Trip Report

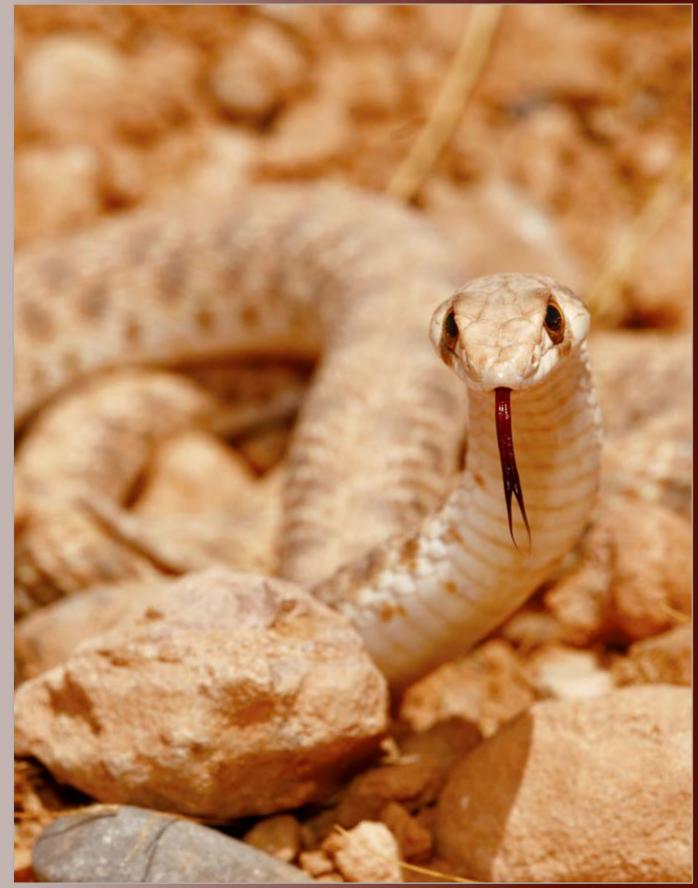


Amateur herpetologist and photographer Marco Sassoe explores a variety of desert habitats in his successful quest for Northern African reptile life





An example of the beautiful lunar landscape of the rugged Anti-Atlas mountains. On the previous page, a stunning Moroccan spiny-tailed lizards *Uromastyx nigriventris* in a pebble desert landscape. Sadly, large numbers of these amazing lizards are captured to be sold to tourists or to be used as food or as a talisman.



Moila snake Rhagerhis moilensis
Previously ascribed to the genus Malpolon, the Moila snake Rhagerhis moilensis is a typical inhabitant of the Saharan regions.

