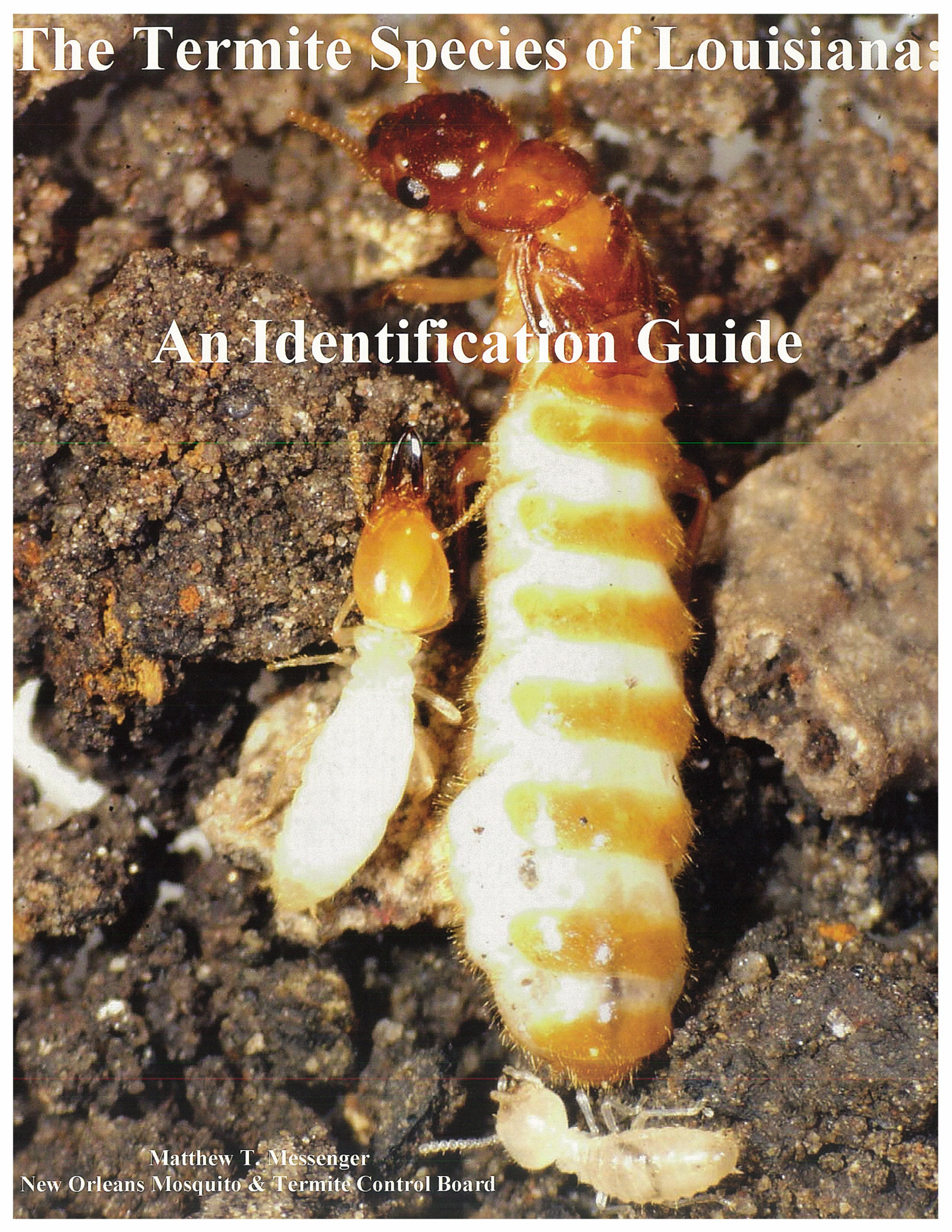


The Termite Species of Louisiana:

An Identification Guide

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Introduction

This publication was designed to help pest management professionals, termite researchers, and state extension personnel identify termite species currently found in Louisiana (and the southeastern U.S.). Knowing the type or species of termite can be just as important as knowing what the appropriate control should be.

Currently, there are nine termite species present in Louisiana:

Subterranean termites (Isoptera: Rhinotermitidae)

Formosan subterranean termite, *Coptotermes formosanus* Shiraki

Eastern subterranean termite, *Reticulitermes flavipes* (Kollar)

Dark southern subterranean termite, *Reticulitermes virginicus* (Banks)

Light southern subterranean termite, *Reticulitermes hageni* Banks

Midwestern subterranean termite, *Reticulitermes tibialis* Banks

Drywood termites (Isoptera: Kalotermitidae)

Southeastern drywood termite, *Incisitermes snyderi* (Light)

West Indian powderpost drywood termite, *Cryptotermes brevis* (Walker)

Western drywood termite, *Incisitermes minor* (Hagen)

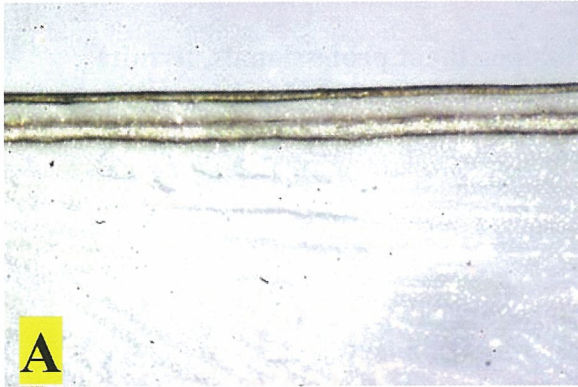
Dark southern drywood termite, *Kalotermes approximatus* (Snyder)

A fourth *Reticulitermes* species (*R. tibialis*) was collected recently south of Lake Charles in southwestern Louisiana. Three species have been introduced. The Formosan subterranean termite and the West Indian powderpost drywood termite are two exotic species. The western drywood termite is a non-endemic species, native to the southwestern U.S.

