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THE FOSSIL HERPETOFAUNA OF THE MALTESE ISLANDS; A REVIEW

SUMMARY

The Maltese herpetofossils are poorly represented by only eight genera, of which six species are endemic. The fossil record is reviewed to show the zoogeographical connections of the various geological periods.

Key Words: Herpetofossils, Maltese Islands, Review.

RIASSUNTO

L'erpetofausa fossile maltese è rappresentata soltanto da otto generi e comprende sei specie endemiche. Viene compiuta una revisione con l'intento di evidenziare le connessioni zoogeografiche tra i vari periodi geologici.

Introduction

The Maltese Archipelago situated in the Central Mediterranean at latitude 35° 54′N and longitude 14° 31′E, is a group of small islands together occupying about 249 km^2. The principal islands of the archipelago are Malta, Gozo and Comino. These are composed of a block of Oligo-Miocene limestones and marls with very subsidiary Quaternary deposits. The Oligo-Miocene succession is a simple « layer-cake » arrangement of Lower and Upper Coralline Limestones with intervening layers of soft Globigerina Limestone, Greensand and Blue Clay. The Globigerina Lime-

stone has been further subdivided into three divisions (FELIX, 1973). The Tertiary sequence represents a succession of sediments deposited within a variety of shallow water marine environments.

The Archipelago probably emerged from below sea-level at the end of the early Pliocene. Palaegeographic evidence suggests that throughout the Quaternary period, the Maltese Archipelago was connected at various stages to Sicily, east Mediterranean lands, Sardinia, Libya and Tunisia (PASA, 1953). Whereas the Tertiary strata were laid down in a regular pattern as marine sediments, the post-Mediocene period left the Islands only localized deposits. The earliest are the Pleistocene bone deposits of various cave and fissure infills. Later deposits include alluvial fan deposits, calcreted breccias and conglomerates, and caliche soil profiles. The Quaternary history of the Islands han been discussed by TRECHMANN (1938).

The Miocene reptiles in general closely resemble present-day reptiles. The marine environment of the Mediterranean Miocene resulted in a limitation in the fossil herpetofauna of the Maltese Islands. The rarity of reptilian fossil remains elicited an energetic response from naturalists of the last century, and many specimens found have been adequately descriped. This present paper reviews the Maltese fossil herpetofauna, highlighting their importance in establishing the zoogeographical connections of the periods. A systematic list of Miocene and post-Miocene herpetofossil follows.

MIOCENE HERPETOFOSSILS

The Miocene strata of the Maltese Islands have yielded remains of four species of reptiles, belonging to three genera. The remains of two genera have been reviewed by ZAMMIT-MAEMPEL (1979) in the light of their Indo-Pacific affinities. All the fossils have been excavated from the Globigerina Limestone horizon whose divisions have been correlated to the Aquitanian, Burdigalian and early Langhian series (FELIX, 1973). This horizon has been variously subdivided, but it is now generally subgrouped into three divisions referred to as Upper, Middle and Lower Globigerina Limestone.

Class: REPTILIA
Order: ICHTHYOSAURIA
Ichthyosaurus gaudensis Huke, 1870

In a paper read before the Geological Society of London, J. W. Hulke

described a fossil fragment of a slender mandible which he assigned to the order Ichthyosauria (HULKE, 1870). This fossil was acquired by W. Strickland from 'Division C' (= Upper division) to the Globigerina Limestone at Marsalforn, Gozo (COOKE, 1896).

The fossil represented the symphysial end of a mandible with the rami and front end broken off. The slenderness of the specimen is shown by the measurements given by HUNKE (1870). The 23 cm long symphysis measured 5.5 cm in width at its posterior end, and 3 cm at the damaged anterior end. The upper surface presented a smooth narrow median tract bordered externally by a line of shallow tooth-pits separated by low transverse ridges. Twenty-one teeth occupied a space of 20.5 cm. Most of the tooth-pits were empty, and the smoothness of the pit surfaces indicated the absence of a firm bond between the teeth and the mandible.

The teeth figured in HULKE (1870) were conical with the crown compresed slightly. The apices of all the crowns were broken off. The root was bulbous with a smooth exterior, and a slightly contracted and rounded base. The tooth was composed of a simple tubular dentine covered by a thick layer of enamel forming the crown; the root being covered by a stout capsule of cementum.