TEXT AND PHOTOS
BY MARCO SASSOE

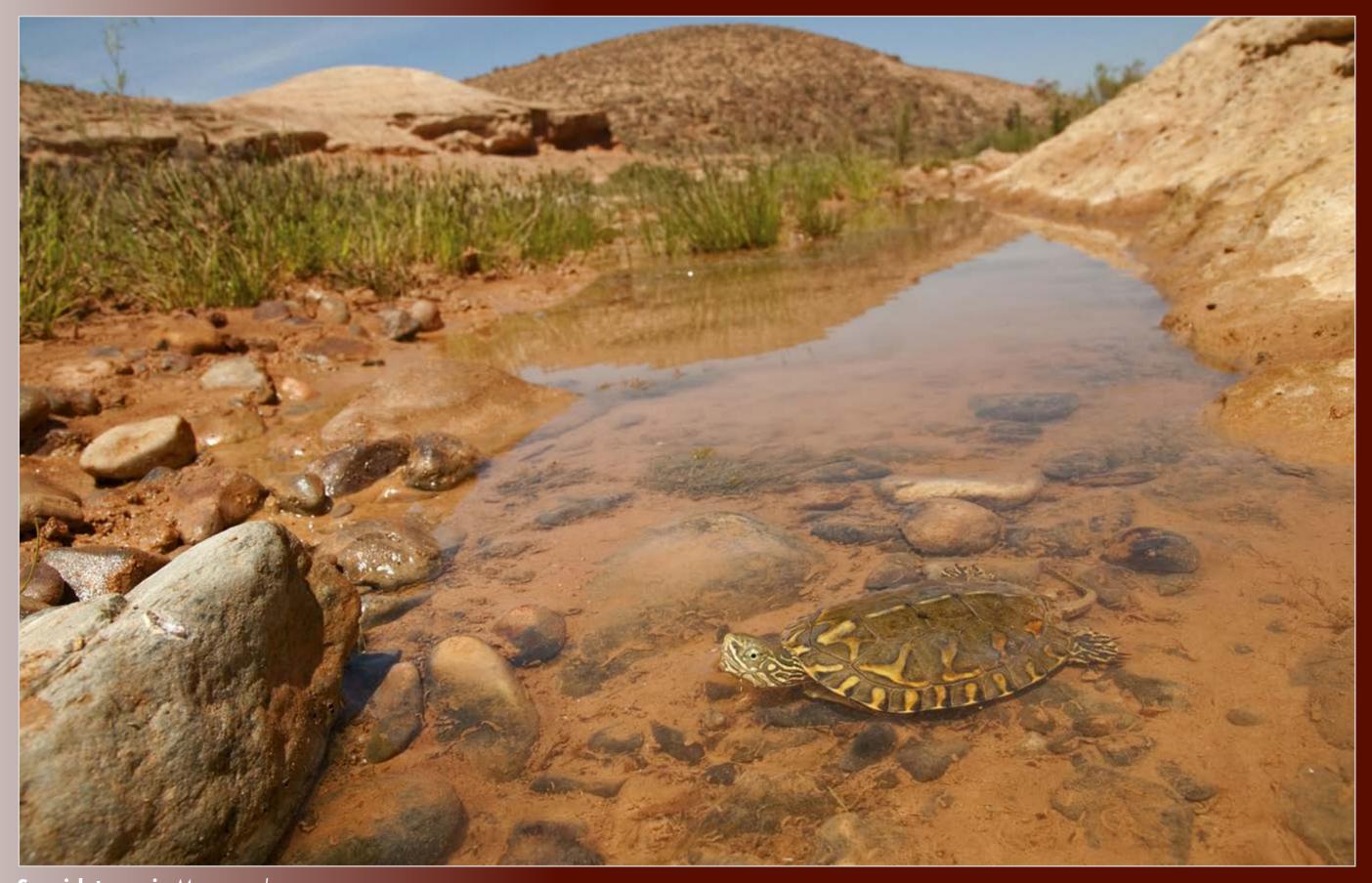
he air temperature is 45° C, so the idea of finding some rescue from the oppressive heat down in a water cistern is alluring after all. My face is dripping with sweat as I climb down the rope ladder that swings below my feet. As I reach the bottom several meters below, I spot two horseshoe whip snakes Hemorrhois hippocrepis on small patch of ground emerging from the muddy water that dampens the base of the pit. Similarly, an Algerian orange-tailed skink Eumeces algeriensis rests on a sandy islet in one corner of the cistern. Scorpions and other arthropods are floating dead, while a green toad Bufotes boulengeri looks for shelter under a plastic can as I approach. I grab the snakes, the skink and the toad, secure them in a cloth bag, and start climbing out of the well, back into the glaring sun.

Common sense would advise against entering water holes in the desert, only to find oneself surrounded by snakes, toads, scorpions, and other potentially dangerous creatures. However, what laypeople would probably consider as a most horrible nightmare turned out to be a highly effective way to discover reptiles and amphibians during a summer trip to Morocco and Western Sahara.

On a day of August, 2013, I met Gabriel Martínez del Mármol Marin and Baudilio Rebollo Fernández at the Menara airport in Marrakech. I had never seen them before in real life, and I did not know what to expect for the next two weeks that we had planned to spend herping throughout Morocco. I soon realized that ahead of us was a frantic race across the country, that would take us from the extreme heat of the barren Western Sahara desert to the verdant mountain prairies of the Middle and High Atlas.