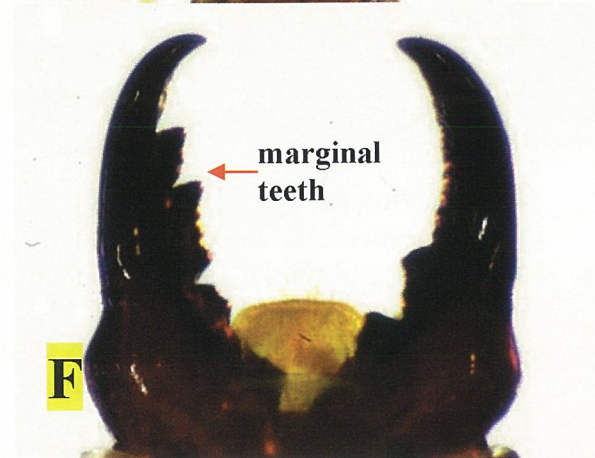
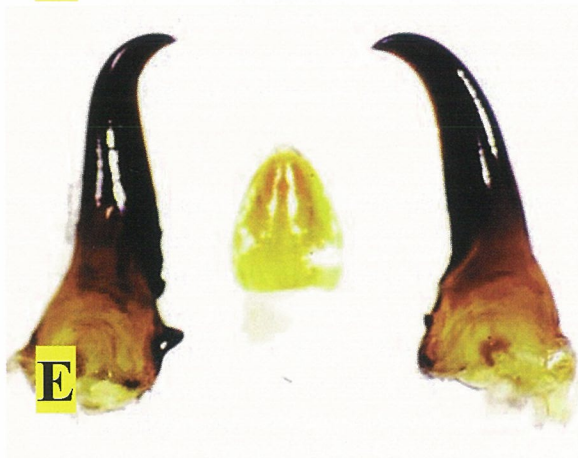
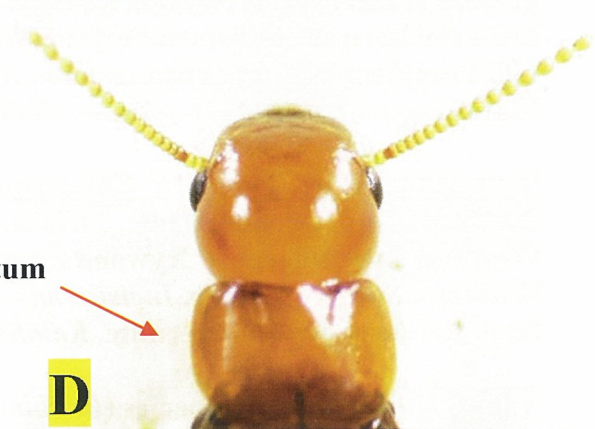
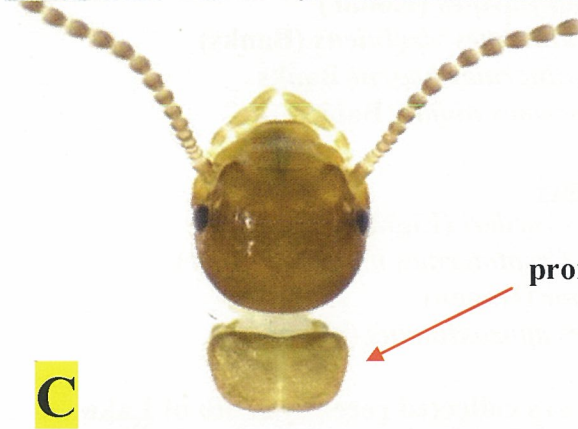
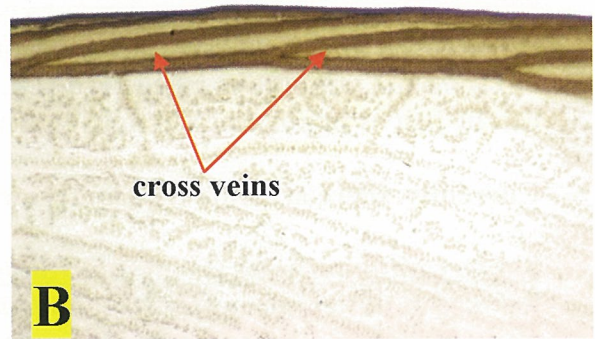
The following pages include key characteristics, distribution, pest status, and other relevant information regarding each species. It should be noted that workers and pseudergates (drywood termite workers) can only be classified to the family level using taxonomic keys. It should also be noted that there may be slight variations in color and size of each species. This is usually a result of desiccation, which also leads to broken and missing appendages. However, termites can be identified to species using individual body parts, such as alate wings and soldier mandibles. For best results, place a live or dead specimen immediately in 70% alcohol or rubbing alcohol. Specimens are best preserved in 85% ethanol. Most species identifications will require the use of a microscope with medium to high magnification to examine more detailed characteristics, such as wing venation, antennal segments, and mandible shape. The wing venation of drywood alates is best viewed when flattened between two microscope slides.

Reticulitermes soldiers can, at times, be difficult to identify to species based on their size and mandible shape. Therefore, it is extremely useful to collect alates from the same collection site.

Subterranean Termite



Drywood Termite



Subterranean termites: cross veins absent in alate wings (*Fig. A*); pronotum less than width of head for each caste (*Fig. C*); and marginal teeth absent on mandibles of soldiers (*Fig. E*)

Drywood termites: cross veins present (*Fig. B*); pronotum as wide or wider than head for each caste (*Fig. D*); marginal teeth present on left mandible of soldiers (*Fig. F*)

