

In the same locality, the following species were recorded (on December 16, 1997 and April 7, 1988 by MG and JV and on May 14, 2003 by P.-A. CROCHET): *Bufo viridis* LAURENTI, 1768, *Hyla arborea* (LINNAEUS, 1758), *Rana bedriagae* CAMERANO, 1882, *Testudo graeca iberica* PALLAS, 1814, *Mauremys rivulata* (VALENCIENNES, 1833), *Laudakia stellio daani* (BEUTLER & FRÖR, 1980), *Lacerta oertzeni ibrahimi* EISELT & SCHMIDTLER, 1986, *Ablepharus budaki* GÖC-MEN et al., 1996, *Blanus strauchi* (BEDRIAGA, 1884), *Typhlops vermicularis* MERREM, 1820, *Coluber jugularis* LINNAEUS, 1758, *Natrix tessellata* (LAURENTI, 1768) and *Vipera xanthina* (GRAY, 1849).

This new locality extends the known distribution of *Lacerta pamphylica* nearly 100 km towards the south-west. It lies within the range of *L. trilineata*, although the species has not been reported to our knowledge from the area around Olympos. The closest known mentions of *L. trilineata* are from Antalya (58 km NNE Olympos) and Kasaba (68 km WSW Olympos) (SCHMIDTLER 1975). Unfortunately, the lack of records of the *L. trilineata* species-group in this region (Bey Dağları) does not allow yet to establish the exact nature of the contact zone between *L. pamphylica* and *L. trilineata* (parapatry or sympatry). The morphology of our *L. pamphylica* specimens from Olympos does not suggest signs of hybridization.

REFERENCES: SCHMIDTLER, J. F. (1975): Zur Taxonomie der Riesen-Smaragdeidechsen (*Lacerta trilineata* BEDRIAGA) Süd-Anatoliens (Reptilia, Lacertidae). - Veröff. Zool. Staatssamml. München, München; 18: 47-68, 2 plates. SCHMIDTLER, J. F. (1986): Orientalische Smaragdeidechsen: 2. Über Systematik und Synökologie von *Lacerta trilineata*, *L. media* und *L. pamphylica* (Sauria: Lacertidae). - Salamandra, Rheinbach; 22: 126-146. VAN DER WINDEN, J. & BOGAERTS, S. (1992): Herpetofauna of the Göksu delta and adjacent mountains, Turkey. - Univ. Nijmegen, Dept. Anim. Ecol., Nijmegen; Report 311: 1-144.

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Recent records of the rare *Psammodromus microdactylus* (BOETTGER, 1881) in Morocco

In scientific collections the Moroccan endemic *Psammodromus microdactylus* (BOETTGER, 1881) is represented mainly by specimens sampled in the end of the 19th / beginning of the 20th century; reasonably large series from later are lacking (see table 1). Until the mid-1960s the lizard was observed several times by Jacques BONS (BONS 1967). However, only two records dating from after the mid-1960s were known at the time of publication of the BONS & GENIEZ (1996) atlas, revealing this species to be currently one of the rarest Moroccan lacertids. GENIEZ et al. (1993) provided a list of localities known for *P. microdactylus* up to 1993.

It is difficult to determine whether the species is now rarer than it was one century ago or if it is less frequently detected for unknown reasons, but several lines of argument suggest that it has become genuinely rare. First, the ratio of old versus recent records (based on the database of Moroccan herpetofauna records held at the Laboratory of Biogeography and Vertebrate Ecology in Montpellier, E.P.H.E – B.E.V.) is different from that of all other Moroccan lizard species, with clearly more old than recent records (fig. 1). Second, the species has been searched for several times specifically in areas with previous records, but in vain (GENIEZ et al. 1993). Third, even at localities where several specimens had been collected in the past (such as Balcon d'Ito = Lalla Ito) and where the species has been recorded recently (GENIEZ et al. 1993; BONS & GENIEZ 1996), individuals have become uncommon and difficult to find (several visits without recording of a single specimen - P. GENIEZ, pers. comm.).

