

**SURVEY OF LIZARDS AT 2005/2006 IN DAMIETTA
REGION, EGYPT**

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ABSTRACT

Reptiles are beneficial organisms in different ecosystem, and any environmental modification will be a potential impact on eliminating some reptilian species. Five locations were chosen in Damietta region, they are the North Coast of New Damietta City, El- Debba region, Lake Manzala and two region in Damietta City. Lizards were consused from April, 2005 to March, 2006. Seven species were consused, they were related to 4 families and 5 genera. These species are African chamaeleon, ocellated skink, warty gecko, Bean skink, Bandad skink, Boscs lizard and Nidua lizard. Boscs and Nidua lizards were widely distributed in coastal area, while other 5 species are more related to cultivated and urban areas. With the expected reclamation of the coastal area, the lizard community will be affected in future.

Key words: Lizard community- ecology- taxonomy.

INTRODUCTION

Damietta Governorate is situated in the north of Delta in Egypt and exactly at the north east of Nile Delta. It covers an area of 1.029 km. As represented in Fig. (1), Damietta Governorate occupies a peninsula and is bordered on west, south and most of east by Dakahleya Governorate. At northern border, it faces the Mediterranean Sea by a coast of 61 km extended from Port-Said Governorate at east to Dakahleya Governorate at west. The eastern part of the Governorate is occupied by Manzala Lake, which covers roughly about 20% of its surface area. Damietta branch of the Nile River extended about 50 km in Damietta from Dakahleya western borders to the Mediterranean Sea at Ras-El-Bar northern border [SEAM (2004)]. Hence, Damietta Governorate can be divided into four distinctive habitats Fig. (2), according to the description of [SEAM (2004)], they are; Marine and Coastal Hahitat, Wetland Habitat, Cultivated Hahitat and Urban Land Scape. This habitat diversity reflects the richness of fauna and flora. Reptiles especially lizards, are beneficial organism in many ecosystems. Any environmental modification has the potential of eliminating any given species of reptiles. Recently, it was focused on the taxonomy and ecology of some lizard species

[Baha El Din (1996) and Ibrahim (1999, 2000, 2002)]. The present study was thus aimed to survey the lizard community in Damietta governorate as the first work according to our knowledge. This study is required as introduction to study taxonomy and biology of lizard community in Damietta, as well as, to plan the expected changes and the impact of human activities.

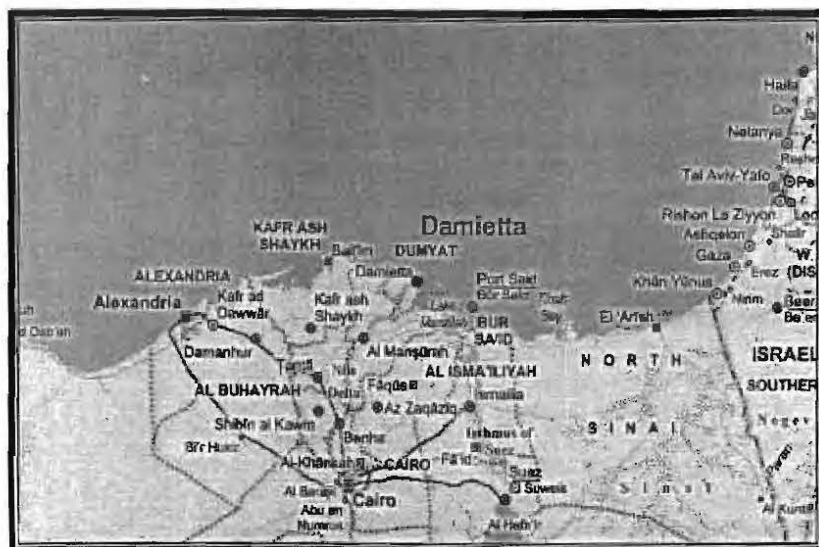


Fig. (1): Map of Damietta Governorate(<http://www.google.com.eg>).

