



First Record of a Florida Population of the Neotropical Carpenter Ant *Camponotus novogranadensis* (Hymenoptera: Formicidae)

Authors: Deyrup, Mark, and Belmont, Robert A.

Source: Florida Entomologist, 96(1) : 283-285

Published By: Florida Entomological Society

URL: <https://doi.org/10.1653/024.096.0148>

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at www.bioone.org/terms-of-use.

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

FIRST RECORD OF A FLORIDA POPULATION OF THE
NEOTROPICAL CARPENTER ANT *CAMPONOTUS NOVOGRANADENSIS*
(HYMENOPTERA: FORMICIDAE)

MARK DEYRUP^{1,*} AND ROBERT A. BELMONT²

¹Archbold Biological Station, 123 Main Drive, Venus, FL 33960

²Massey Services, Inc., 3210 Clay Ave., Suite C, Orlando, FL 32804

*Corresponding author; E-mail: mdeyrup@archbold-station.org

Florida specimens of *Camponotus novogranadensis* Mayr were first collected by Shawn Hole in May, 2012, in a residential development adjacent to Koreshan State Park in Estero, Lee County. The ants had entered and temporarily infested a relatively new residence near the park. These specimens were recognized as a previously unrecorded species for Florida by Robert Belmont, and sent to the Archbold Biological Station for identification. A subsequent visit to the area by Mark and Nancy Deyrup produced a small series of specimens from the vicinity of Koreshan State Park and enough observations within the park to confirm an established population of *C. novogranadensis*. Preliminary identification was made by comparison with specimens from Trinidad in the Archbold Biological Station (ABS) collection, and by photographs in the on-line species account for *C. novogranadensis* provided by Longino (2002). This identification was confirmed by Stefan Cover, who compared Estero specimens with series of identified specimens in the Museum of Comparative Zoology (MCZ), Harvard University. Florida specimens have been deposited in the ABS and MCZ collections.

In the field *C. novogranadensis* (Fig. 1) is easily mistaken for *C. planatus* Roger (Fig. 2). Both species are dark-colored, non-glossy, and small (majors are about 5mm long). *Camponotus novogranadensis* is black, with brown or yellowish brown antennae, clypeus, and the sides of the face above the mandibles. *Camponotus planatus* is usually bicolored, dark red with a black gaster, but occasionally completely black. Under the microscope these two species are conspicuously different. The clypeus of *C. novogranadensis* has a strong, sharp, median ridge, absent in *C. planatus* (Figs. 1 and 2). The mesosoma of *C. novogranadensis* is covered with small, semi-appressed hairs and large, sparse, curved, proclinate hairs (Fig. 1), that of *C. planatus* moderately densely covered with short, sub-erect hairs (Fig. 2). Color photographs of both species are available on the AntWeb site, www.antweb.org, by entering the species name in the "Search for" box, or in Longino 2002. It is unlikely that *C. novogranadensis* is closely related to any other *Camponotus* species living in Florida. It has been placed in the subgenus *Myrmaphaenus* (Kempf

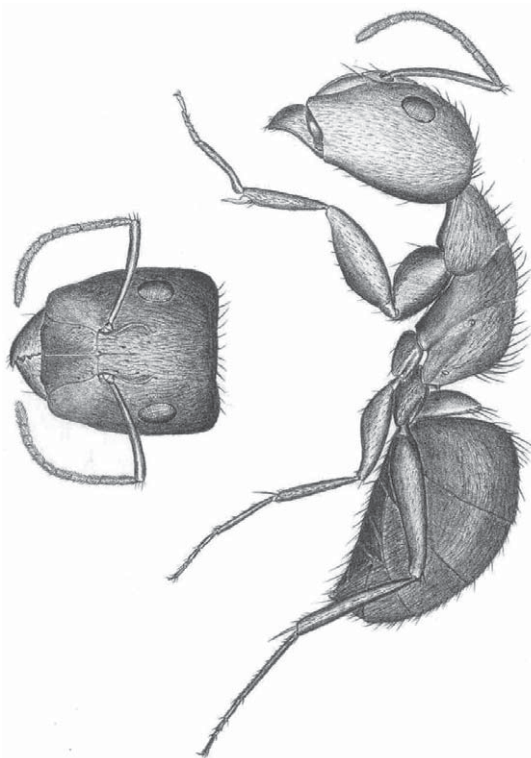


Fig. 1. Major worker of *Camponotus novogranadensis*; length of ant about 5 mm.