In this context, the publication of additional recent localities of the species, with information on ecology and habitat is of particular importance, as this may allow monitoring of its continuing presence in areas where it persisted after the middle of the 20th century and help to identify its preferred habitats. The aim of this note is to give information on the habitat of the

Table 1: Specimens of *Psammadromus microdactylus* (BOETTGER, 1881) and the closely related *Psammadromus blanci* (LATASTE, 1880) examined by GALEWSKI (2001). Museum acronyms follow LEVITON et al. (1985) except for the collections of the Laboratoire de Biogéographie et Ecologie des Vertébrés de l'École Pratique des Hautes Etudes, Montpellier (BEV) and Hessisches Landesmuseum, Darmstadt (HLMD). Note the paucity of recent specimens of *P. microdactylus*.

Species	Country	Collection	Catalogue numbers	No. of specimens	Year of collection
<i>P. microdactylus</i>	Morocco	MNCN	7889-7906	18	? 1889
<i>P. microdactylus</i>	Morocco	MNCN	21265	1	1891
<i>P. microdactylus</i>	Morocco	NMW	11859.2-6	5	1899
<i>P. microdactylus</i>	Morocco	NMW	31081.1-4	4	1899
<i>P. microdactylus</i>	Morocco	MNCN	1902.29	1	1902
<i>P. microdactylus</i>	Morocco	MNHN	1963.29	1	1931
<i>P. microdactylus</i>	Morocco	BEV	4859-4864	5	1964
<i>P. blanci</i>	Algeria	NMW	9342.1	1	1892
<i>P. blanci</i>	Algeria	ZFMK	22522-6	6	1892
<i>P. blanci</i>	Algeria	ZFMK	22527-8	2	1893
<i>P. blanci</i>	Algeria	NMW	9342.2	1	1895
<i>P. blanci</i>	Algeria	FMNH	42824	1	1944
<i>P. blanci</i>	Algeria	ZFMK	49596-7; 49622; 49624-9	9	1988
<i>P. blanci</i>	Morocco	BEV	7883-4	1	1988
<i>P. blanci</i>	Algeria	MNHN	1997.5815-51; 5909; 6460-62; 6465-66	43	1988
<i>P. blanci</i>	Algeria	NMW	31637.1-3	3	1988
<i>P. blanci</i>	Algeria	HLMD	1286-87; 1400-02; 1347-52	11	1988

sites of two recent records published in MATEO et al. (2003) and to point to a so far unreported record from the 1970s. The below records 1 and 2 (first published in MATEO et al. 2003) were both made by JAM.

1 - an adult seen in early April 1997 near "Cromlech de M'Soura" (35.395°N, 5.982°W), in an area with wheat cultivation, patches of *Chamaerops humilis* and scattered *Quercus ilex*.

2 - two adults seen (one caught) in early April 1997 in the forest of Sidi El Yamani (35.365°N, 5.985°W), in an open *Quercus suber* forest on sandy substratum.

The new record refers to a specimen collected in the Middle Atlas by SSS and housed in the Museum of Vertebrate Zoology (MVZ) collections in Berkeley, California where it was registered as *P. blanci* (LATASTE, 1880). Its true identity was suspected by PAC when looking for specimens of the *blanci* - *microdactylus* complex for a revision in preparation. Thanks to the help of M. J. MAHONEY and T. J. PAPPENFUSS, we were able to examine digital pictures of this specimen and confirm its identity as *P. microdactylus*.

3 - MVZ 162580, 16.5 km S of Sefrou on the road to Boulemane (33.703°N,

4.849°W), 4 January 1977, Samuel S. SWEET, found active despite cold wind, on the ground among dolomite outcrops with dead grass and sparse dead forbs.

Including the above records, which fall within the known distribution of the species, there are now 17 Moroccan localities on record in which *P. microdactylus* occurs. Only five of them refer to observations made since the mid-1960s.

