

Indoor infestations of two imported ant species (*Pheidole anastasii* Mayr, 1870 and *Pheidole punctatissima* Emery, 1896) (Hymenoptera, Formicidae) in Norway

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During the period 2005–2007 **eight indoor infestations of *Pheidole*** (Formicidae) have been reported to the Norwegian Institute of Public Health. One infestation was identified as *Pheidole anastasii* Emery, 1896 and two as *P. punctatissima* Mayr, 1870. As to species level, the remaining samples were not identified. All the reported infestations were from cities or near cities in southern Norway. Most likely, the ants were imported with the soil in flower pots.

Key words: *Pheidole anastasii*, *Pheidole punctatissima*, tramp species, ants, import

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INTRODUCTION

The ant genus *Pheidole* (Myrmicinae) is hyperdiverse with nearly 900 described species and an estimated total number of more than 1500 species worldwide (Wilson 2003). The natural range of *Pheidole* spans from Washington State in the USA to Argentina, as well as from southern Europe to South Africa, China, Tasmania and across the Pacific (Wilson 2003). McGlynn (1999) summarized data on worldwide transfer of ants and found that 15 species of *Pheidole* were reported outside their native range. One species, *Pheidole megacephala* (Fabricius, 1793), has become a cosmopolitan due to human transport (McGlynn 1999, Ward et al 2006, Boase 2007). Specimens of *Pheidole* were found in Norway on a few earlier occasions; however, they failed to be identified as to species level, nor have they been finally stored (Reidar Mehl, pers. com.).

RECORDS

The Norwegian Institute of Public Health, Department of Pest Control, received eight reports of indoor infestations by *Pheidole*-species (Figure 1) during the time period December 2005 to December 2007. All infestations occurred in cities or near cities in southern Norway (Table 1). Specimens from two sites were identified as *P. punctatissima* Mayr, 1870 and from one site as *P. anastaii* Emery, 1896. Ants from the five remaining samples were not identified as to species; however, their colour and appearance closely resembled *P. punctatissima*. No ants possessed the grossly swollen postpetiole characteristic of *P. megacephala* (Longino & Cover 2003a). Primarily, the colonies observed were relatively small. An exception was the *P. anastasii* colony observed in an office building. At this site, the ants had become established in the floor with hot water pipes. Mating flights of several hundred winged specimen occurred along with what appeared to be more than thousand



Figure 1. Major and minor worker of *Pheidole anastasii* Mayr, 1870. The worker cast of *Pheidole* is characterized by numerous slender ants (minors) and a lower number of conspicuously large-headed ants (majors). The relative size of workers is only correct in the inserted picture (Photo: Anders Aak, Norwegian Institute of Public Health).

workers. The most common location of ant infestations was private housing (Table 1). All locations were geographically separated.

DISCUSSION

This is the first published report of *Pheidole*-species in Norway. Both *P. anastasii* and *P. punctatissima* are neotropical species. McGlynn (1999) noted that *P. anastasii* has been transported to Canada, Madagascar and continental USA. They have also been established in botanical garden in Copenhagen for several decades (Lomholdt 1986) and were recently found in Amsterdam (Schmidt & Boer 2007). *P. punctatissima* has been introduced to Hawaii (McGlynn 1999) and was found three years ago infesting a hospital in Denmark (Jes S e Pedersen, pers. com.). Since the species is difficult to identify and rarely a major pest, the introduction of these two species

into areas outside the neotropics is undoubtedly much larger. Both ant species nest in any sort of cavity or sheltered space and are frequently found in flower pots in Costa Rica (Longino & Cover 1997, 2003b, Stefan Cover, pers.com.). Thus, freight of flowers in pots is a highly likely route of transfer between countries. This is also the most probable method of spread within Norway. Whether the ants originate from one or several imports, is unknown.

P. anastasii and *P. punctatissima* have colonies with a few hundred ants and usually only one queen (Stefan Cover, pers.com.). The very large number of *P. anastasii* in the office complex where mating flight occurred may indicate that several colonies were established even though the ants appeared only from the hot water pipes in one location. According to the pest control operators, all eight infestations were controlled

Table 1. Infestations of *Pheidole* sp. in Norway from 2005–2007. * Det. Stefan Cover.

Date	Location	Site	Species
Dec 2005	Stavanger	Private home	<i>Pheidole punctatissima</i> *
Mar 2006	Oslo	Private home	<i>Pheidole</i> sp.
Aug 2006	Bærum	Office complex	<i>Pheidole anastasii</i> *
Nov 2006	Bergen	Old people's home	<i>P. punctatissima</i> *
Des 2006	Bergen	Private home	<i>Pheidole</i> sp.
Jan 2007	Trondheim	Private home	<i>Pheidole</i> sp.
Oct 2007	Bergen	Private home	<i>Pheidole</i> sp.
Dec 2007	Oslo	Private home	<i>Pheidole</i> sp.

either by toxic bait or direct pesticide treatment of the nest. As there were no further complaints from the customers, the infestations were presumed to be eradicated.

Similar to the *Pheidole*-species in the present report, the most common ant species subjected to human-mediated dispersal are of tropical or subtropical origin (McGlynn 1999). They are unlikely to establish themselves outdoors in Norway, but may become established in heated premises. They then become nuisance pests of economic importance. One such example is the pharaoh ant (*Monomorium pharaonis* Linnaeus 1758), first recognized in Norway in 1975 (Mehl 1978), which resulted in more than 30 eradication programs in 2007 (Norwegian Institute of Public Health 2007).

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