1972), which includes no other species in eastern North America, although this and most other subgenera of *Camponotus* should probably be considered in abeyance until the genus has been more thoroughly analyzed.

The presumed native range of *C. novogranadensis* includes Mexico (Garcia Moreno et al. 2003), Guatemala (Branstetter & Saenz 2012), Honduras, Costa Rica, Panama, Colombia, Guyana, Surinam, French Guiana, Brazil, Peru (Kempf 1972), Ecuador (Ryder Wilkie et al.), and Paraguay (Wild 2007). Discontinuities in this known distribution might result from insufficient collecting data, but it is also possible that a species that has been introduced to

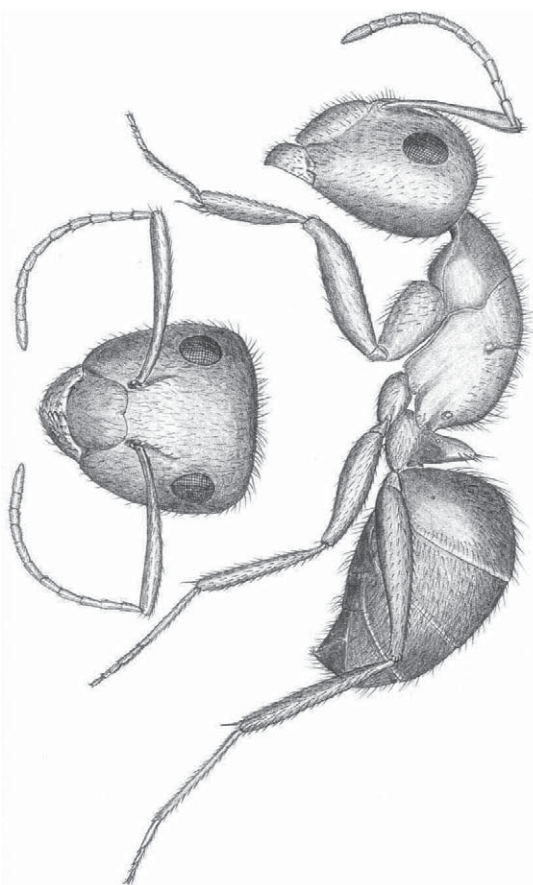


Fig. 2. Major worker of *Camponotus planatus*; length of ant about 5 mm.

Florida has also been relocated to some of the Neotropical areas where it now occurs.

It is probable that *C. novogranadensis* was introduced into Florida in plant material, such as pseudobulbs of orchids, or hollow stems. This might have occurred recently, or long ago, before extensive regulation of plant importation. This is the first record of establishment of *C. novogranadensis* outside its home range. This species, which is relatively easily identified, does not appear in the most recent list of ants that have been the subjects of long-range transport and have established populations in new areas (McGlynn 1999). The only other record of importation of *C. novogranadensis* refers to workers found in 1912 in Brazilian orchids imported into Kew Gardens in England (Donisthorpe 1915).

The ecology of *C. novogranadensis*, like that of most species of *Camponotus*, has not been studied in detail. Nests are in dead wood or hollow stems, usually in disturbed areas (Vasconcelos 1999, Longino 2002; Sanabria-Blandon & Chacon de Ulloa 2009; Ribas et al. 2012). It also

occurs in the canopy of primary forest (Longino 2002). This species is listed as an indicator ant species of disturbed habitats (Ribas et al. 2012). In a study of effects of disturbance on ants in central Amazonia, Vasconcelos (1999) found ground-foraging *C. novogranadensis* in no mature forest plots, in 25% of plots in both old regrowth and new regrowth, and in 100% of plots in abandoned pasture. The diet of *C. novogranadensis* includes honeydew from Membracidae and Aetalionidae (Letourneau & Choe 1987), and nectar from extrafloral nectaries of orchids, which this species aggressively defends (Damon & Perez-Soriano 2005), and animal protein (in baits) (Vasconcelos 1999).

There is no indication from the literature that *C. novogranadensis* is a significant household or agricultural pest in its native range, and no reason to believe that it is likely to become either an economic pest or ecological problem in Florida. Many species of introduced ants established in Florida cause no documented commercial or ecological damage (Deyrup et al. 2000). On the other hand, the effects of any introduced insect in Florida may escape notice until the species has been established and observed for a period of years.

A tally of Florida ant species in the ABS collection shows that with the addition of *C. novogranadensis* 227 species of ants are known to occur in Florida, including several species awaiting descriptions.