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REFERENCES: BONS, J. (1967): Recherches sur la biogéographie et la biologie des amphibiens et des reptiles du Maroc, Ph.D. thesis, Montpellier (Université de Montpellier), 321 pp. BONS, J. & GENIEZ, P. (1996): Amphibiens et reptiles du Maroc (Sahara Occidental compris). Atlas biogéographique. Barcelona (Asociación Herpetológica Española), 320 pp. GALEWSKI, T. (2001): Etude morphométrique des psammadromes endémiques du Maghreb: *Psammadromus blanci* LATASTE, 1880, *Psammadromus microdactylus* BOETTGER, 1881. Unpublished report (rapport de maîtrise), Montpellier (Université Montpellier II), 14 pp. + annexes. GENIEZ, P. & CROCHET, P.-A. & MATEO, J. A. (1993): *Psammadromus microdactylus* is not extinct.- British Herpetol. Soc. Bull., London; 46: 15-18. LEVITON, A. E. & GIBBS, R. H. Jr. & HEAL, E. & DAWSON, C. E. (1985): Standards in herpetology and ichthyology: Part I. Standard symbolic codes for institutional resource collections in herpetology and ichthyology.- Copeia, Chicago; 1985 (3): 802-832. MATEO, J. A. & PLEGUEZUELOS, J. M. & FAHD, S. & GENIEZ, P. &

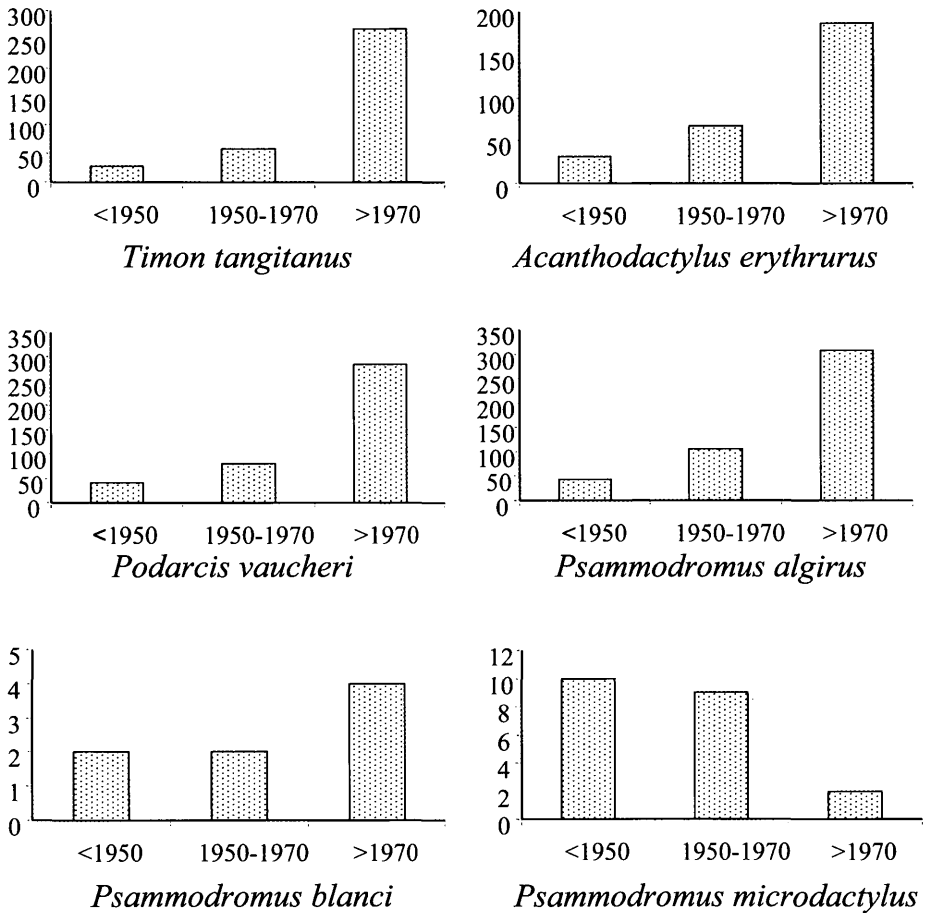


Fig. 1: Number of records of selected lacertid species in each of three time periods (before 1950, between 1950 and 1970, and after 1970) in the database of Moroccan herpetofauna records of the Laboratoire de Biogéographie et Ecologie des Vertébrés (E.P.H.E.), Montpellier. These species were chosen because they share the same general distribution as *Psammodromus microdactylus* (North and Central Morocco, in Mediterranean zones) and have different ecological and behavioural characteristics. Note that for all species except *P. microdactylus*, most records are from after 1970. The other species are *Acanthodactylus erythrurus* (SCHINZ, 1833); *Podarcis vaucheri* (BOULENGER, 1905); *Timon tangitanus* (BOULENGER, 1889); *Psammodromus algirus* (LINNAEUS, 1758); and *Psammodromus blanci* (LATASTE, 1880).

