PEST ALERT

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Florida Department of Agriculture and Consumer Services
Division of Plant Industry

Conehead Termite, *Nasutitermes corniger* (Motschulsky) (Blattodea: Termitidae) – An exotic pest present in Florida

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INTRODUCTION

The conehead termite, *Nasutitermes corniger* (Motschulsky) (Fig. 1), is an arboreal termite species detected in Florida, outside its native range from Mexico to South America. Their habit of building nests in trees, making extensive foraging tunnels and having pointed-head soldiers makes them unique in Florida. The conehead termite is problematic because it feeds on most dead wood or wood products, including structural wood, so it is economically important. The species was first detected in the U.S. in Dania Beach, Broward County, Florida in 2001 and was introduced by boat (Scheffrahn et al. 2002). The Florida Department of Agriculture and Consumer Services has been successful in treating the originally-invaded area. However, human-mediated transportation has resulted in another infestation in Pompano Beach, Florida in 2016.

DESCRIPTION

The conehead termite colony has multiple castes, the most obvious being the soldier, worker, alate and queen (Fig. 2–5) (Thorne and Noirot 1982). The foragers (soldiers and workers) are approximately 5 mm (0.2 in) and are present in the foraging tunnels and nest. Soldiers are abundant and have a cone-shaped projection on the front of the head called the nasus, making them easily identifiable and unique among Florida termites. Alates are the winged reproductive termites and are comparatively large (15–18 mm, 0.6–0.7 in) with dark wings. In Florida, conehead alates have been found in late spring when heavier rains begin. Queens are the egg-laying reproductive in the colony. They are most often derived from alates and have enlarged abdomens filled with eggs. Coneheads are one of the rare species that has multiple queens and kings actively mating in a colony (Thorne 1984), sometimes over 100 queens.

HOUSING

Conehead termites build a spherical, elliptical or flat nest (Fig. 6) from their fecal matter. The nest size spans from a golf ball to greater than a basketball. It is often a rich brown color but can vary based on food consumed. This termite has adapted to flooded forests, so the nests are often in or around trees, including palms; however they can be found in structures, abandoned vehicles, attached under cement pieces or even in the ground. For hidden nests, foraging tunnels (Fig. 7) are often the feature that will be the most obvious. These tunnels are constructed similarly to the nests and lead to food sources. If broken, they will have a stable straw-like structure and will be filled with workers and soldiers. The above-ground nest and extensive sturdy tunnels are unique among Florida termites.

BIOLOGY

A fully mature conehead colony can have over 100 million individuals, spread over 100 feet in total and have 50+ queens laying eggs at the same time (Thorne and Noirot 1982). Soldiers defend the nest, establish foraging routes and are more conspicuous in the colony than in other termite species. The worker termites forage for food, feed the colony and build nest and tunnel structures. Male and female alates leave the nest in a swarming flight and can pair up to establish new nests up to a half mile from their origin nest.

ECONOMIC IMPORTANCE

The conehead termite is known to feed on dead wood and wood products, so they can impact structural and non-structural wood parts of buildings. There is also the potential for weakening of trees when dead wood parts are being consumed.

DISTRIBUTION

The native range of the conehead termite is Neotropical, from Mexico south to the tropical parts of South America, including the Caribbean islands. It is known to have invaded New Guinea and has spread across the island. In the Americas, *N. corniger* is only known to be present outside its native range in Florida. All records have come from Broward County. Further surveys are ongoing.

ACTION

DO NOT move a suspected nest, human transport is one of the main pathways of spread. These termites are relatively small, so tunnels or nests will likely be seen first. Do not smash the nest, as the reproductives are mobile and often live deep inside with the potential for escape. This species is not known to bite or otherwise physically harm humans. Slight disturbance of tunnels will often excite soldiers and workers to investigate, which can then be collected into rubbing alcohol for identification confirmation. If you suspect an infestation on your property, contact the FDACS-DPI Helpline at 1-888-397-1517 or DPIHelpline@FDACS.gov.

REFERENCES

Scheffrahn, R.H., Cabrera, B.J., Kern, W.H. and Su, N-. (2002). "*Nasutitermes costalis* (Isoptera: Termitidae) in Florida: First record of a non-endemic establishment by a higher termite." *Florida Entomologist* 85: 273–275. https://doi.org/10.1653/0015-4040(2002)085[0273:NCITIF]2.0.CO;2

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Figure 1. Conehead termite, *Nasutitermes corniger* foragers.
Photo by Patrick Gorring, FDACS-DPI

Figure 2. Conehead nest at base of tree.
Photo by Katherine Tenn, FDACS-DPI

Figure 3. Conehead soldier.
Photo by Patrick Gorring, FDACS-DPI

Figure 4. Conehead worker.
Photo by Patrick Gorring, FDACS-DPI

Figure 5. Conehead alate.
Photo by Katherine Tenn, FDACS-DPI

Figure 6. Conehead queen.
Photo by Katherine Tenn, FDACS-DPI

Figure 7. Conehead nest tunnels.
Photo by Katherine Tenn, FDACS-DPI