The authenticity of *Ichthyosaurus gaudensis* remains in doubt since ichthyosaurans became extinct at the end of the Cretaceous and have never been excavated from Miocene rocks. The arrangement of the dentition in *Ichthyosaurus gaudensis* suggests a relationship to the later types of ichthyosaurans. The dentition of ichthyosaurans consists of numerous small conical teeth set in a single row. The Triassic forms have the teeth set in individual thecae. The tooth base is smooth or has slightly folded walls with little deposition of cementum. Later forms have teeth arranged in a common longitudinal groove. The teeth show intense infoldings and a considerable amount of cementum. In all forms the teeth appear to have been attached by non-calcified connective tissue, so that the teeth were frequently lost before fossilization (GANS, 1969).

Order: CHELONIA
Family: TRIONYCHIDAE
Trionyx melitensis Lydekker, 1891

J. H. Cooke noted that several tortoise carapaces in a more or less perfect condition have been found in Maltese rocks. These carapaces appear to belong to the genus *Trionyx* (COOKE, 1890). In a later paper

(COOKE, 1896), the same author specifically records two carapaces obtained respectively from ' subdivisions C and lower H ' of the Globigerina Limestone. From ' Division C ' (= Upper division) of an undisclosed locality, a carapace fragment was excavated. This specimen was eventually deposited at the British Museum (registered as R 1795) by J. Murray and subsequently described by R. Lydekker as the type specimen of *Trionyx melitensis* (LYDEKKER, 1891). The other specimen of *Trionyx melitensis* recorded by COOKE (1986) came from ' Division H ' (= Lower Division). It was found in one of the building-stone quarries at Luga, Malta (SPRATT, 1854), and is probably the same specimen figured by GULIA (1843).

It is believed (FELIX, 1973) that the Globigerina Limestones, from which the above mentioned chelonian remains were recorded, were deposited in water depths ranging from 40-150 m. The accumulation of sediments with such a high planktonic foraminiferal content on a shallow shelf area is probably due to the position of Malta during the Miocene on a mid-Tethyan submarine rise.

The type specimen of *T. melitensis* (British Museum R 1795) consists of a portion of the middle and right half of the anterior region of the carapace of a young chelonian. That the specimen was not fully adult is shown by the comparative shortness of the ribs and costal plates. The third neural bone measures 7.1 cm in length, indicating a turtle approximately the size of the related living *Chitra indica* Gray, 1831 which grows to a maximum length of 60 cm (LYDEKKER, 1891).

The carapace bones are coarsely sculptured. The nuchal bone is missing, but the greater part of the first four costals of the right side are preserved. There are also portions of five neural bones and the inner extremities of the first, second and third costals of the left side. One important feature of the specimen is the arrangement of two neural bones between the first pair of costals.

LYDEKKER (1891) attributed the carapace fragment to the family Trionychidae, but notes that as there are no associated skull remains it is virtually impossible to identify the genus. The large size and the coarse sculture of the Maltese specimen suggest that it belongs to the genus *Chitra*, however the divided first neural is not a characteristic of *Chitra*. This feature is found in living species of Indian *Trionyx* and *Emyda*, including *T. gangeticus* (Wagl., 1830); *T. leithi* Gray, 1872; *T. hurium* Gray, 1831; *E. granosa* (Schoepff, 1792); *E. vittata* Peters, 1854; and *E. scutata* Peters, 1868. While the divided first neural appears to be present in Indian Trionychidae, it is also found in the genera *Cycloderma* and *Cyclanorbis* of Tropical Africa (BOULENGER, 1889).

The affinity of the Maltese trionychid to existing species from the

Indo-Pacific region has been partly attributed to conditions of the Mid-Tertiary Mediterranean being similar to those present in the Indo-Pacific today (ZAMMIT-MAEMPEL, 1979).

Order: CROCODILIA
Family: CROCODILIDAE
Tomistoma champsoides (Owen in Hulke, 1870)
Tomistoma gaudensis (Hulke, 1870)

Other reptilian remains excavated from Maltese Oligo-Miocene rocks which have close affinities with Indo-Pacific species are those belonging to the crocodilian *Tomistoma*. Various authors have reported the excavation of vertebral and jaw remains of a gavial-like crocodilian species from the Globigerina Limestone of the Maltese Islands (ADAMS, 1870). However, the most important finds were the fossil skull fragments excavated from various sites. The first skull discovered in ' Division C ' (= Upper division) of the Globigerina Limestone (COOKE, 1896) was donated to the British Museum (BMNH/41157) and labelled by R. Owen as *Melitosaurus champsoides*. This specimen consisted of the terminal 32.5 cm of the mandible and maxilla of a large crocodilian. The specimen remained undescribed until mentioned briefly by HULKE (1870) and fully described and assigned to the genus *Tomistoma* by LYDEKKER (1886).