Subterranean Termite



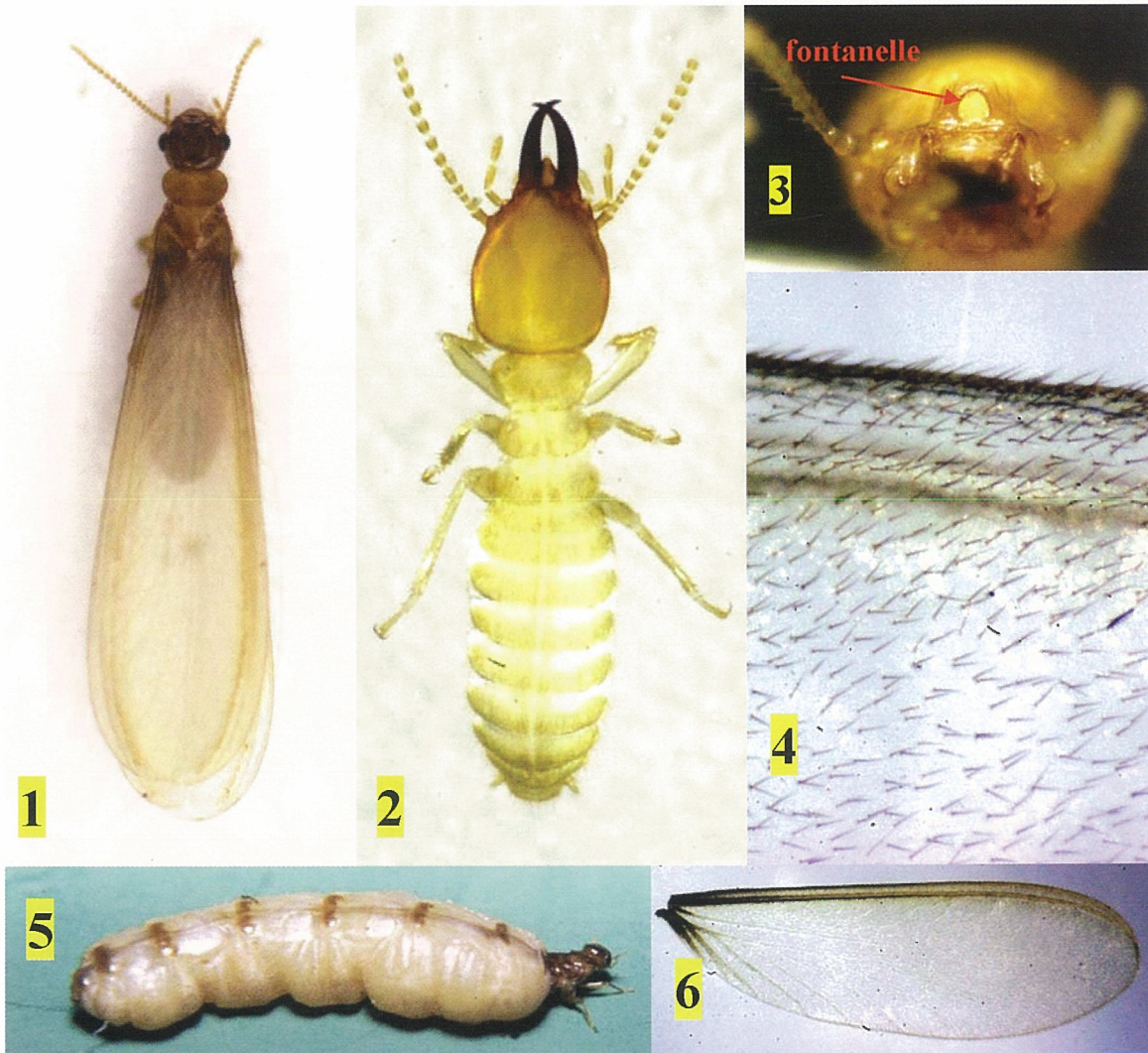
Drywood Termite



Subterranean termite evidence: mud tubes inside (*Fig. G*) or outside (*Fig. I*) structure; damage along grain of wood (*Fig. K*)

Drywood termite evidence: kick-out hole with a pile of frass (*Fig. H*); close-up of six-sided frass pellets (*Fig. J*); damage across grain of wood (*Fig. L*)

Formosan subterranean termite (*Coptotermes formosanus*)



Alate: approx. 1/2 " (13 mm) in length; head dark brown (*Fig. 1*); body and pronotum yellowish to dark brown; wings (and body) densely covered with hair (*Figs. 4 & 6*); mature queen (*Fig. 5*)

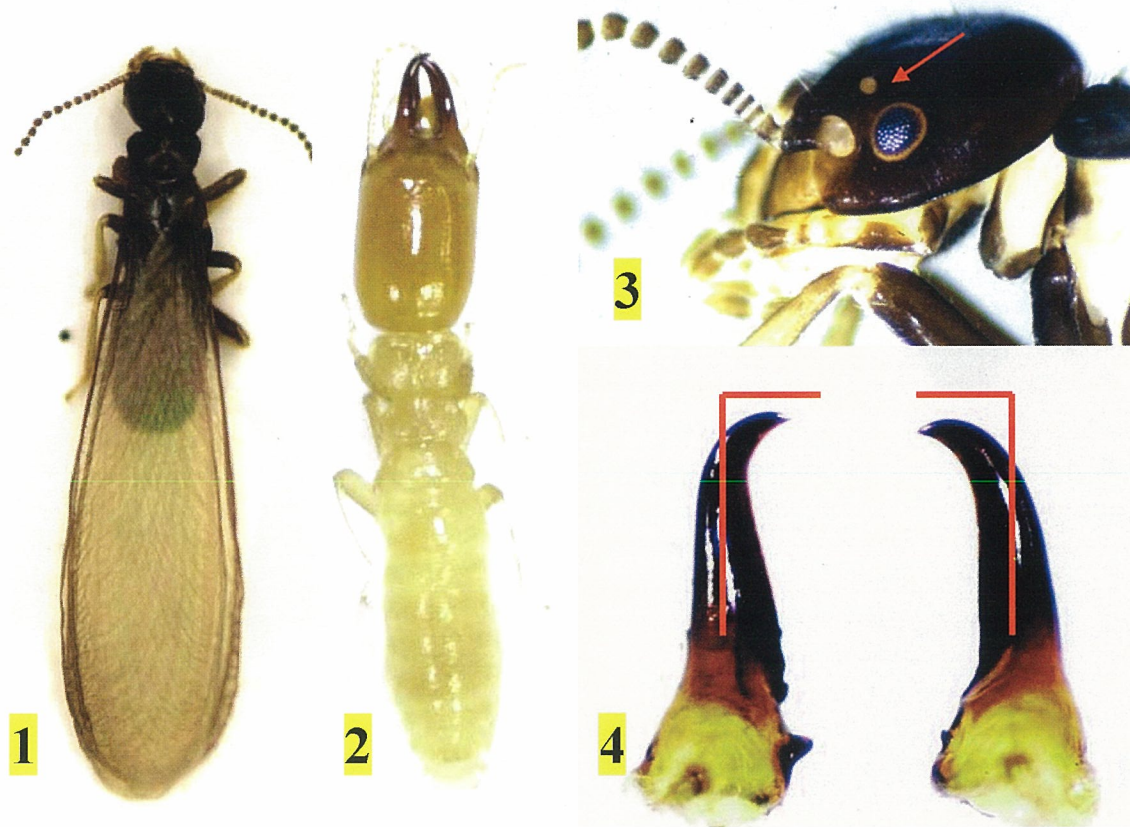
Soldier: tear-drop shaped head (*Fig. 2*); aggressive; numerous in colony. Secretes milky-white substance from fontanelle gland opening on head capsule (*Fig. 3*) when disturbed.

Peak swarming: dusk flights during May and June

Distribution: parishes along and south of Interstates 10 and 12; Ouachita, Sabine, Beauregard, and Vernon Parishes. May be permanently established in other parishes.

Pest status: commonly infests structures, trees, and cross ties

Eastern subterranean termite (*Reticulitermes flavipes*)



Alate: length with wings approx. 3/8 " (10 mm); body dark brown to black (*Fig. 1*); translucent wings with smoky-colored membrane; tibia dark and tarsi yellowish, ocelli equal to or greater than their diameter in distance to eye (*Fig. 3*)