MARTÍNEZ-MEDINA, F. J. (2003): Los anfibios, los reptiles y el Estrecho de Gibraltar. Un ensayo sobre la herpetofauna de Ceuta y su entorno. Ceuta (Instituto de Estudios Ceutíes), 388 pp.

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Moroccan Ocellated Lizard in Western Sahara; answer to an old enigma

In 1955 the zoologist J. A. VALVERDE visited Western Sahara, then still a Spanish colony, and presented his observations later in the book "Aves del Sahara Español" (VALVERDE 1957). The book, basically dedicated to birds, also included quite a lot of information about the reptiles of the area.

One of the more enigmatic statements in the book made reference to lizards of large size and green coloration, repeatedly observed in the north of the region. Because of their similarity to those he had seen in the north of Morocco VALVERDE (1957) assigned these lizards in a provisional way to the species *Lacerta lepida* (DAUDIN, 1802). According to this author, the lizard was seen in several areas in the dry river beds of the Seguiat el Hamra, near to Laayoune (= El Aaiún) and Dchira (= Etchera) (fig. 1), associated with dense vegetation and rocky zones next to the Seguiat. VALVERDE was not able to capture any of these lizards and so there are neither museum specimens nor photographs to confirm his determination.

From then on, there has been continuous speculation about the identity of these saurians. For example, BONS (1967) suggested that, given the marked Macaronesian character of the vegetation in the area, the lizard observed by VALVERDE could correspond to some species related to the lacertids of the Canary Islands, currently assigned to the genus *Gallotia*. Other authors, relying upon the determination proposed by VALVERDE (1957), considered them a representative of the genus *Timon* (see WELCH 1982; LE BERRE 1989; BONS & GENIEZ 1996). Attempts to locate and identify this enigmatic lizard have been numerous and unsuccessful up to now (see for example SCHLEICH et al. 1996; GENIEZ et al. 2000) and ended up considering it a species extinct in Western Sahara (GENIEZ et al. 2004).

In March 2004 one of the authors of the present work (A.S.), carried out a naturalistic trip that included a journey along the Seguiat el Hamra river basin, between the mouth of the dry river and the town of Smara (Western Sahara). In an area of relatively

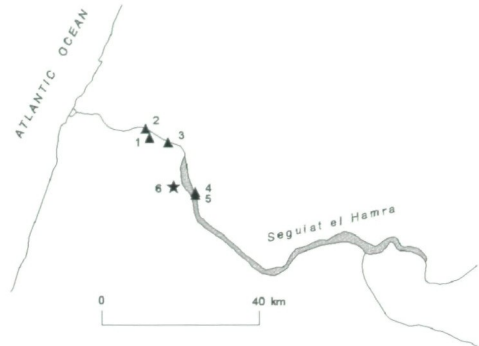


Fig. 1: Records of large green lizards in Western Sahara as mentioned by VALVERDE (1957) [▲ - 1-5] and location where the specimen of *Timon tangitanus* (BOULENGER, 1887) mentioned in the text was captured [★ - 6]. 1 - Graras south-east of Laayoune, 1955; 2 - Laayoune, on the rocky northern edge of the Seguiat el Hamra, May 1955; 3 - Lemseyed, May 23, 1955; 4 and 5 - Dchira, rocky edge of the Seguiat el Hamra, points 1 and 2, May 27, 1955 (all from VALVERDE 1957); 6 - the new station (3 km from Lemseyed (= El Meseied) towards Dchira).

dense vegetation located 3 km from Lemseyed (= El Meseied) towards Dchira (27° 03'N / 13° 07'W, figs. 1, 2), he captured and Eugenia DORTA (Las Palmas de Gran Canaria) photographed a large sized lacertid, which was later released. The individual in question presented a robust head, with well developed masseterics; green and black scales along the back; a dorsal pattern characterised by the presence of not very clear ocelli, closed and aligned in two longitudinal stripes which extended to the border of the pileus; along the flanks blue patches surrounded by black scales were present, the throat was blue; the posterior extremities and the tail had a light brown background coloration, over which some ocelli were scattered (fig. 3).