The second skull (BMNH/Gozo specimen) was acquired by W. Strickland and presented to the British Museum in 1868. This specimen, which was collected from ' Division C ' (= Upper division) of the Globigerina Limestone in Gozo (COOKE, 1896), is now apparently lost (ZAMMIT-MAEMPEL, 1979). HULKE (1870) compared this specimen to the fossil crocodilian remains from Malta (BMNH/41157) and to the Indo-Pacific gavial *Tomistoma schlegelii* (Strauch, 1860), and concluded that the Gozo skull had features which differed from the other species. HULKE ascribed to the Gozo specimen the name *Melitosaurus gaudensis*.

Cooke's ' Division F ' (= Middle division) of the Globigerina Limestone at Tad-Dayl quarries in Malta also yielded numerous ribs, vertebrae, and teeth of reptiles having crocodilian affinities. A portion of a skull of *Tomistoma champsoides* with teeth *in situ* and two vertebrae embedded by its side were also obtained from the lower portion of this bed (COOKE, 1890; 1896). This specimen, said to have been presented to the University Museum, cannot now be traced in the collection of the National Museum of Natural History, Malta, where the unlabelled and

unregistered collection of the University Museum ended up (ZAMMIT-MAEMPEL, 1979). The National Museum of Natural History has a fragmented anterior and posterior portion of a Gavial skull (M/V 9) labelled as *Tomistoma gaudense* (ZAMMIT-MAEMPEL, 1977).

LYDEKKER (1886) reviewed the crocodilian skulls kept in the British Museum (BMNH/41157 and BMNH/Gozo specimen), and in a paper read to the Geological Society of London suggested that these fossils had features characteristic of the genus *Tomistoma*. He pointed out that in both type-specimens, the rostrum is extremely long and narrow with the nasal bones not extending to the nasal opening but in contact with the premaxillaries, and also that the first and fourth mandibular teeth fit into notches in the upper jaw.

The two crocodilian fossil skulls studied by LYDEKKER (1886) have features which differenciate one from the other and also from the living *Tomistoma schlegelii*. Thus *T. champsoides* differs from *T. schlegelii* mainly by the larger size of the adult *T. champsoides* which grew to about six to nine meters. Minor differences include the more shelved extremity of the premaxillae and relatively blunter but larger teeth in *T. champsoides*. The latter species is also characterised by five teeth in the premaxilla, the additional tooth being interpolated between the proper first and second teeth. The additional tooth is very variable in crocodiles and is a feature of skulls of juvenile *T. schlegelii* (BOULENGER, 1889).

Tomistoma gaudensis is smaller in size than *T. champsoides*. Its teeth are more slender and more sharply pointed with the enamel being more coarsely wrinkled. *T. gaudensis* differs from *T. schlegelii* in several features amongst which are the crenation of the alveolar border of the distal halves of the snout, the more oblong shape of the syncipital area, the large size and different shape of the supratemporal fossa, the raised margin of the orbit, and the more hollow interorbital space.

The genus *Tomistoma* has been recorded in beds ranging in age from Eocene to Pliocene in North Africa, and from Eocene to Miocene in Europe (ROMER, 1956). In the Maltese Islands, it has been excavated from Globigerina Miocene deposits which were laid down in shallow waters (COOKE, 1896; FELIX, 1973). The genus *Tomistoma* is presently represented by the species *T. schlegelii* (Strauch), a crocodile of more than four meters length which lives in the rivers and lakes of Borneo, Sumatra and Malaysia.

PLEISTOCENE HERPETOFAUNA

Quaternary deposits consist of localized cave and fissure infils and

sediment veneers. The earliest are the Pleistocene bone deposits of various cave systems in Malta. Remains of Amphibia, Lacertilia and Chelonia have been found repeatedly at various sites in association with remains of pigmy elephants, hippopotami, giant dormice, and aquatic birds.