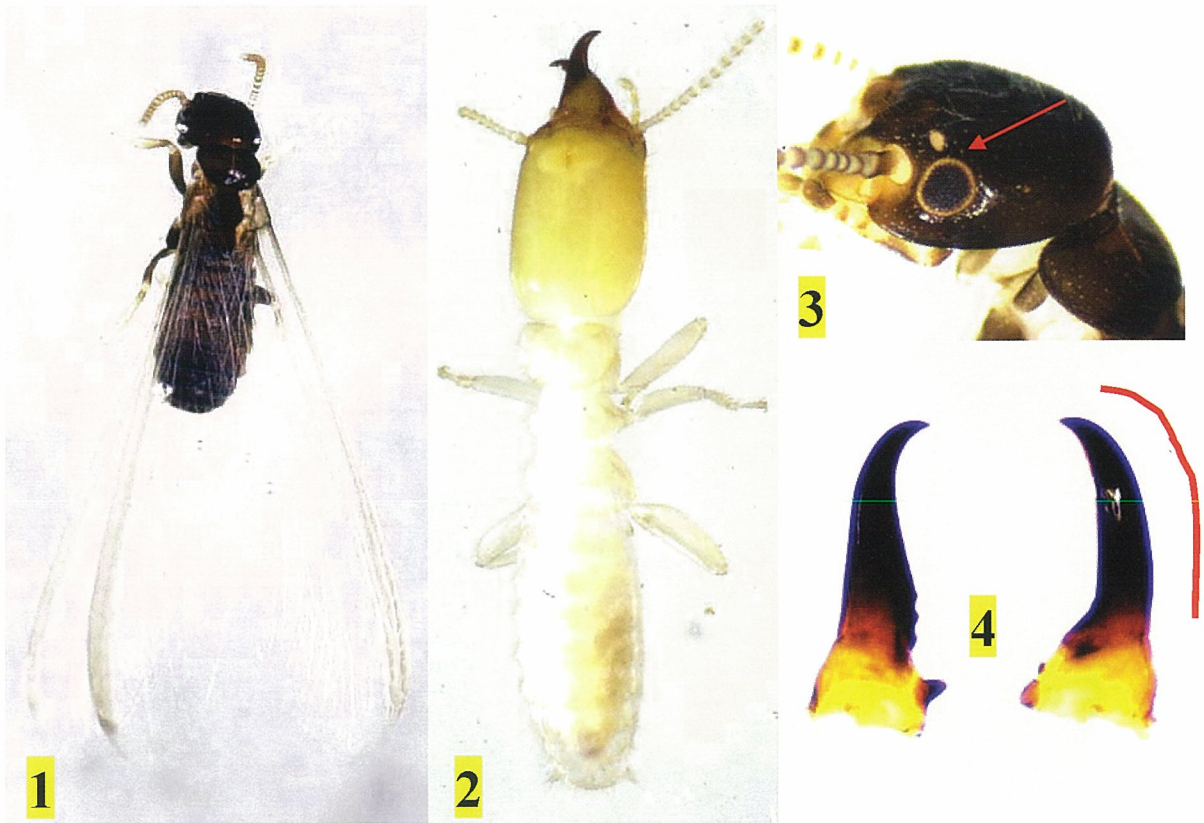
Soldier: largest of three *Retic.* species, rectangular-shaped head capsule greater than 2.7 mm in length (including mandibles) (*Fig. 2*); few in relation to colony size; very low aggression; large mandibles with left and right mandible distinctly curving inward close to 90⁰ (*Fig. 4*); pronotal width greater than 0.90 mm

Peak swarming: day flights from January to March, occasionally in late fall

Distribution: statewide

Pest status: commonly infests structures and trees. Probably the most common subterranean termite associated with structures in the state, with exception to the Formosan subterranean termite in certain urban areas, such as the New Orleans metro area and Lake Charles.

Dark southern subterranean termite (*Reticulitermes virginicus*)



Alate: length with wings approx. 5/16 " (8 mm); body dark brown to black (*Fig. 1*); translucent wings with whitish-clear membrane; tibia dark and tarsi yellowish; ocelli less than their diameter in distance to eye (*Fig. 3*)

Soldier: smaller than *R. flavipes*, rectangular-shaped head capsule less than 2.5 mm in length (including mandibles) (*Fig. 2*); few in relation to colony size; very low aggression; right mandible with distinct inward curvature (*Fig. 4*); pronotal width between 0.70 to 0.80 mm

Peak swarming: day flights during March and April, occasionally in late fall

Distribution: statewide

Pest status: commonly infests structures and trees

Light southern subterranean termite (*Reticulitermes hageni*)



Alate: length with wings approx. 5/16 " (8 mm); head, pronotum, and body brown (*Figs. 1 & 4*); translucent wings with slight brownish membrane; tibia brown and tarsi brownish yellow; ocelli more oval shaped (*Fig. 4*)

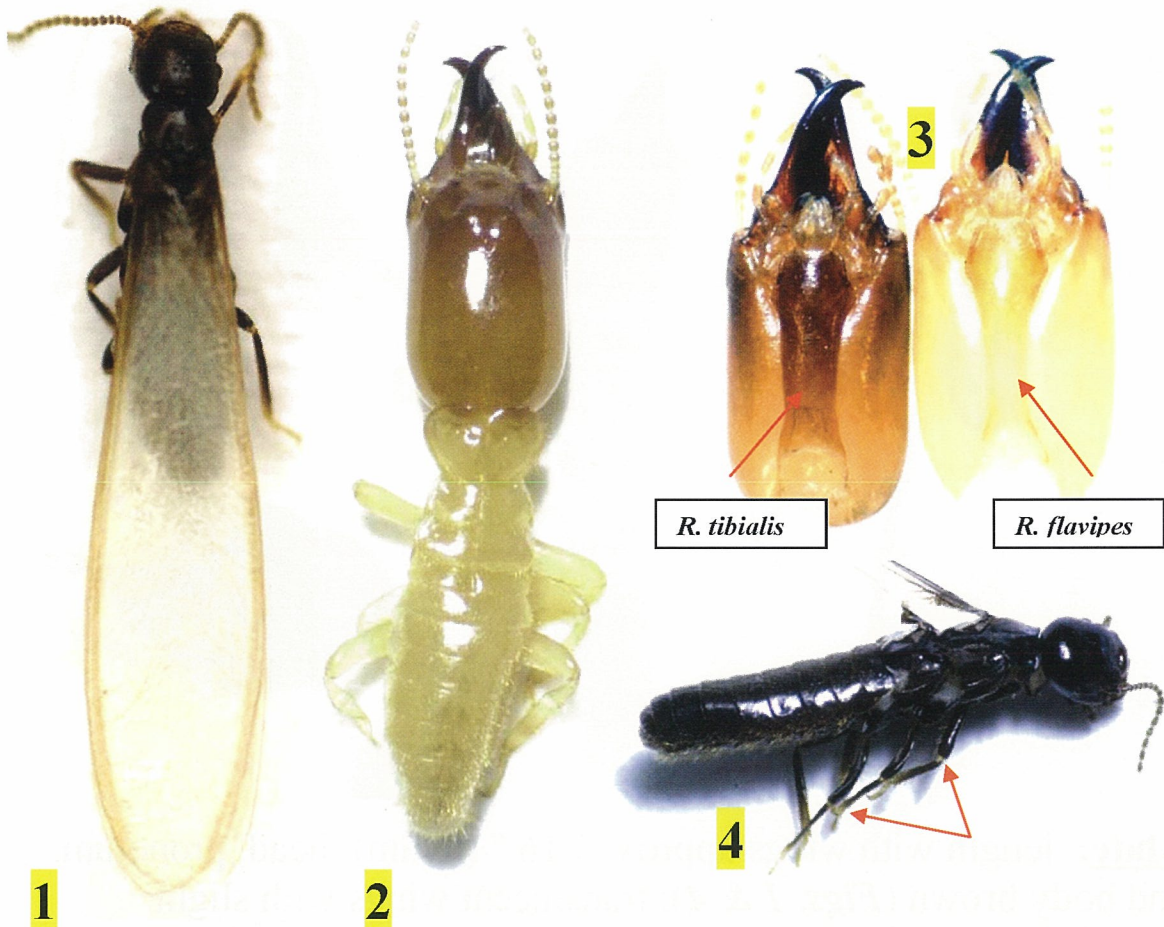
Soldier: slightly smaller than *R. virginicus*; rectangular-shaped head capsule less than 2.5 mm in length (including mandibles) (*Fig. 2*); few in relation to colony size; very low aggression; right mandible more straight before inward curvature (*Fig. 3*); mandible points more slender than *R. virginicus*; pronotal width less than or equal to 0.70 mm

