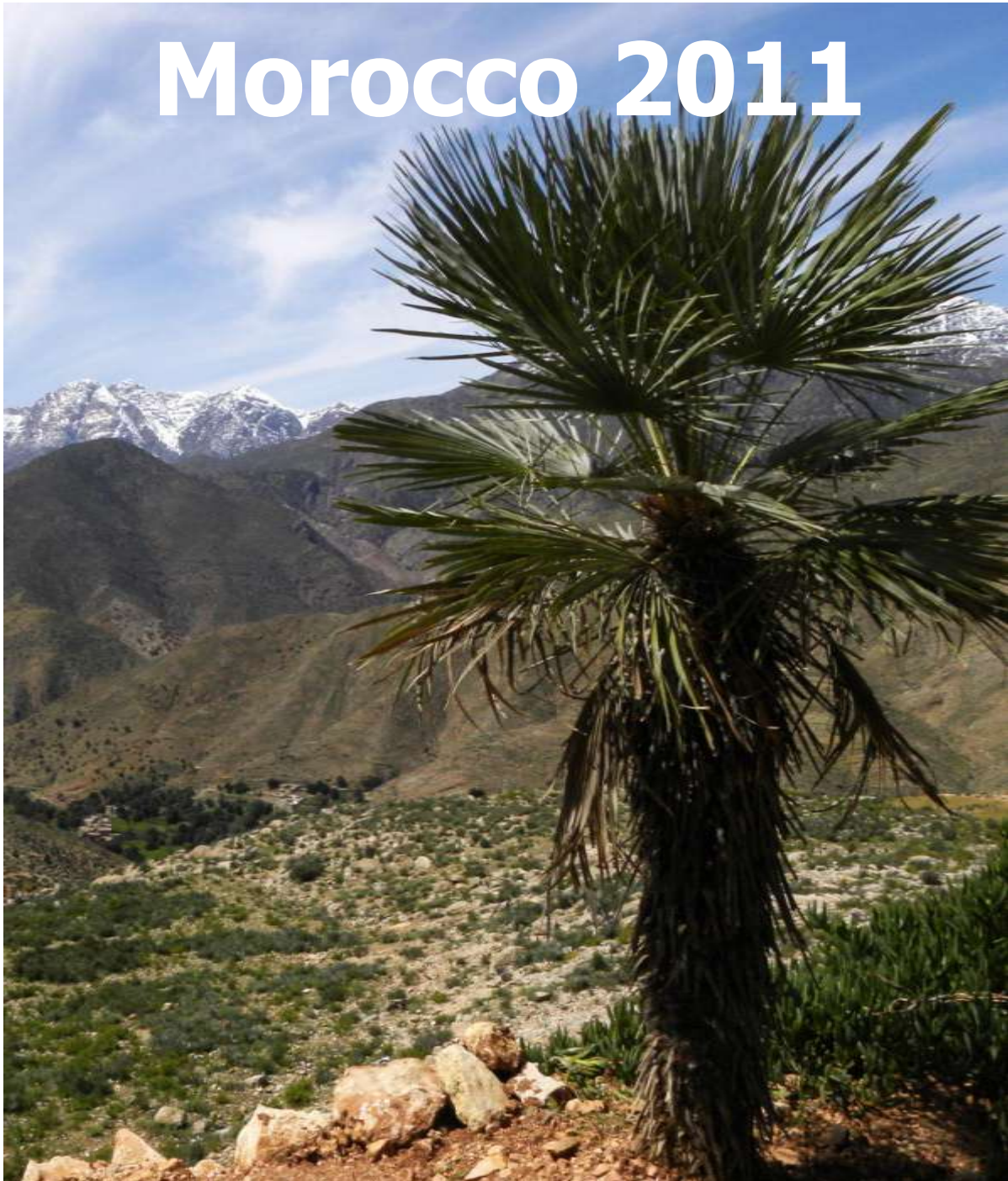


WILDLIFE TRAVEL

Morocco 2011



Leader
Charlie Rugeroni: Wareham, Dorset



The trip was described as an introduction to Moroccan natural history and culture – and what an introduction it proved to be.