Class: AMPHIBIA
Order: SALIENTIA
Family: DISCOGLOSSIDAE
Discoglossus pictus Otth, 1837

A. L. Adams noted that remains of « one or more frogs » were excavated from Maltese cave and fissure deposits (ADAMS, 1866). He specifically records the excavation of remains of frogs or toads « of ordinary size » from Pleistocene deposits at Mnajdra Cave, Malta (ADAMS, 1870). In a later paper (ADAMS, 1877), the same author refers to these remains as *Batrachia* species and questions the contemporaneity of the remains saying that « frog bones were met with in close proximity to the larger quadrupeds, but the deposits being composed of closely packed red soil, it may not be improbable that in the case of the two last named and several species of land snails, they had made their way into the bed after its deposition ».

H. W. Parker who studied a collection of amphibian bones from Mnajdra Gap, Malta kept in the British Museum of Natural History assigned these to *Discoglossus pictus* (BATE, 1935). This frog is the only amphibian currently found living in the Maltese Islands. It has a western Mediterranean distribution which includes the Iberian peninsula, southwest France, Northwest Africa, Galita Island, Sicily and the Maltese Islands.

Family: BUFONIDAE
Bufo bufo (Linnaeus, 1758)
Bufo viridis Laurenti, 1768

The cave floor deposits from Ghar Dalam, Malta have yielded the remains of two species of toad belonging to the genus *Bufo*. Following excavations carried out during 1918-1920, G. Despott reported finding a large number of amphibian fossil remains in the second layer of the cave floor. These bones were assigned to the species *Bufo vulgaris* (= *Bufo bufo*) by G. A. Boulenger (BATE, 1920; DESPOTT, 1923). Further remains of *Bufo*, probably *B. vulgaris*, were found by G. Caton Thompson from the

upper deposits of the same cave (BATE, 1923; CATON THOMPSON, 1925).

Excavations of the Ghar Dalam cave floor in 1934 yielded further amphibian remains, consisting of limb-bones, skull fragments, scapulae, vertebrae, sacra, urostyles and pelves. These remains were examined by H. W. Parker who concluded that they had definite features which related them to *Bufo viridis* (BATE, 1935).

The second layer of the Ghar Dalam cave floor appeared to have been disturbed prior to excavation so that Pleistocene remains were mixed with remains from the prehistoric cultural layer. Both toad species are presently extinct on the Maltese Islands, but are still very widely distributed. *Bufo bufo* has a geographical range extending from Northwest Africa across the whole of Europe up to East Asia (inclusive Japan). *Bufo viridis* has a similar range extending from North Africa across central Europe up to Arabia.

Order: SAURIA

Family: LACERTIDAE

Lacerta siculimelitensis Böhme and Zammit-Maempel, 1982

The fossil record of lacertilian remains from the Maltese Pleistocene were reviewed by BÖHME and ZAMMIT-MAEMPEL (1982). Lacertilian remains were first recorded by A. L. Adams from a rock fissure deposit at Ta' Kandja, Malta and from Pleistocene deposits at Benghisa Gap, Malta (ADAMS, 1865; 1866; 1870). The skull and vertebral remains were attributed to the genus *Lacerta* (ADAMS, 1866). Though never described scientifically, G. Gulia referred them to the lizard by the specific name *Lacerta melitensis* (GULIA, 1914), a name which has been repeated by subsequent authors. Lacertilian remains from fissure deposits at Wied Incita, Malta have been recently described and named *Lacerta siculimelitensis* (BÖHME and ZAMMIT-MAEMPEL, 1982).

The holotype specimen in the National Museum of Natural History, Malta (Q/401/W) consists of a jaw fragment 2.1 mm long lacking its anterior and posterior ends. The jaw has a heterodont dentition with 12 long teeth of subequal size (3.9 mm) anteriorly, followed by 5 other teeth of reduced size (2.0 mm) posteriorly. Some of the anterior teeth have traces suggesting an originally tricuspid arrangement. The posterior teeth are conical.

The *Lacerta* remains excavated by Adam were associated with remains of *Palaeoloxodon falconeri* and other animals. ADAMS (1877) leaves no

doubt as to the contemporaneity of these remains, noting that « at all events a contemporaneity may be claimed for the elephants, hippopotami, myoxids, anatidae, chelonia, lacertilia, and certain helicidae in as much as their remains were intimately associated ». *Lacerta* remains from the Pleistocene (Würmian) deposits from Sicily, also associated with *Palaeoloxodon falconeri* are clearly referable to *Lacerta siculimelitensis* (BÖHME and ZAMMIT-MAEMPEL, 1982). At the Wied Incita deposit, the lacertilian remains were not associated with elephant, hippopotami or deer fossils suggesting a very late Pleistocene assemblage.