Peak swarming: day flights from September to November

Distribution: statewide

Pest status: occasionally found in structures

Midwestern subterranean termite (*Reticulitermes tibialis*)



Alate: length with wings approx. 3/8 " (10 mm); body black (*Fig. 1*); translucent wings with whitish-clear membrane; tibia and tarsi distinctively dark (*Fig. 4*); ocelli less than their diameter in distance to eye (similar to *R. virginicus*)

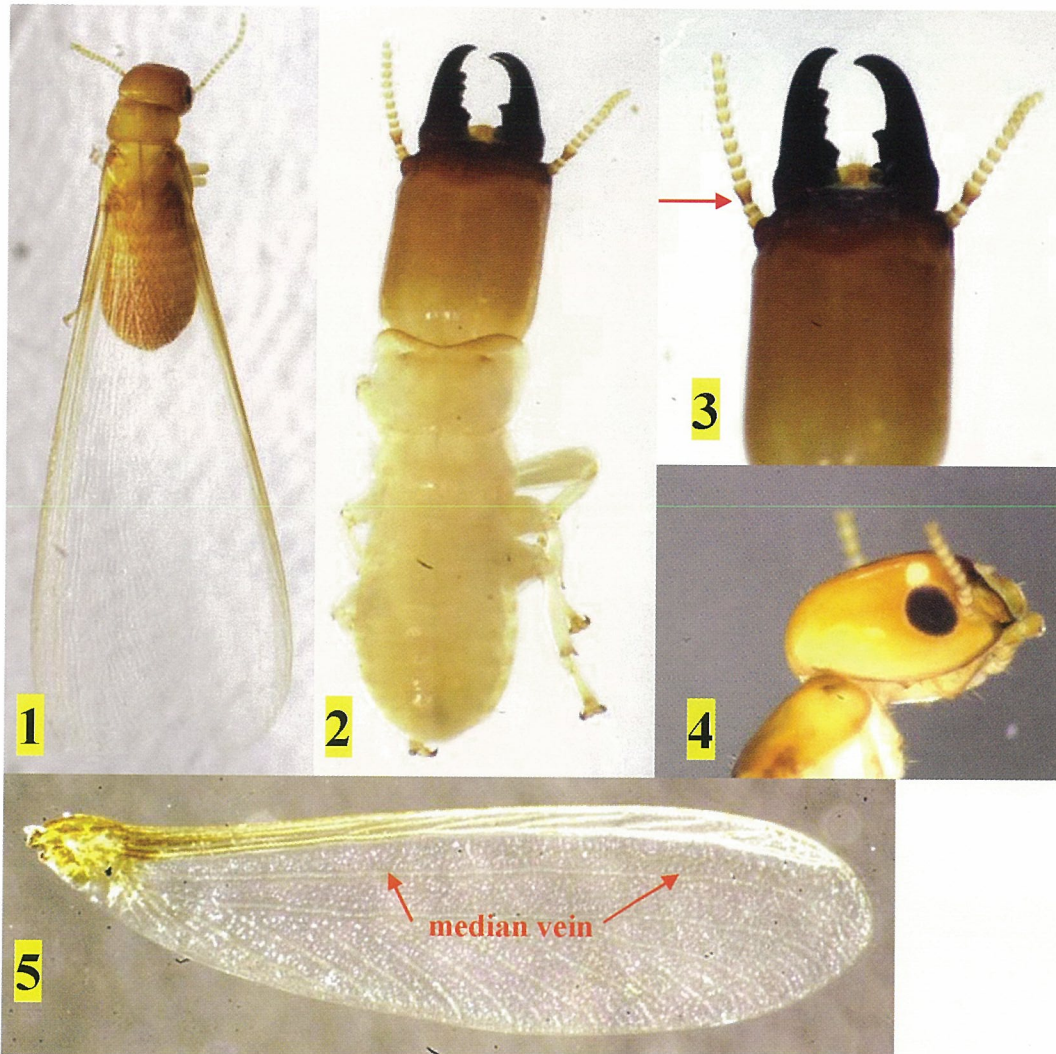
Soldier: gula much wider than other *Retic.* species (*Fig. 3*); rectangular-shaped head capsule approx. 2.5 mm in length (including mandibles) (*Fig. 2*); few in relation to colony size; very low aggression; right mandible similar in shape to *R. flavipes*; pronotal width approx. 0.80 mm

Peak swarming: day flights during late summer and fall

Distribution: southwestern Louisiana. Not common.

Pest status: commonly infests structures and trees throughout the Midwest

Southeastern drywood termite (*Incisitermes snyderi*)



Alate: length with wings approx. 7/16 " (11 mm); head, pronotum, and body light yellowish brown to light brown (*Fig. 1*); few hairs on head (*Fig. 4*); translucent wings with slight yellow to clear membrane; median vein runs continuously to wing edge, occasionally branching towards the end (*Fig. 5*)