These morphological characteristics coincide with those of males of the species *Timon tangitanus* (BOULENGER, 1887) (see MATEO 1989; MATEO et al. 1996). *Timon tangitanus* is a taxon whose distribution occupies a good part of the Mediterranean regions of Morocco as well as the mountains of the north-western part of Algeria (fig. 2; MATEO et al. 1996). On occasion it has been found in oases associated with riverbeds the water of which originates in the Atlas mountains and flows down into the desert, such as

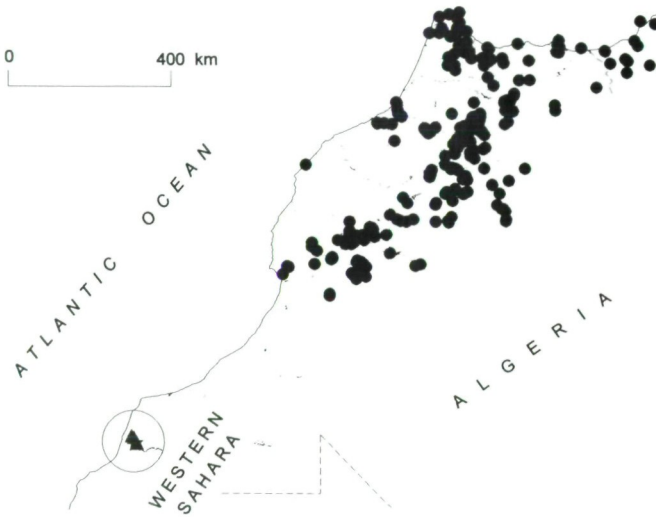


Fig. 2: Geographical distribution of *Timon tangitanus* (BOULENGER, 1887) in Morocco (● - from BONS & GENIEZ 1996) and situation of the place in Western Sahara where the specimens mentioned by VALVERDE (1957) were observed and the specimen captured by the author of the present paper was photographed (▲, encircled area).



Fig. 3: *Timon tangitanus* (BOULENGER, 1887), captured 3 km from Lemseyed towards Dchira (Western Sahara) on March 17, 2004. Photograph by Eugenia DORTA (Las Palmas de Gran Canaria).

those of the Tafilalet or the Draa valley; some isolated populations are also known from higher altitudes in the Saharan Atlas, such as that of the Jbel Ksel (MATEO 1990). However, no population is as isolated as that of the Seguiat el Hamra mentioned above, which is situated 570 km south-west of the nearest neighbour population located in the mountains of the Anti-Atlas, near Irherm (Michel GENIEZ in BONS & GENIEZ 1996).

This presently discontinuous distribution of *T. tangitanus*, is explained by the recent (Holocene) aridification of the region. During this process the Moroccan Ocellated Lizard must be expected to have been present in great parts of the western coastal areas of the Sahara, sharing its territory with species at present considered as Sahelian or sub-Saharan (see GENIEZ et al. 2004). However, this relictual lizard population is probably on the way to extinction because of its apparently small size, its obvious disjunction with the rest of the species, the extreme climatic conditions for lizards of the genus *Timon*, and the current extension of the urbanisation of Laayoune along the Seguiat el Hamra river basin.