The *Lacerta* remains from Ta' Kandja and Benghisa Gap were of various sizes, some belonging to « small lizards » (ADAMS, 1865), but others were attributed to larger specimens comparable in size to a small chameleon (ADAMS, 1866; 1870). The remains from Wield Incita suggest a lizard which attained a total length of about 750 mm (BÖHME and ZAMMIT-MAEMPEL, 1982). Vertebral remains from the same site suggest the presence of a smaller lizard, this belonging to juveniles of *Lacerta siculimelitensis* or to a sympatric smaller species, possibly of the *Podarcis filfolensis* group. *P. filfolensis* (Bedriaga, 1876) has a Maltese-Pelagian distribution and is very closely related to the Sicilian species *P. wagleriana* Gistel, 1868 (LANZA and CEI, 1977).

Order: CHELONIA
Family: EMYDIDAE
Emys orbicularis (Linnaeus, 1758)

From Pleistocene fissure deposits at Zebbug, Malta A. L. Adams recorded the excavation of chelonian shield fragments, the proximal part of a right humerus and a small right femur (ADAMS, 1877). The shield fragments suggested a chelonian about the size of *Testudo graeca.* These were marked by numerous white specks in the denser outer dermal layer such as is seen in the epidermis of *Lutremys europaea* (= *Emys orbicularis*). The humerus and femur also had features which agree in all particulars to this species. In the absence of further data, ADAMS (1877) did not deem it necessary to separate the fossil remains from this recent freshwater species. Further carapace fragments of *Emys orbicularis* were recovered by G. Despott from the disturbed second layer of the cave floor deposits at Ghar Dalam. These were found in association with deer, hippopotami, *Bufo* and other chelonian remains (DESPOTT, 1923). *Emys orbicularis* has a present geographical range which includes the middle and southern Europe, western Asia and Northwest Africa.

Family: CHELONIIDAE

Testudo graeca Linnaeus, 1758

G. Despott reported the excavation of three plastrons of a tortoise, probably *Testudo graeca*, from the superficial layers of the Ghar Dalam cave floor. These remains were associated with neolithic human remains and artefacts (DESPOTT, 1918). In addition, several bones and plastrons attributed to the same species were excavated in a cave at Pergla, Gozo again in association with human remains and many neolithic pot-sherds (DESPOTT, 1918).

The association of these tortoise remains with those of humans suggest that they are of a more recent origin than the Pleistocene. The first evidence of man on the Maltese Islands dates to approximately 6000 years ago (TRUMP, 1972). This species is not currently found in the natural state in the Maltese Islands, although specimens are imported and sold as pets. The species presently has a geographical range including southern Europe, Southwest Asia and North Africa.

Geochelone robusta (Adam, 1877)

Chelonian remains have been excavated from nearly all Maltese Pleistocene deposits studied. Important sites noted include the Zebbug rock cavity, Mnajdra Gap, and the Corradino Hill rock fissure. A. L. ADAMS (1877) reviewed the fossil chelonian remains collected by himself and by T. A. B. Spratt from various localities and compared these to the Galapagos Giant tortoises — *Geochelone elephantopus elephantopus* (Gunther, 1877) from Santa Maria Island, *G. e. vicina* (Gunther, 1875) from Fernandina Island, and *G. e. ephippium* (Gunther, 1875) from Santa Cruz Island.

The remains studied by ADAMS (1877) suggested a land tortoise species with features related to *G. e. vicina*, and distinguished from *G. e. elephantopus* and *G. e. ephippium*. The Maltese fossil remains appeared to belong to a tortoise of very large size, the bone measurements generally exceeding those of *G. e. elephantopus*, *G. e. vicina* and *G. e. ephippium*. The remains also suggested a more robust species seemingly possessing stouter limbs. ADAMS (1877) named this species *Testudo robusta*.

A smaller chelonian, named *Testudo spratti* by ADAMS (1877), was represented by a portion of a left scapula and a left tibia from Zebbug, and the distal extremity of a right femur from Mnaidra Gap. The dimension sof these remains suggested a tortoise of a size generally smaller than *G. e. elephantopus* and *G. e. vicina*.