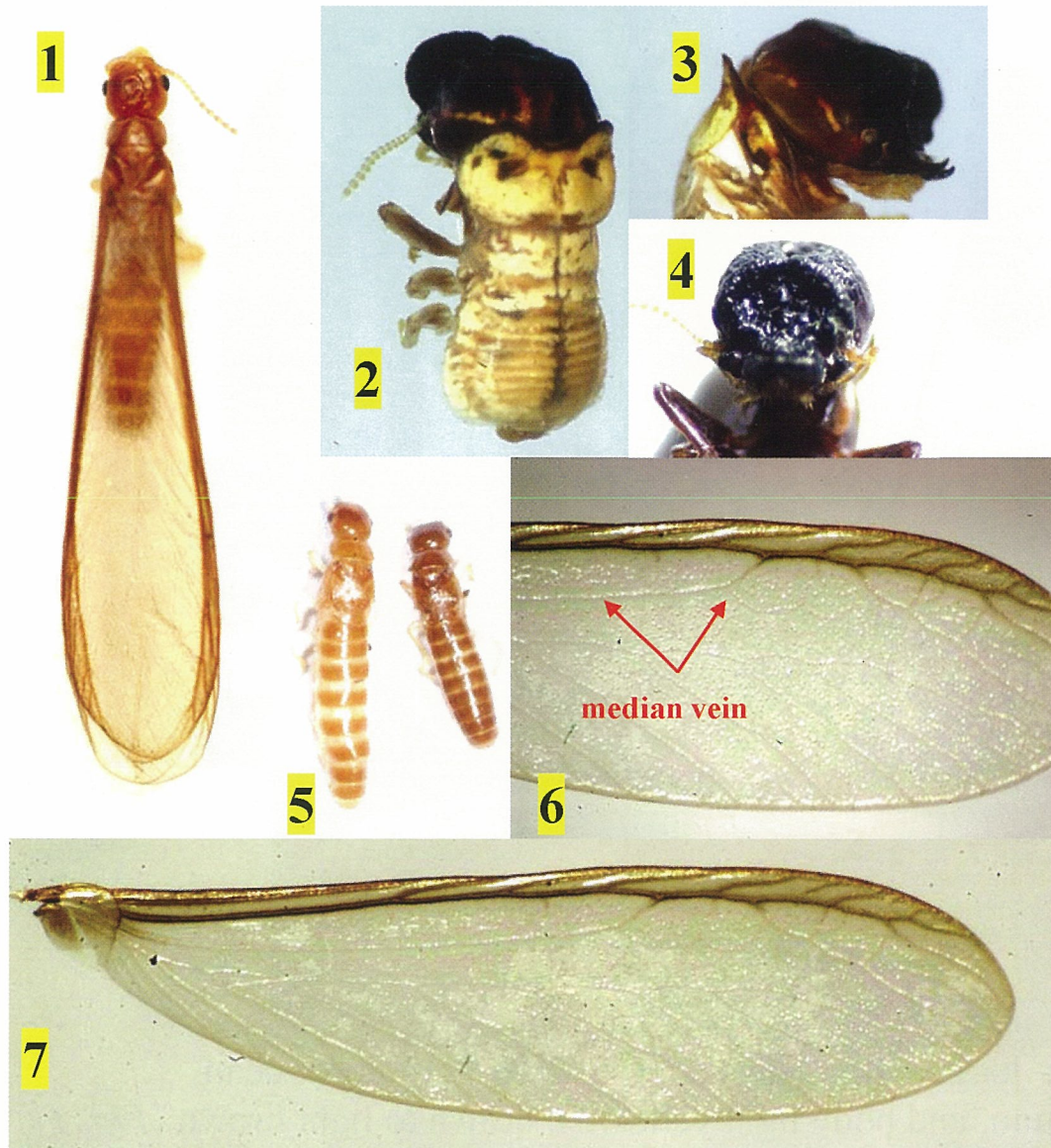
Soldier: third antennal segment same length as fourth and fifth combined (*Fig. 2 & 3*)

Peak swarming: dusk flights from late May to July

Distribution: statewide; however, generally found from Highway 190 south to the Gulf of Mexico

Pest status: commonly infests structural lumber, furniture, and dead portions of trees

West Indian powderpost drywood termite (*Cryptotermes brevis*)



Alate: length with wings approx. 7/16 " (11 mm); slender body dull brown to gray (*Fig. 1*); queen and king (*Fig. 5*); translucent wings with brownish to gray membrane; median vein in forewing curving towards sclerotized veins before wing tip (*Figs. 6 & 7*)

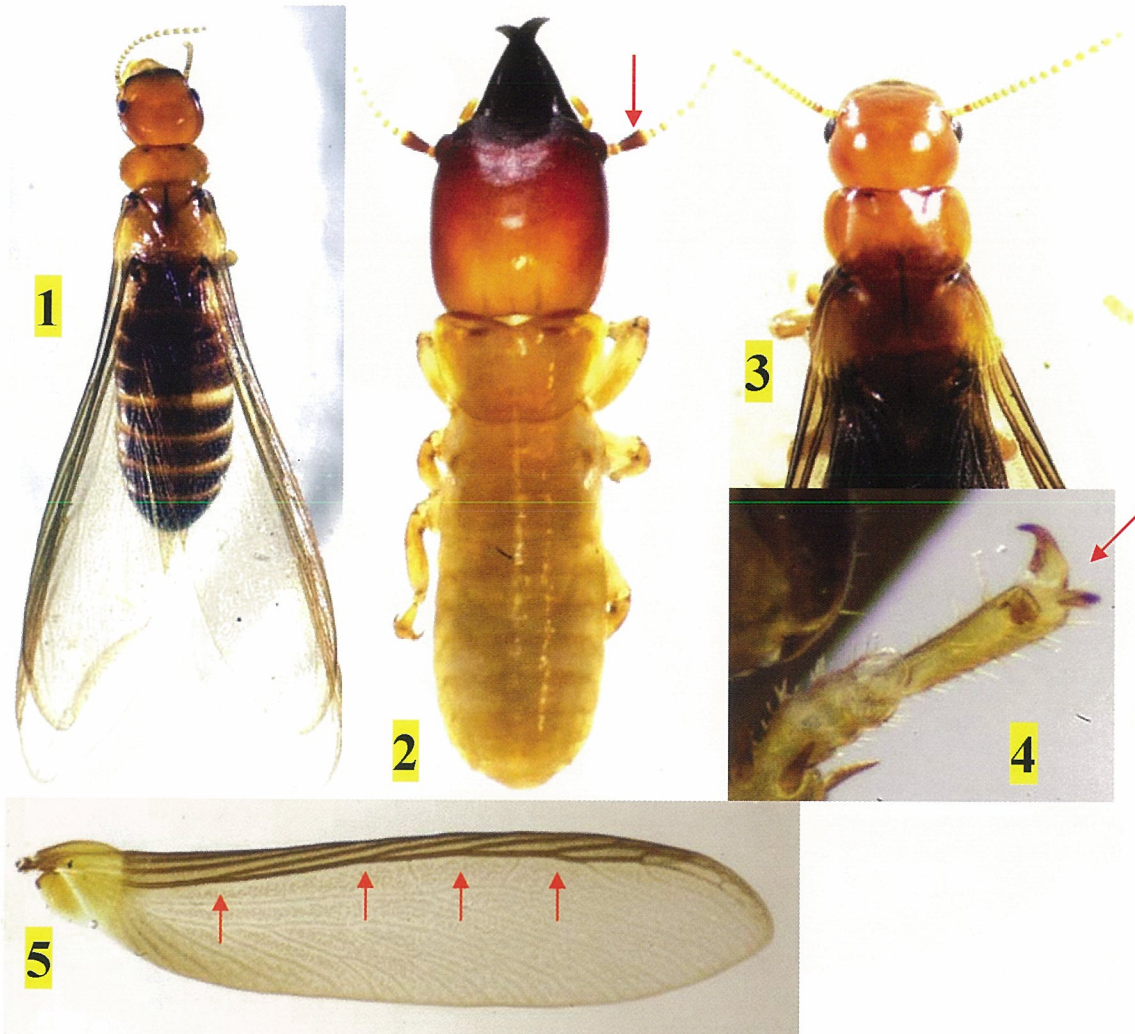
Soldier: very distinct short, plug-shaped head with reduced mandibles (*Figs. 2 - 4*)