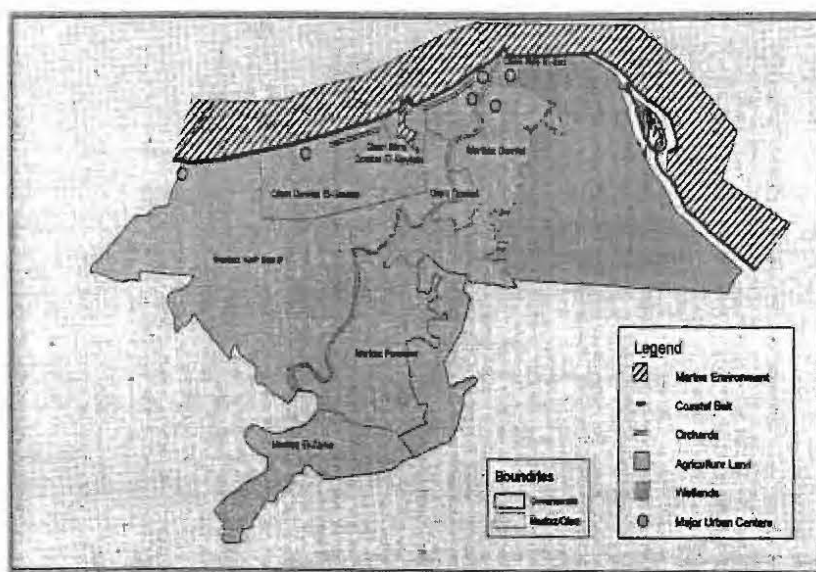


Fig. (2): Main habitats found in Damietta Governorate[SEAM (2004)].

MATERIALS AND METHODS

A- Study Area:

In the present study, five locations were selected as a study area, to represent different habitats at Damietta Governorate, they are:

1. North Coast of New Damietta City (Marine and Coastal Habitat).
2. El-Debba (Marine and Coastal Habitat).
3. Manzala Lake (Wetland Habitat).
4. El-Sinania Village (Cultivated Habitat).
5. El-Asr (Urban Land Scape).

B- Sampling and Identification:

From April, 2005 to March, 2006, all selected locations were monthly visited to survey. The specimens were caught by the aid of the sticky traps or picked up by some voluntaries. The samples were then labeled, injected with formalin and preserved in jars containing 10% formalin. The specimens were identified according to the most recent reviews of each particular group [Hussein (2001)].

RESULTS

Survey of Lizards at Damietta:

All lizards are classified in one order, squamata. In Damietta Governorate, 7 species of lizards were censused. These 7 species are related to 4 families and 5 genera. As shown in table (1) species of lizards collected from Damietta are listed using common english, scientific and arabic names as well as its taxonomic position.

These lizards occupy a wide range of habitats, from the extremely arid desert to the cultivated fields of the Nile Delta and even human habitations in large cities (urban habitats) as shown in Table (2).

Table (1): List of species of lizards collected from Damietta at spring, summer, and autumn 2005.

English name	Scientific name	Arabic name	Family
African Chamaeleon	<i>Chamaeleo africanus</i>	حرباء خضراء	Chamaeleonidae
Warty gecko	<i>Hemidactylus turcicus</i>	برص منزلي	Gekkonidae
Ocellated skink	<i>Chalcides ocellatus</i>	سحلية دقانة	Scincidae
Bean skink	<i>Mabuya quinquetaeniata</i>	سحلية جراية	
Banded skink	<i>Mabuya vittata</i>	سحلية جراية مخططة	
Bosc's lizard	<i>Acanthodactylus boskianus</i>	سقتقر خشن	Lacertidae
Nidua lizard	<i>Acanthodactylus scutellatus</i>	سقتقر الرمل الكبير	

Table (2): Distribution of lizards censused in Damietta Governorate at different study area.

Species	Environment			
	Coastal	Wetland	Cultivated	Urban
African chamaeleon	X	-	XXX	X
Warty gecko	-	-	-	XXX
Ocellated skink	XX	-	XX	XXX
Bean skink	-	-	XX	XXX
Banded skink	XX	-	-	-
Bosc's lizard	XXX	-	-	-
Nidua lizard	XXX	-	-	-

(-) No species was found.

(X) Low distribution.

(XX) Relatively high distribution.

(XXX) Extremely wide distribution.

Family: Chamaeleonidae [Table(1) and Fig.(3)]:

In this family, only one species was surveyed in Damietta. Chamaeleon was recorded in all studied habitats of Damietta, but it seems to be highly frequented in cultivated areas. Mostly this species was noticed inhabiting trees or shrubs in cultivated areas. In coastal habitat, it was rarely recorded in vegetation area. In countryside of the urban area, it was recorded on roads. In more details, it was collected from North Coast of New Damietta City at May, 27, 2005, from El-Sinania at June, 6, 2005 and from El-Asr at May, 22, 2005.



Fig. (3): African Chamaeleon
(*Chamaeleo africanus*)

Family: Gekkonidae [Table(1) and Fig. (4)]:

Of this family, Warty gecko. Mostly this species associated with human dwelling. It rarely inhabits agriculture or wetland environment. It was collected from El-Asr at April, 17; June, 14 and October, 2, 2005.