August may not be the best time of the year for herping in North Africa. Daytime temperatures are extreme and even at night they often remain very high. With such weather conditions, that are prevalent in the

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Spanish terrapin Mauremys leprosa
The Spanish terrapin Mauremys leprosa has a wide distribution in Morocco, being found in different bioclimatic domains, including the Saharan zones.
This specimen, belonging to the subspecies saharica, was photographed in the oued Noun near Bou Jerif.





Algerian whip snake Hemorrhois algirus intermedius
The Algerian whip snake Hemorrhois algirus intermedius is an elegant colubrid of the Saharian biotope whose taxonomic status is still uncertain.



Mountain viper Vipera monticola
The smallest Vipera, although its taxonomic relation to V. latasti is still unclear.
Endemic to Morocco and a palearctic relict strictly associated with montane habitats.

deserted regions east of the Atlas mountains, reptile activity is generally limited, and the usual searching methods are not very effective. August is not particularly good for photography either, as light is too harsh during most of the day. Despite these conditions, we were rewarded with some notable findings, due to a combination of meticulous planning, almost incessant exploration and, certainly, some luck!

INTO THE DESERT PITS

The Moroccan desert is dotted with pits, water storage tanks and other rain catchment systems. These builds are a basic solution to face water scarcity, but unfortunately they also constitute formidable traps for many animal species. Once a reptile, a small mammal or an arthropod enters or falls into a water hole, it cannot come out again and faces a period of confinement and fasting. Exploring water holes in the dry season is therefore an efficient way to find reptiles and other elusive creatures, with the added bonus that the entrapped animals can be rescued from an almost certain death.

During their many previous trips to Morocco, Budi and Gabriel had recorded the GPS coordinates of a large number of water tanks, that we investigated systematically during daytime as well as at night, often driving for hundreds of kilometers in a single day. These cisterns can be examined with a powerful torch to assess the presence of any species of interest, in which case a rescue strategy has to be put in place. Some of the most modern cisterns, made of concrete, can be entered easily through metal rungs cemented into one of the walls. In the majority of cases, however, the wells must be climbed down (and then up again!) using a rope or a rudimentary folding ladder. In this case, it is advisable to place any venomous snake in a plastic jar or any other rigid container to avoid a bite during the climbing operation. Many water tanks are bordered by a decantation pit that can be large enough to entrap a small animal or even a large snake. These pits are not protected from the excess heat, therefore animals that fall inside will succumb quite rapidly. It was in a decantation pit near Tan Tan that we found an adult Egyptian cobra





Sidi
The Euphorbia-rich vegetation typical of the Atlantic coast south of Agadir.



Ocellated skink Chalcides ocellatus

One of fifteen species of the genus Chalcides occurring in Morocco, with a huge distribution extending from Western Sahara to Pakistan through Southern Europe.

Naja haje. The snake had been killed shortly before, as demonstrated by the multiple lesions on its body, likely caused by rocks. There lay at our feet one of the most majestic reptiles of Morocco, a snake that we had wished to find alive in a different context.

During the first day of our trip, I learned the potentials of this herping technique (that I am going to call "pit-herping"), as in a relatively short time we discovered five species of snakes, including a much soughtafter Moorish viper Daboia mauritanica. I also soon came to appreciate that my new friends were just the best guides I could wish for that trip: they knew where individual species live, and especially they knew how to find them! Pit-herping can be quite unpredictable though. On a particularly hot day, we drove for several hundred kilometers in the Western Sahara, south to Smara and then west to Laayoune. I was fascinated by the extreme desert that extended almost endlessly ahead of us, still just a small taste of the immensity of the

Sahara. Herds of dromedaries crossed the road from time to time, adding a touch of exotic charm to the surreal landscape. We stopped to check two large water tanks located on each side of the road. While Budi and I were exploring quite disappointingly one cistern, in which we only observed a few black scorpions Androctonus mauritanicus, Gabriel was rewarded by the finding of two sand vipers Cerastes vipera and a large horned viper Cerastes cerastes in the other, not-so-far place. The water tank also offered a sheltered setting in which we could photograph the snakes, as these small animals would have rapidly succumbed to the outside heath.