Peak swarming: dusk flights during late June and July

Distribution: introduced occasionally throughout state

Pest status: only found in structural lumber and furniture

Western drywood termite (*Incisitermes minor*)



Alate: length with wings approx. 1/2 " (13 mm); wing length approx. 3/8 " (9 mm); head and pronotum orange brown (*Fig. 3*) and body dark brown to black (*Fig. 1*); dark brown translucent wings with fewer cross veins than *K. approximatus* (*Fig. 5*); arolium (small pad) absent between tarsal claws (*Fig. 4*)

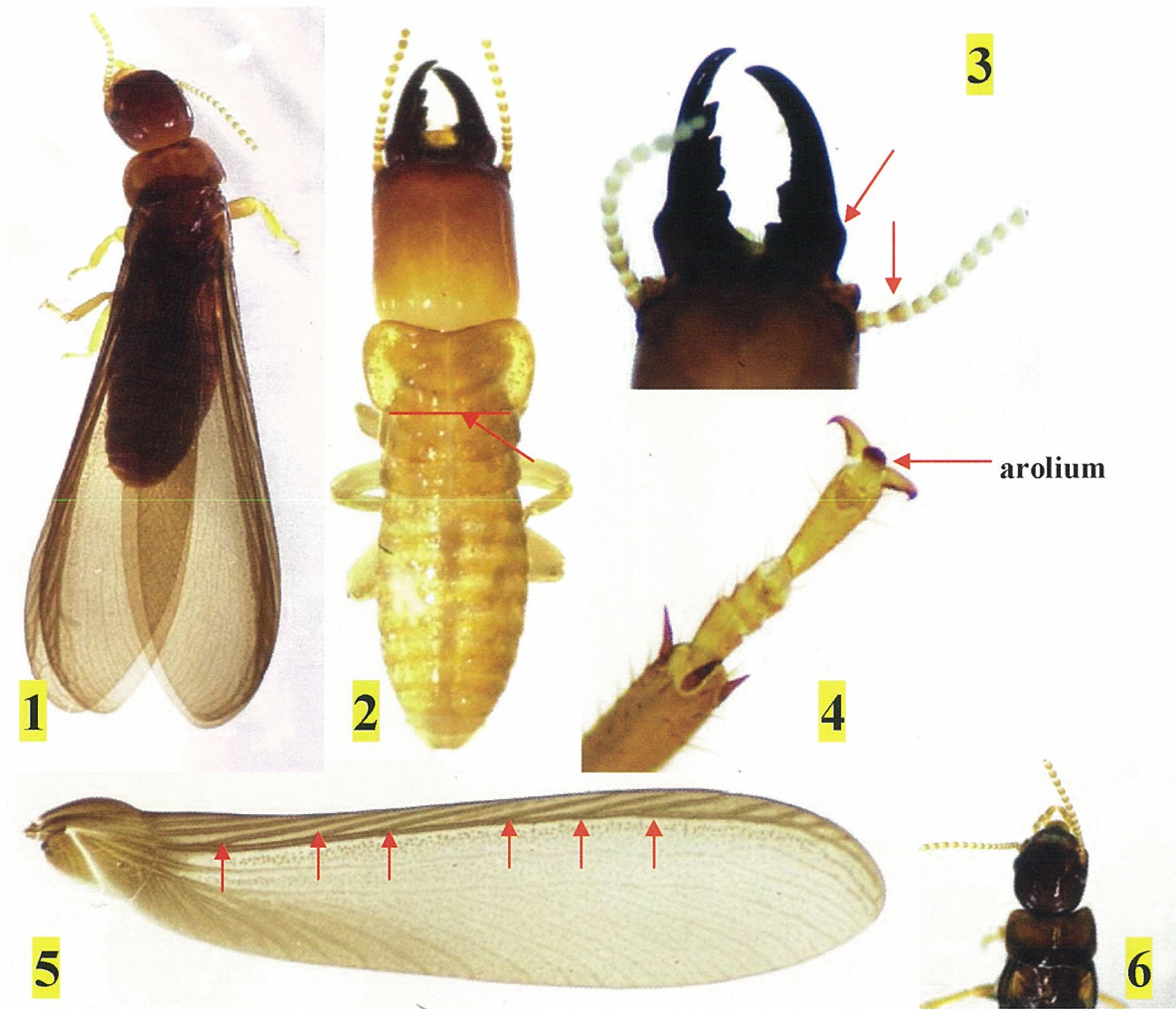
Soldier: third antennal segment distinctly clublike and much longer than fourth and fifth combined (*Fig. 2*)

Peak swarming: day flights during May and June, occasionally in September and October

Distribution: New Orleans. Introduced to other cities statewide.

Pest status: commonly infests structural lumber, furniture, and dead portions of trees (New Orleans)

Dark southern drywood termite (*Kalotermes approximatus*)



Alate: length with wings approx. 3/8 " (10 mm); wing length approx. 5/16 " (7 mm); head, pronotum, and body dark reddish brown to black (*Figs. 1 & 6*); dark brown wings with numerous cross veins (*Fig. 5*); arolium present between tarsal claws (*Fig. 4*)