During the digging of a large shaft at Corradino Hill, Malta Pleistocene remains were encountered in a narrow vertical fissure (TAGLIAFERRO, 1912). These remains included chelonian fossils which were studied by N. Tagliaferro who concluded that these belonged to three indiviluals of different sizes. The remains of the two smaller individuals reached dimensions corresponding to those of *Geochelone robusta*. The larger individual appeared to reach a size nearly one and a half times larger than *Geochelone robusta* (TAGLIAFERRO, 1913a; 1913b). To these remains Tagliaferro gave the name *Testudo robustissima*.

The comparative sizes of the various Maltese *Geochelone* fossils are listed in Table 1 as the tibial lengths reported by ADAMS (1877), COOKE (1890) and TAGLIAFERRO (1913b). In view of the marked variability in the size of specimens of *Geochelone robusta*, it is very likely that all species described from the Maltese Islands belong to different sized individuals of the same species, *Geochelone robusta*, the other two names being junior synonyms.

Table 1 — Tibial lengths of Maltese *Geochelone* specimens.

Species	Location	Reference	Tibial length (mm)
Testudo spratti	Zebbug, Malta	ADAMS. 1877	85
Testudo robusta	Ta' Xolxa, Malta	TAGLIAFERRO, 1913b	105
'chelonia'	Maghalaq, Malta	COOKE, 1890	105
Testudo robusta	Zebbug, Malta	ADAMS, 1877	115
Testudo robusta	Corradino, Malta	TAGLIAFERRO, 1913b	132
Testudo robustissima	Corradino, Malta	TAGLIAFERRO, 1913b	170

DISCUSSION

The fossil herpetofauna of the Maltese Islands consist of only eight genera and include four Miocene and six Pleistocene species. *Testudo graeca*, in view of its association with human remains, is probably a more recent species. The age of the three amphibian species is also left to conjecture in view of the disturbance of the deposits. The authenticity of *Ichthyosaurus* from Gozo is to be rejected. Its presence on the Islands may perhaps be attributed to transportation, natural or otherwise. In the discussion following the paper read by HULKE (1870), doubt was expressed about the origin of the fossil. Spratt suggested that the fossil originated

from Egypt, since the matrix was similar to rock found near Cairo. Busk however confirmed that a stone of similar character to the fossil matrix occurred in Malta (HULKE, 1870). Natural transportation of fossil or animal remains from the continental mass is a definite possibility. A molar cast of the mastodon *Trilophodon angustidens* Cuvier has been found in the Globigerina Limestone of Gozo (ADAMS, 1879). However, SPRATT (1854) warns fossil collectors against buying fossil from vendors. He remarks that he had « known Syrian fish, and fossil trees from Egypt sold in the island as Maltese » emphasising the possibility of human interference.

The two reptilian genera *Tomistoma* and *Trionyx* were the first Maltese Miocene fossils shown to have an affinity with species presently living in the Indo-Pacific region. A similar affinity has been shown to exist for fossil sharks, cirripedes, mollusca and echinodermata (ZAMMIT-MAEMPEL, 1979). This affinity of Maltese Miocene fossils to living Indo-Pacific species is attributed to the former connection of the Tethys Sea to the Indo-Pacific, and to climatic and ecological conditions prevailing in the Central Mediterranean region in Mid-Tertiar times having been analogous to those existing today inthe Indo-Pacific (ZAMMIT-MAEMPEL, 1979).

It has been suggested that during the Pleistocene the Maltese Islands were connected to Sicily, North Africa and the eastern Mediterranean region (PASA, 1953). The last connection with Sicily was severed during the Würmian (upper Pleistocene). The late connection to Sicily has resulted in a prevalence of a Sicilian-type fauna on the Maltese Islands (CORTI and LANZA, 1973). The previous connection to the eastern Mediterranean region has resulted in a number of hymenopteran and heteropteran species which have a Maltese-Balcan-Asiatic distribution (INVREA, 1966; TAMANINI, 1966). A species of reptile with a similar distribution is *Telescopus falax falax* (Fleischmann, 1831). This snake species was first recorded from Malta by GIGLIOLI (1894), and its presence on the island was attributed to introduction with naturalization. It has been suggested that this snake may in fact be indigenous (BRUNO et al., 1973). The presence of *Bufo bufo*, *Bufo viridis*, *Eyms orbicularis* and *Testudo graeca* in Pleistocene and recent deposits further establishes a Balcan-Asiatic relationship with the Maltese Islands.

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