I need to say at this point that pit-herping can be a dangerous practice. Some of the wells are precarious constructions that could collapse with dramatic consequences if stepped upon or during an exploration. I remember climbing down a pit in which I rescued a large diadem snake Spalerosophis dolichospilus with some



Desert horned viper Cerastes cerastes
The desert horned viper can be found in a variety of pre-Saharan and Saharan habitats.
This specimen was found at night in the old palmeraie visible in the background.

apprehension, as I watched the unstable assembly of rocks and wood sticks creaking above my head. Also, some of the pits are not obvious at all, sometimes being just deep (very deep!) holes that open at ground level, which calls for extreme caution when hiking in the Moroccan countryside, especially at night.

Another drawback of pit-herping is that as this kind of activity will become more popular the chances of finding live animals inside the water tanks will decrease considerably, with the inherent risk of transforming the search in a sort of race among herpers! On the other hand, an increased number of pit explorers would be beneficial for the animals, provided that the rescued specimens are promptly released in suitable habitat.

NIGHT ENCOUNTERS

Pit-herping can be done at any time, even when other searching methods are ineffective, but obviously this technique is not as gratifying as finding the animals in their natural environment. Fortunately, we also had the opportunity to visit different types of habitat, including rocky and sandy desert, coastal dunes, palm plantations, wet areas, and a variety of hill and mountain

environments. I have particularly good memories of two Cerastes cerastes that we found hiking at night. In one case, we visited a palmeraie near Agdz. It was a calm night, with ideal weather conditions, and we walked along ruined buildings and mud walls, at the base of which scorpions waited in ambush for their prey. Despite some geckos (Saurodactylus brosseti, Tarentola boehmei, Ptyodactylus oudrii), we did not observe any reptile for quite a long time time, but eventually I was lucky to bump into a horned viper right inside the old kasbah. The other Cerastes was found while visiting sand dunes near Erfoud on a slightly windy night. The viper was partly buried in sand, with only the head and neck exposed, perfectly camouflaged among the reddish sand. We took photographs of the beautiful snake in situ, before it was startled and tried to escape by side-winding.

MONSIEUR, LA PROCHAINE FOIS NOUS CHERCHONS!

No trip to Morocco would be complete without a close interaction with local people. This is something very difficult to avoid in any case, as Moroccans are widely distributed across the entire



Sand racer Psammophis schockari

The sand racer *Psammophis schockari* is a diurnal opistoglyphous snake distributed throughout the country with three distinct color phases. This specimen with a uniform pattern comes from a coastal area near Tan Tan.

country, and have a curious attitude toward visitors and a great tradition for hospitality. As many of the wells we visited were located close to human settlements, we were frequently approached (at any time of the day and night!) by folks who were interested in what we were doing. Most of the times, these people acted in a friendly way and offered their help in guiding us to explore the territory. Perhaps the most enjoyable episode happened in a village close to Tiznit, where we rescued a sick horseshoe whip snake from a large water tank, attracting the curiosity of a small group. Like most of the people we met in our trip, those individuals were horrified by any snake, and we had to insist quite a lot before some of them dared to touch the harmless serpent. Among those, a young man seemed particularly excited and insisted in showing us more and more pits, taking part with great eagerness to our search. When we eventually decided to leave, he asked me over and over again to come back and spend more time looking for snakes! I can't forget his graceful smile as he invited me one last time: "Monsieur, la prochaine fois nous cherchons!"

Viperine snake Natrix maura

A very common snake in Morocco found almost everywhere water is present, permanently or seasonally. This one was found in the High Atlas at 2600 m.





Moila snake Rhagerhis moilensis If threatened, this rear-fanged snake spreads its neck into a hood, hissing and striking repeatedly, for which reason it is also known as the false cobra.