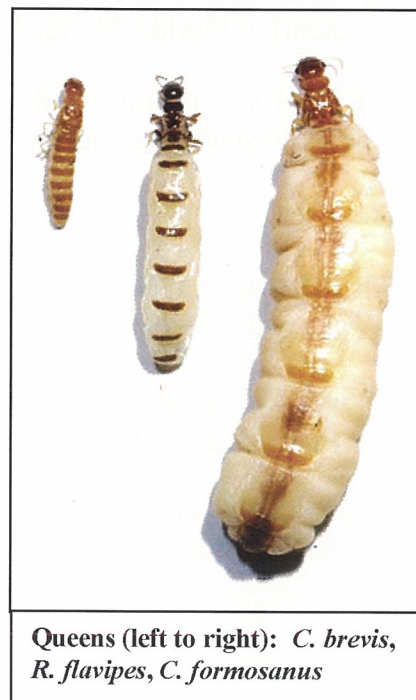
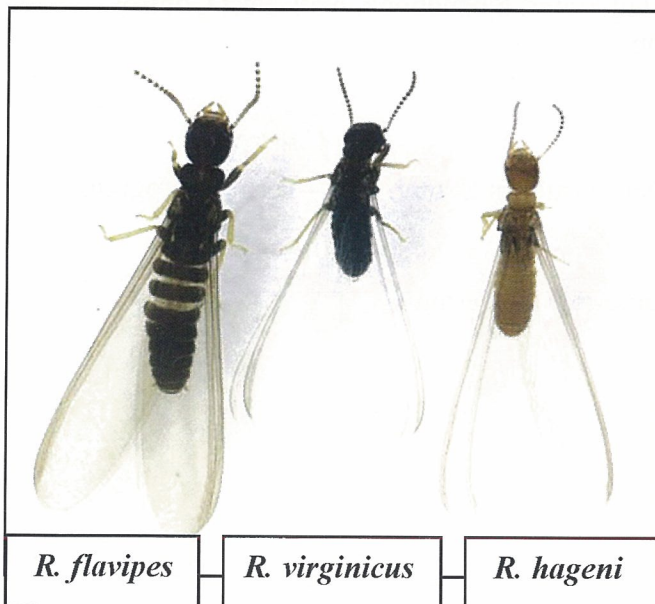
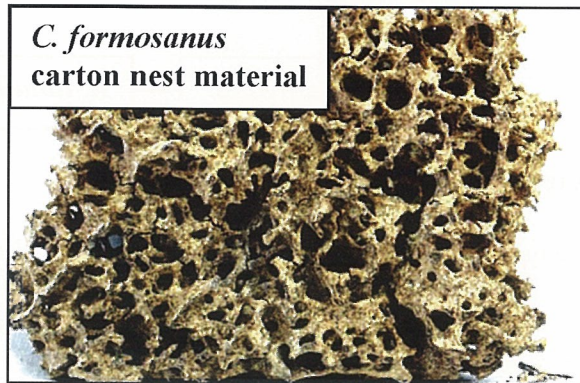
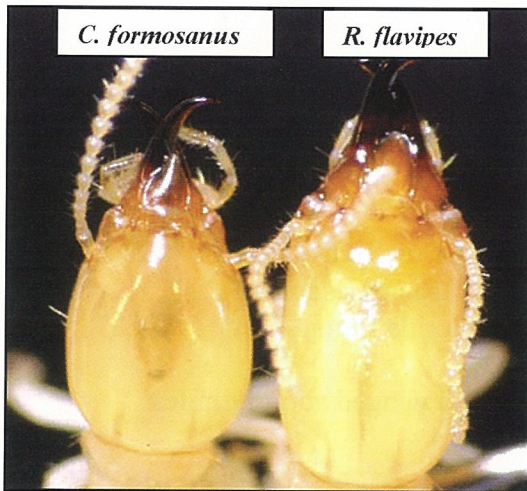
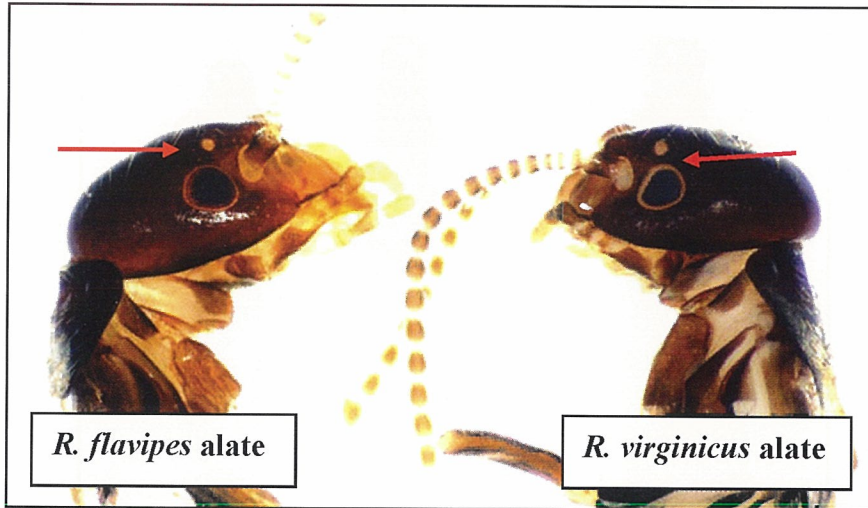
Soldier: third antennal segment shorter than fourth and fifth combined (*Figs. 2 & 3*); base of mandibles with distinct "humps" (*Fig. 3*); pronotum straight posteriorly (*Fig. 2*)

Peak swarming: day flights from September to November

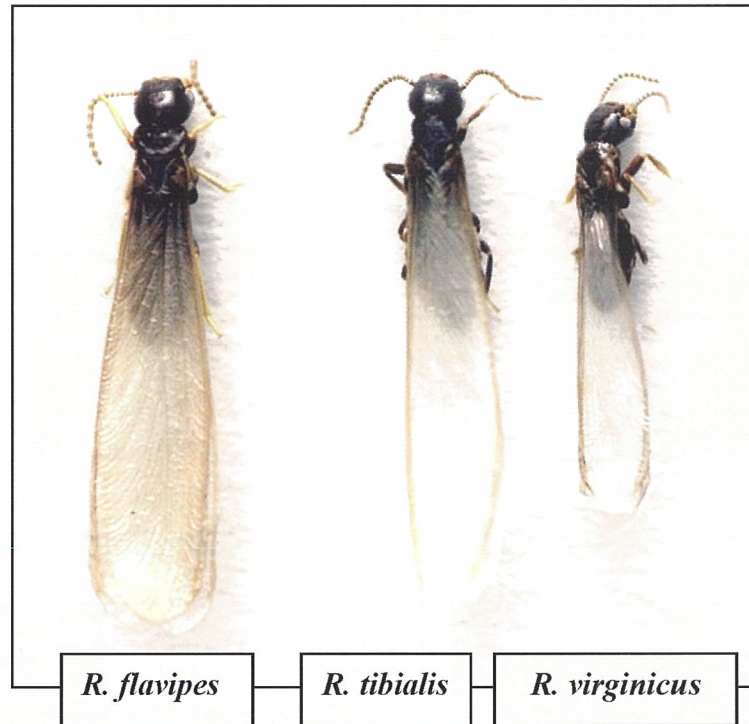
Distribution: statewide

Pest status: usually infests dead portions of trees and rarely encountered in structures

Side-By-Side Comparisons



Queens (left to right): *C. brevis*, *R. flavipes*, *C. formosanus*



Selected References:

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USDA-ARS Operation Full Stop – National Formosan Subterranean Termite Program
<http://www.ars.usda.gov/is/br/fullstop/>

Louisiana State University – Formosan Subterranean Termites
<http://www.agctr.lsu.edu/termites/>

National Termite Survey
<http://www.termitesurvey.com>

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