

There are a few documents concerning identification of ant species in Iran. Historical background of fire ants in Iran is not clear. For the first time, the infestation to fire ant *Pachycondyla senaarensis* (Hym.: Formicidae) is recorded of in Sistan and Baluchistan province, southeast Iran and its public health importance is noticed from 2003 to 2004. The objective of this research is determination of dispersion, identification of fire ant species, study of some biological and ecological features as well as introducing of *Pachycondyla senaarensis* as public health pest.

MATERIALS AND METHODS

The studied area comprise of Sistan and Baluchistan province with about 187502 km² area in the southeastern corner of Iran, bordering with Afghanistan and Pakistan countries. The Chabahar Port, at the south of the province, is the only way of Iran for connecting directly to free oceans. Iranshahr district is geographically situated at center of the province, where encounter as suitable site for costumers and refugees from neighboring countries, Afghanistan and Pakistan. Despite of seven years drought, this district is the most important agricultural area in Sistan and Baluchistan. The agricultural products are exported to other domestic district such as Chabahar and Sarbaz and a few neighboring counties in Pakistan.

In this study, all the cities of Sistan and Baluchistan province are searched for fire ants. The collected samples are preserved in 70% alcohol and referred to Medical Entomology Laboratory at Iranshahr Station of Training and Health Research. Identification of its species is carried out using keys of Bolton (1994) and Shattuck and Barnett (2001). Part of fire ant specimens was sent to Natural History Museum of London for confirming of its species. Some of specimens were deposited in the Entomology Museum, School of Public Health and Institute of Public Health School, Tehran University of Medical Sciences.

The biology and ecology features of fire ants were carried out at the Fajr Park in Iranshahr city as well as Abechkan village (30 km north of Iranshahr city) where various colonies of fire ant are present. The ability for colony making in fertilized workers was surveyed at the field condition using 20 plastic open cylinder (60 cm height × 30 cm diameter) which were placed 20 cm in the soil at an alfalfa farm where is encountered as natural breeding place of this ant. The farm was irrigated using flooding method twice in week. Top of each cylinder was covered with polyester net to prevent escaping of ants. Only one fertilized ant worker was introduced in each cylinder. The cylinders were observed daily up to 40 days.

RESULTS

Present systematic surveys revealed that all specimens which collected from various parts of Sistan and Baluchistan province are *Pachycondyla senaarensis* (Hym.: Formicidae) Fig. 1. Identification of this species confirmed by Prof. B. Bolton (Natural History Museum of London) and Dr. J.L. Cook (Sam Huston State University of Texas).

Morphological character of *P. senaarensis*: Workers and females are elongate with hard integument. Worker caste is monomorphic. Head, thorax, petiole and postpetiole are finely punctate. Labrum is without peg-like teeth. Eyes are present. Mandibles are triangular (Fig. 2). Mandibles have seven teeth (Fig. 2a). One of them is very small. Basal portion of mandible has a distinct circular pit or foveae dorsolaterally (Fig. 2b).

Frontal lobes are present and with head in full-face horizontal they cover and conceal the antennal sockets (Fig. 3).

Dorsal surface of middle tibia and middle basitarsus have not thickened peg-like setae. Metatibia has a large, pectinate posterior spur (Fig. 4b) and a much smaller simple anterior spur (Fig. 4a).

Pretarsal claws are simple, without teeth on the inner curvature behind the apical point. The petiole is consisting of 1 segment (abdominal pedicel), which is without an anterior peduncle and narrowly attached to the first gastral segment. First gastral segment has separated from the second only by a narrow girdling. Hypopygium with its lateral margins is smooth and without spines. Sting is developed and functional at gastral apex (Fig. 1).



Fig. 1: Fire ant of Iran, *Pachycondyla senaarensis* (Hym.: Formicidae), Photography: Museum of Medical Entomology, Public Health School of Tehran University of Medical Sciences, May 2003, original 250X