REFERENCES: BONS, J. (1967): Recherches sur la biogéographie et la biologie des amphibiens et les reptiles du Maroc. Montpellier. Thèse de l'Université de Montpellier, 321 pp. BONS, J. & GENIEZ, PH. (1996): Amphibiens et reptiles du Maroc (Sahara Occidental compris). Barcelona (Asociación Herpetológica Española), 320 pp. GENIEZ, PH. & MATEO, J. A. & BONS, J. (2000): Checklist of the amphibians and reptiles of Western Sahara.- Herpetozoa, Wien; 13: 149-163. GENIEZ, PH. & MATEO, J. A. & GENIEZ, M. & PETHER, J. (2004): The amphibians and reptiles of the Western Sahara. Frankfurt am Main (Chimaira), 229 pp. LE BERRE, M. (1989): Faune du Sahara. I. Poissons-Amphibiens-Reptiles. Paris (Lechevalier-R. Chabaud), 332 pp. MATEO, J. A. (1990): Taxonomy and evolution of the North African ocellated lizard, *Lacerta pater* (LATASTE, 1880) (Sauria: Lacertidae).- Bonner Zool. Beitr., Bonn; 41: 203-212. MATEO, J. A. (1990): Distribution du lézard ocellé africain, *Lacerta pater* (LATASTE, 1880); caractéristiques biogéographiques et systématiques.- Bull. Ins. Sci. Rabat, Rabat; 14: 55-60. MATEO, J. A. & LÓPEZ JURADO, L. F. & GUILLAUME, C. P. (1996): Variabilité électrophorétique et morphologique des lézards ocellés (Lacertidae): un complexe d'espèces de part et d'autre du détroit de Gibraltar.- Comptes rendus Acad. Sci., Paris; 319: 737-746. SCHLEICH, H. H. & KÄSTLE, W. & KABISCH, K. (1996): Amphibians and reptiles of North Africa. Koenigstein (Koeltz Scientific Books), 630 pp. VALVERDE, J. A. (1957): Aves del Sahara Español. Madrid (IDEA), 487 pp. WELCH, K. R. G. (1982): Herpetology of Africa: a checklist and bibliography of the orders Amphisbaenia, Sauria and Serpentes. Malabar (R.E. Krieger Pub. Co.), 293 pp.

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Records of *Testudo graeca iberica* PALLAS, 1814 in Serbia and Montenegro

The herpetofauna of Serbia consists of both Mediterranean and Middle European elements (DŽUKIĆ 1995) with the main area of Mediterranean impact being Metohia (western part of the province of Kosovo), where climatic influences from the Adriatic Sea extend along the Drim River valley (PASULJEVIĆ 1968; DŽUKIĆ & PASULJEVIĆ 1979; AJTIĆ & TOMOVIĆ 2001), and the southernmost part of Serbia (i. e. Pčinja River valley). Pčinja River is a tributary of the Vardar River – which is a well known northward corridor for Mediterranean species (MATVEJEV 1961; RADOVANOVIĆ 1964; MATVEJEV & PUNCER 1989). The occurrence of various Mediterranean elements has been confirmed for great parts of the Republic of Macedonia in the immediate south of Serbia: *Testudo graeca* LINNAEUS, 1758, *Cyrtodactylus kotschy* (STEINDACHNER, 1870), *Algyroides nigropunctatus* (DUMÉNIL & BIBRON, 1839), *Lacerta trilineata* BEDRIAGA, 1886, *Podarcis erhardii* (BEDRIAGA, 1882), *Pseudopus apodus* PALLAS, 1775, *Typhlops vermicularis* MERREM, 1820, *Eryx jaculus* (LINNAEUS, 1758), *Coluber (Platyceps) najadum* (EICHWALD, 1831), *C. caspius* GME-LIN, 1789, *Elaphe situla* (LINNAEUS, 1758), *E. quatuorlineata* (LACÉPÈDE, 1789), *Malpolon monspessulanus* (HERMANN, 1804), *Telescopus fallax* (FLEISCHMANN, 1831) (KARAMAN 1931, 1939; RADOVANOVIĆ 1951; DIMOVSKI 1963, 1966; DŽUKIĆ 1972; BRELIH & DŽUKIĆ 1974). The presence of *P. erhardii* and *C. najadum* in the Pčinja River valley (DŽUKIĆ 1995; CRNOBRNJA-ISAILOVIĆ & ALEKSIĆ 1999) is further evidence that