IDENTIFICATION OF COLLECTED COCKROACHES FROM AHVAZ HOSPITALS, SOUTH-WEST OF IRAN

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ABSTRACT- Cockroaches act as an important mechanical or biological vector for lots of pathogenic microorganism agents. The aim of this study was to identify the major cockroach species in hospital environments in Ahvaz, capital of Khuzestan province, Iran. Totally, 7 hospitals and one private clinic of Ahvaz were investigated to collect the cockroaches using hand catch method. Totally, 76 cockroaches were collected from different parts of Ahvaz hospitals and one private clinic in the present study. They were identified as 4 species of cockroaches. From the data of this study it is concluded that the major collected cockroach species from Ahvaz hospitals are similar to the same studies of Iran.

Key words : Identification, cockroach, Ahwaz, Iran.

INTRODUCTION

There are more than 4000 known species of cockroaches over the world, however less than 40 of them are very close to human dwellings.

Cockroaches, Blattodea order insects, act as an important mechanical or biological vector for lots of pathogenic microorganism agents, including bacteria, protozoa, worms, fungi, and viruses amongst humans and animals (Tatfeg et al, 2005; Salehzzadeh et al, 2007; Vazirianzadeh et al, 2009; Adeleke et al, 2012; Nejati et al, 2012). They can transmit different microorganisms, special medically important bacteria in the hospitals (Fakoorziba et al, 2010).

Therefore, reducing and eradication of their population have been considered as one of the most medical important insects around the world. One of the most important steps to do an approach of pest management is the identification of pest species. Because each species has own ecology and biology that effect the kind of selected control measures (FAO, 2013).

However, a few studies have been performed on identifying cockroaches from hospitals of Iran, but there is not available a comprehensive study regarding cockroaches of Ahvaz hospitals (Fakoorziba et al, 2010; Vahabi et al, 2011).

The aim of this study was, therefore, to identify the major cockroach species in hospital environments in Ahvaz, capital of Khuzestan province.

MATERIALS AND METHODS

This study was carried out in Ahvaz (31°192 133 N 48°402 093 E) as a part of the central coordination Khuzestan (31.3273°N 48.6940°E), capital of Khuzestan, a south-western province of Iran from during April 2013 to July 2013.

Totally, 7 hospitals and one private clinic of Ahvaz were investigated to collect the cockroaches. The hand catch method (using glove) was used to collect the cockroach samples from different parts of Ahvaz hospitals. The samples were transported into sterile containers to the medical entomology lab, school of public health, Ahvaz Jundishapur University of Medical Sciences. They were identified using Cochran and Department of Entomology and Nematology University of Florida keys by species level (Cochran, 1999; Department of Entomology and Nematology of University Florida, 2013).
RESULTS AND DISCUSSION

Totally, 76 cockroaches were collected from different parts of Ahvaz hospitals and one private clinic in the present study. They were identified as 4 species of cockroaches including: American cockroach, Periplaneta americana (Blattodea: Blattidae), German cockroach, Blatella germanica (Blattodea: Blattellida), Oriental cockroach, Blatta orientalis (Blattodea: Blattidae) and brown-banded cockroach, Supella longipalpa (Blattodea: Ectobiidae).

Frequencies of collected cockroaches were obtained as: 45 (59.21%) of P. americana, 17 (22.37%) of B. orientalis, 10 (13.16%) of B. germanica and 4 (5.26%) of S. longipalpa.

Results of the current study showed that the most frequent species which were collected in this study was American cockroach followed by oriental cockroach. These results are not accordance to some faunistic studies that B. germanica have been showed as the most frequent species in the human dwellings of Iran followed by P. americana (Vahabi et al, 2011; Fakoorziba et al, 2011). However, our study is accordance to the study of cockroaches of Tehran hospitals, which P. americana has been reported as the most frequent species followed by B. orientalis and B. germanica (Zarchi and Vatani, 2009). Another similarity between two studies are in the reporting of B. orientalis as one of the major cockroaches in the hospitals.

Another important point in the current study is the reporting of S. longipalpa from hospital environmental. This species usually has been reported from kitchen areas of houses in Ahvaz as the carrier of some medical important bacteria which addressed to antibiotic resistance. Therefore, its extension to environmental of hospitals is a medical important point (Vazirianzadeh et al, in press).

The last point that should be considered is that all the investigated hospitals were infested with the cockroaches, however, the rate of infestation including the species were found various in the different hospitals.

CONCLUSION

From the data of this study, it is concluded that the major collected cockroach species from Ahvaz hospitals are similar to the same studies of Iran. However the main species was P. americana in the current study. As all the investigated hospitals and the clinic, the reducing and eradication measures should be applied to decrease the cockroach population.

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