Fig. (4): warty gecko (*Hemidactylus turcicus*)

Family: Scincidae [Table(1) and Fig.(5,6,7)]:

Of this family, 3 species were surveyed from different studied sites in Damietta Governorate. These 3 species are belonged to two genera, chalcides and mabuya. Eyed skink was noticed living under sand or dead vegetation occasionally coming to the surface in search for its food. It was observed in a variety of habitats ranging from sandy desert to banks of irrigation canals in the cultivated area. This skink was collected from El-Asr at August, 28, from North Coast of New Damietta City at May, 28 and from El-Sinania at May, 29 and September, 5, 2005. Bean skink was observed in many habitats, especially gardens and other green areas within towns and villages. Mostly this species is opportunist in the wild livening agricultural land, scrub land, following human activity even into houses and around human occupation it was very common. This skink was collected from different studied habitats of Damietta from, El-Asr at May, 28 and from El-Sinania at June, 14, 2005. Banded skink was found through out the costal area in the present study. Mostly, it inhabits vegetated desert areas and margins of cultivation. On the other hand, this species was collected from North Coast of New Damietta city At June, 27, 2005. It was highly distributed in this area but it rarely inhabits agriculture or urban and wetland habitats.

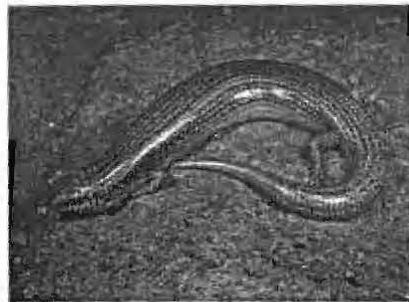


Fig. (5): Ocellated skink
(*Chalcides ocellatus*)



Fig. (6): Bean skink
(*Mabuya quinquetaeniata*)



Fig. (7): Banded skink
(*Mabuya vittata*)

Family: Lacertidae[Table(1) and Fig.(8,9)]:



Fig. (8): Bosc lizard
(*Acanthodactylus boskiamus*)



Fig. (9): Nidua lizard
(*Acanthodactylus scutellatus*)

Of this family, 2 species were surveyed at different studied areas of Damietta. Bosc's lizard was recorded only in coastal and urban habitats at Damietta Governorate. However, it seems to be highly distributed in costal area especially sandy area with sparse vegetations. Mostly it was abundant at sand dunes between sparse vegetation of Mediterranean coastal area. A lot of individuals from this species were mostly collected from different locations at coastal habitat, North Coast of New Damietta City, and El-Debba. On the other hand, no species were collected from Manzala Lake. Of the main observations, some individuals of this species showed either forked tail or wounds of limbs at the beginning of the autumn. In addition, abundant of juveniles of this species was observed at the end of August and during September. Nidua lizard was found only

in sand dunes at coastal habitat in Damietta governorate. It was usually inhabiting the disperse vegetation in sand dunes. Individuals of *Nidua* lizard were collected from locations, North Coast of New Damietta and El-Debba at June, 14, May, 24, August, 9, September, 15 and October, 3, 2005. *Nidua* lizards were found together with Bosc's lizards. During the present study, never individuals of this species were collected from other habitats elsewhere coastal one.

DISCUSSION

Reptiles are beneficial organisms in many ecosystems. Alteration of natural habitat is one way of disturbing the balance of ecosystem diversity. Any environmental modification has the potential of eliminating any given species of reptile.

In Egypt, herpatofauna was recognized by [Saleh (1997)] in 98 species; 51 lizards, 38 snakes, eight turtles, and Nile crocodile. In a recent study by [SEAM (2004)], 14 species of reptiles have been reported in Damietta Governorate, 6 of them were lizards which are *Chamaeleo africanus*, *Hemidactylus turcicus*, *Chalcides ocellatus*, *Mabuya quinquetaeniata*, *Acanthodactylus boskianus* and *Acanthodactylus scutellatus*.

In the present study, seven species of lizards were surveyed in Damietta Governorate. The recorded seven species of lizards in this work are *Chamaeleo africanus*, *Hemidactylus turcicus*, *Chalcides ocellatus*, *Mabuya quinquetaeniata*, *Mabuya vittata*, *Acanthodactylus boskianus* and *Acanthodactylus scutellatus*.

Mabuya vittata was not recorded by [SEAM (2004)] in Damietta Governorate, but in the present survey it was collected from coastal habitat near the western border of the Governorate.