BACK TO MOROCCO

In the Spring of 2014 I am again in Morocco, this time with Greg Meyer and Johan De Smedt. Morocco seems to be a busy destination for European herpetologists, as we meet there Konrad Mebert and Maya, and we decide to join our efforts in the search of the elusive critters. The extreme heat of the previous summer is long gone, and as we start our trip near Casablanca I find myself wandering among lush vegetation, hit by the delicate scent of spontaneous aromatic herbs and graceful flowers. No trip to Morocco can be boring, and in the following days we go through several incidents, that fortunately only add to our good temperament and humor: a kitten found under the car hood (safely transported

to an animal rescue center), a broken car door latch (promptly fixed with a strong webbing), a bite on my nose by a horseshoe whip snake (certainly the most hilarious moment of the trip), the inevitable traffic tickets...

As we spend many hours hiking, quite unproductively, in different habitats, we are forced to reflect on the elusive nature of snakes, and the strategies they have evolved to survive in spite of the threats posed by humans. Morocco is a land of high contrasts, where animals and people subsist in a delicate balance within a harsh, but magnificent environment. "We are lucky to be part of this beauty" I think, as I observe tracks left by small animals on the sandy desert floor.



Mograbin diadem snake Spalerosophis dolichospilus Considered by many as the most beautiful snake of the Maghreb, a fast and active colubrid frequently encountered in the arid pre-Saharian regions of the East and South.





Agadir
Overgrazing and overexploitation of argan trees Argania spinosa near Agadir results in topsoil loss, exposing the beautifully-colored substrate to erosion and desertification.

Bibron's agama Agama impalearis A female agama Agama impalearis showing the typical coloration.





Morocco lizard-fingered gecko Saurodactylus brosseti With twenty known species belonging to three different families, Morocco has an extraordinary variety of geckos.



Merzouga
Climbing sand dunes is a great way to immerse yourself in the beauty
and immensity of the Sahara desert.





Moorish viper Daboia mauritanica
A large venomous snake with a length of over 1.5 meters / 5 feet. Widespread in Morocco and the Maghreb, but heavily persecuted and not often encountered.

Desert horned viper Cerastes cerastes
One of the icons of North African deserts. Supraocular "horns" are a distinctive character, although hornless individuals occur. Found at night in the vicinity of Erfoud.





Desert monitor Varanus griseus
The remarkable Desert monitor Varanus griseus can attain a length of 1.4 meters. In Morocco it is widely distributed in the Saharan region, where it is never abundant. Despite being protected, Desert monitors are illegally captured and used for the preparation of folk remedies and for the pet trade.

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Mauritanian toad Amietophrynus mauritanicus An adaptable species found in a variety of habitats. This large toad is identified by a dorsal pattern of reddish-brown blotches bordered with black.





Helmeted gecko Tarentola chazaliae Endemic to a narrow strip along the Atlantic coast of Western North Africa, mainly in sand dune habitat. Emits chirping sounds when captured by hand.

Dune gecko Stenodactylus petrii Morocco has an extraordinary variety of geckos, with several endemic species and many others found in other regions.





Algerian skink Eumeces algeriensis
Commonly found throughout Morocco. This large skink is beautifully
decorated with orange, black and white dots that cross its back.





Horseshoe whip snake Hemorrhois hippocrepis
The beautiful Horseshoe whip snake is an active colubrid that may attain a length of 1.5 meters / 5 feet. It is one of the commonest snakes in Morocco, widespread in the Mediterranean domain as well as in the South of the country along the Atlantic coast, where it is found in sympatry with the closely related Hemorrhois algirus.

Sahara sand viper Cerastes vipera
A highly specialized species restricted to the sand dune habitat of the great
Erg on the border with Algeria and the littoral dunes along the Atlantic coast.





Moroccan spiny-tailed lizard Uromastyx nigriventris
A large agamid found in the Saharan regions East and South of the Atlas.
Adults often display a striking yellow-green or orange on a black background.

Desert wall gecko Tarentola deserti With twenty known species belonging to three different families, Morocco has an extraordinary variety of geckos.





North African ocellated lizard Timon tangitanus A subadult of the colorful North African ocellated lizard Timon tangitanus from the Middle Atlas.





Common chameleon Chamaeleo chamaeleon
The only representative of Chamaeleonidae in Morocco, the common chameleon Chamaeleo chamaeleon is widely distributed, being found from sea level to 1800 m in the High Atlas. This specimen was photographed near the old Fort of Bou-Jerif.