SUMMARY

An established population of a Neotropical carpenter ant, *Camponotus novogranadensis* Mayr, is reported from Estero, Lee County, Florida. This species is similar in general appearance to *C. planatus* Roger, differing in color, pilosity, and clypeal shape. *Camponotus novogranadensis* is known from disturbed sites in Mexico, Central and South America; it has not previously been reported established outside its presumed native range. It is not known to cause economic or ecological problems.

RESUMEN

Se informa de la presencia de una población de la hormiga carpintero Neotropical, *Camponotus novogranadensis* Mayr establecida en Estero, en el condado Lee de la Florida. Esta especie tiene una apariencia general similar a *C. planatus* Roger, que se diferencia por el color, la pilosidad y la forma del clipeo. Se conoce *Camponotus novogranadensis* de sitios perturbados en América Central y del Sur, pero no ha sido reportado anteriormente de estar establecida fuera de su rango de distribución nativa. No se conoce que cause problemas económicos o ecológicos.

ACKNOWLEDGEMENTS

We thank Shawn Hole of Massey Services, Inc. for collecting specimens for this paper. We thank Stefan Cover for comparing Florida specimens with specimens in the Harvard Museum of Comparative Zoology. Nancy Deyrup assisted in the hunt for additional specimens. This study was supported by the Archbold Biological Station.

REFERENCES CITED

- BRANSTETTER, M. G., AND SAENZ, L. 2012. Las hormigas (Hymenoptera: Formicidae) de Guatemala, pp. 221-268 *In* E. B. Cano and J. C Schuster [eds.], Biodiversidad de Guatemala. Vol. 2. Universidad del Valle de Guatemala, Guatemala.
- DAMON, A., AND PEREZ-SORIANO, M. A. 2005. Interactions between ants and orchids in the Soconusco region, Chiapas, Mexico. *Entomotropica* 20: 59-65
- DEYRUP, M., DAVIS, L., AND COVER, S. 2000. Exotic ants in Florida. *Trans. American Entomol. Soc.* 126: 293-326.
- DONISTHORPE, H. 1915. British ants, their life history and classification. Plymouth, England. 379 pp.
- GARCIA MORENO, D., JONES, R. W., MACKAY, W. P., AND ROJAS FERNANDEZ, P. 2003. Diversity and habitat associations of the ants (Insecta: Formicidae) of El Eden Ecological Reserve. *Proc. 21st Symp. Plant Biol. Univ. California Riverside*: 293-304.
- KEMPF, W. W. 1972. Catalogo abreviado das formigas da Regiao Neotropical. *Studia Entomol. (N.S.)* 15: 3-344.
- LETOURNEAU, D. K., AND CHOE, J. C. 1987. Homopteran attendance by wasps and ants: the stochastic nature of interactions. *Psyche* 94: 81-91.
- LONGINO, J. T. 2002. *Camponotus novogranadensis* Mayr. 2002. Ants of Costa Rica. <http://academic.evergreen.edu/projects/ants/genera/camponotus/species/novogranadensis>, also, <https://sites.google.com/site/longinoantlab/ants-of-costa-rica>. Accessed 1 Aug 2012.
- MCGLYNN, T. P. 1999. The worldwide transfer of ants: geographical distribution and ecological invasions. *J. Biogeography* 26: 535-548.
- RIBAS, C. R., CAMPOS, R. B. F., SCHMIDT, F. A., AND SOLAR, R. R. C. 2012. Ants as indicators in Brazil: a review with suggestions to improve the use of ants in environmental monitoring programs. *Psyche* 2012. 23 pp.
- RYDER WILKIE, K. T., MERTL, A. L., AND TRANIELLO, J. F. A. 2010. Species diversity and distribution patterns of the ants of Amazonian Ecuador. *PLoS One* 5: e13146.
- SANABRIA-BLONDON, M. C., AND CHACON DE ULLOA, P. 2009. Hormigas como plagas potenciales en tres criaderos de mariposas del suroccidente de Colombia. *Acta Agron.* 58: 47-52.
- VASCONCELOS, H. L. 1999. Effects of forest disturbance on the structure of ground-foraging ant communities in central Amazonia. *Biodiversity Cons.* 8: 409-420.
- WILD, A. L. 2007. A catalogue of the ants of Paraguay (Hymenoptera: Formicidae). *Zootaxa* 1622: 1-55.