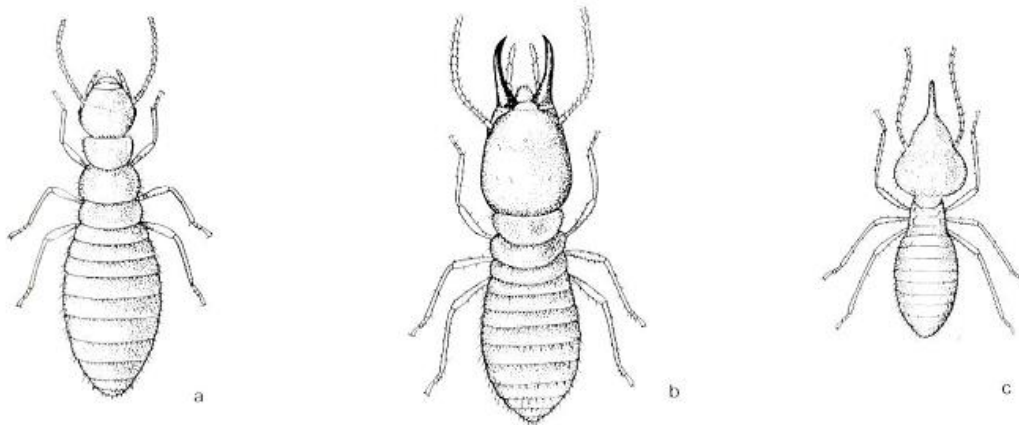


Figure 2 Variation in body form of termites: a. worker, Rhinotermitidae (*Protermitidae*);
b. soldier, Rhinotermitidae (*Protermitidae*); c. soldier, Termitidae (*Nasutitermes costaricensis*).
(Adapted from Daly, H.V. et al. 1978)

Key to the families based on soldiers

- 1-- Mandibles not identical in size and shape, with serrations along inner margin -
----- 2
- Mandibles identical, with out serration ,along inner margin, one median tooth may be present -----Termitidae
- 2-- Head capsule as long as wide, inner margins of mandibles with 3 or 4 teeth ---
----- Hodotermitidae.
- Head capsule longer than wide, inner margins of mandibles with more than 4 teeth ----- Rhinotermitidae

- 1-- Fam. Hodotermitidae is represented by one genus----- Anacanthotermes
- 2--- Rhinotermitidae is also represented by one genus ----- Psammatermes
- 3-- Fam. Termitidae represented by 4 genera

Key to the genera

- 1-- mandibles as long a head capsule length or a least more than its half length. -----2
- Mandibles shorter than head capsule. ---- -----3.
- 2-- Inner margins of mandibles smooth-----====Microcerotermes
- Inner margin of mandibles with median tooth -----Eremotermes.
- 3.--- Mandibles with inner tooth -----Microtermes.
- Mandibles with median inner tooth----- Amitermes.

- 1-- Right and left mandibles almost identical similar in size, shape and dentation-----2.
- Right and left mandibles different. -----3
- 2-- Inner margins of mandibles toothless or very finely serrated-----4.
- Inner margins of mandibles with a median tooth, directed posteriorly ---3.
- 3-- Left mandibles with three marginal teeth, right mandible with only two -----
-----Anacanthotermes. ----

- Left and right mandibles, each with more than three marginal teeth -----
-----Psammotermes.
- 4-- Mandibles finely serrated, taller than the length of head capsule or at
least longer than half its length. ----- Microcerotermes.
- Mandibles toothless, shorter than half the length of head capsule-----
-----Microtermes.
- 5-- Mandibles almost straight and parallel. -----Eremotermes
- Mandibles carried inwards. -- -----Amitermes.

Key to the genera based on workers .

- 1-- Left mandibles with an apical and three marginal teeth first marginal being
the shortest. Apical and following two marginal very close together. Right
mandibles with an apical and two marginal with a small subsidiary teeth at
base of anterior cutting edge of first marginal ----- Psammoetermes.
- Left mandible with an apical and two apparent marginal teeth (1).Second
marginal absorbed to form a cutting edge . Right mandible with an apical and
two marginal with no subsidiary teeth. -----2.
- 2-- Apical teeth and first marginal of left mandible very close together ----
-----Anacanthotermes.--
- Apical teeth and first marginal of left mandible not as above -----3.
- 3-- First marginal of right mandible smaller than apical, second marginal
Inconspicuous or very slightly projecting from inner surface --- Amitermes.
- First marginal of right mandibles longer than apical, second marginal clearly
projecting from inner surface. .-----4.
- 4-- Left mandible with third marginal inconspicuous, right mandibles with tip of
second marginal pointed -----Eremotermes.
- Left mandible with third marginal apparent ,right mandible with tip of
second marginal smoothly rounded-----5.
- 5 --second marginal of right mandible with, anterior and posterior edges of same
length or the later slightly longer than former, molar plate slightly ridged-----
-----Microcerotermes.
- Second marginal of right mandible with posterior edge straight, at least three
times as long as anterior edge .Molar plate smooth-----Microtermes.

References

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- Borror, D.J., D.M. DeLong, and C.A. Triplehorn, (1981) An Introduction to The Study of Insects. 5th ed. Saunders. Philadelphia
- Pfadt, R.E., (1985) Fundamentals of Applied Entomology. 4th Ed. McMillan Publishing Company. New York.