The population estimation of lizards in this study showed that *Acanthodactylus boskianus* and *Acanthodactylus scutellatus* were the most abundant species in the coastal area. These results are agreed to many other studied that are reported most abundance of both species in the coastal sand dunes extended on the north of Egypt at Sinai [Ibrahim (1990); Ibrahim *et al.*, (2000)].

According to [Ibrahim *et al.*, (2000)] the great abundance of *A. boskianus* and *A. scutellatus* could some be attributed to its extreme speed of locomotion in the open-shrub habitat of the northern coastal sand dunes. In agreement to the present observation, the activity of *A. boskianus* and *A. scutellatus* seemed to depend considerably on time of sunrise and sunset [Ibrahim *et al.*, (2000)]. In addition *A. boskianus* and *A. scutellatus* are active on sunny days throughout the year even in winter. The activity of these species changed with seasons showing its highest in summer and the lowest in winter. The same findings were previously recorded by [Ghobashi *et al.*, (1990)].

Extensive field observations of the foraging activity of *A. boskianus* and *A. scutellatus* revealed that these species would spend most time motionless waiting to ambush the prey. According to [Pianka (1966) and Schoener (1971)], *A. boskianus* and *A. scutellatus* are considered a sit-and-wait predator.

Gecko species was also abundant in different urban stations herein. This observation is also agreed to report by [Saleh (1997)]. According to [Ibrahim (2000)] Turkish Gecko, *Hemidactylus turcicus* is a widely distributed gecko, observed on the walls of all buildings. This nocturnal gecko was generally observed to be active

immediately after sunset until the first light of the following day. Some individuals were observed frequently aggregating around electric lamps, waiting a relatively long time for feeding up on moving insects. On the other hand, [Vaclav & Zbysek (1985)] reported that despite the nocturnal life of the gecko, it also appears at the entrance to its hiding-place during the daytime, to bask for a short time in the sun.

Ocellated skink, *Chalcides ocellatus* was also most abundant in cultivated and urban areas, and to some extent in coastal region. [Saleh (1997)] reported that this species is widely distributed throughout desert areas, the Mediterranean coastal desert areas of Egypt and Sinai, as well as the Nile Valley and Delta. In agreement, this diurnal species was mainly observed in the morning before it becomes hot, being generally basking in the sun patches under bushes.

In the current study, African chamaeleon was rarely surveyed and collected from only cultivated and urban stations. In agreement, [Saleh (1997)] reported that this species is distributed only throughout cultivated areas of Nile Valley and Delta in Egypt. On the other hand, [Ibrahim (2002)] stated that although chamaeleon uncommon, it was observed in most stations. Despite their arboreality, some individuals were observed walking on the ground, even during midday in June and July. At night, they were observed sleeping on bushes.

In the present work, Although Bean skink, *Mabuya quinqu-etaeniata* was highly distributed in cultivated and urban stations, a single record of Banded skink, *Mabuya vittata* was conducted in the western margins of Damietta. In agreement, [Saleh (1997)] reported that Bean skink is widely distributed throughout the Nile Valley and Delta and adjacent reclaimed cultivated land, while Banded skink is limited to vegetated desert areas and margins of cultivation at the northern fringes of the Delta.

Collectively, lizard abundance and distribution may be changed in most studied habitats due to high reclamation of these areas. In particular due to reclamation of coastal area extended from Ras- El- Bar to Gamasa, *A. boskianus* and *A. scutellatus* species will be affected.

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الملخص العربي

مصحح للسحالي في ٢٠٠٥/٢٠٠٦ بمنطقة دمياط- مصر

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الزواحف كائنات هامة في الأنظمة البيئية المختلفة و قد تؤدي التطورات البيئية الى زوال بعض أنواعها. تم اختيار خمسة مواقع هي المنطقة الساحلية بمدينة دمياط الجديدة ومنطقة الديبة وبحيرة المنزلة ومنطقتين بمدينة دمياط. تم مسح للسحالي بالمواقع الخمس في الفترة من أبريل ٢٠٠٥ وحتى مارس ٢٠٠٦. تم احصاء سبعة أنواع تنتمي الى أربعة عوائل وخمسة اجناس. الانواع التي تم حصرها هي حرياء خضراء- برص منزلي- سحلية دفانة- سحلية جراية- سحلية جراية مخططة-سفنقر خشن- سفنقر الرمل الكبير. وقد وجد ان نوعي السفنقر واسعا الانتشار في المنطقة الساحلية بينما الانواع الخمسة الاخرى تنتشر بكثرة في الاراضي الزراعية والمناطق العمرانية. ويتوقع من هذه الدراسة ان المد العمراني المتوقع سوف يؤثر على مجتمع السحالي في المنطقة الساحلية