Our home range and territory for the week was the traditionally built eco-lodge, the Atlas Kasbah (*opposite*) and gardens. The owners, Hassan and Helene, and their superb staff made us feel incredibly welcome and met all our needs, from keeping our tipples cold in the kitchen fridge, to providing a diverse food supply in our lunchboxes. The terracotta walls of the hill-top Kasbah were always a welcome sight (for some more than others – i.e. members of the ‘swimming pool party’), as we approached our very own oasis at the end of our day trips.



Day 1 Wed 23 March: Flight to Agadir and transfer to the Atlas Kasbah

Eventually, after extracting our dirhams from the Al-Massira Airport bureau de change, we were on our way and driving past the massive enclosure housing Houbara Bustards, part of the conservation programme part-funded by HRH Prince Sultan bin Abdul Aziz Al Saud, the Crown Prince of the Kingdom of Saudi Arabia. These magnificent birds are bred here and released into the wild in southern Morocco to reinforce natural populations. We headed for the Kasbah in what proved to be, during the length of our stay, the very capable driving hands of Mohammed, our driver from Back2Back Tours. On the terrace we were greeted by Helene and a welcoming glass of Basil (*Ocimum basilicum*) Tea, served by M'Bark. Helene explained the medicinal uses of basil: good for nervous system fatigue, insomnia, chronic gastritis... was she privy to something about our week ahead? Fortified by the drink we headed for the restaurant and a wonderful lunch and exquisite dessert. The afternoon was left free for group members to acclimatise to their surroundings and explore the local countryside overlooked by the Kasbah and colonised by the seemingly ubiquitous Argan tree (*Argania spinosa*). At supper we learned the, hard to take news, that this was an alcohol free zone but were reassured by promises of a visit to the local mega ‘cash and carry’ store within the next 48hrs.

Day 2 Thur 24 March: Kasbah gardens and walk to local village of Tighanimine



The plaintive call of the hotel's fearless House Buntings (*Emberiza sahari* – *below right*) ushered us to breakfast. Everyone had slept well apart from Charlie, who'd been woken up by the calls of lovesick courting Stone Curlews (*Burhinus oedichnemos*), a repeated ‘kurr-ee darling’. At a briefing, après le grand déjeuner, we learnt of our itinerary for the week and appreciated why this area had been chosen by Wildlife Travel. Here on the south western slopes of the High Atlas we had access to a diverse and interesting flora and wildlife generally. The mix of Alpine, Coastal and Semi-Desert habitats, were sprinkled with



western Mediterranean, North African and Macaronesian influences. Over the next few days we were likely to encounter endemic plant species and others that would contribute to the character and special distinctiveness of this area. Hassan led us through the Kasbah garden until he was called away to do an interview and Helene kindly stepped in and continued with the explanation of the Atlas Kasbah philosophy and what they were trying to achieve with the sustainably-built hotel and their work with the local Berber community. Some of the plants spotted in the top garden included: *Acalypha*; *Phytolacca* (Pokeweed); Canary Island marguerite seen here in its pink and its yellow forms; Cotton plant; *Plumbago*; *Gazania*; Henbane (*Hyoscyamus niger*). The slopes of the lower garden provided our first encounters with some of trip's specialities, like *Cladanthus arabicus* (*below right*), which was to become a loyal friend seen in most of the places we visited. This North African annual produces masses of large, scented, orange flowers in a mound of fragrant, feathery foliage; a superb

plant which could grace any front of border at home. Another superb plant here was *Crupina crupinastrum*; thistle-like plants, similar to knapweed, with bright violet/pink flower heads. Two resedas, *Reseda lutea* and *R. alba* were also showing well in the gardens as was *Glebionus carinatum* (left) growing beneath an endemic Argan tree, providing much the only shade in the garden.

Hassan had explained how in Morocco *arganeraie* forests now covered some 8,000 km² and were designated as a UNESCO



biosphere Reserve. Their area had shrunk by some 50% over the last 100 years, owing to charcoal-making, grazing, and increasingly intensive cultivation. The best hope for the conservation of the trees lay in the recent development of a thriving export market for argan oil, a high-value product; we would be visiting an argan oil co-operative later in the week.



The Argan tree, very much a relictual species, had found a favourable niche in this area close to the sea, with its warmer temperatures. Its insignificant looking flowers provided nectar to many flies and bees, many of which were seen feeding on them and also on the white flowers of the *Myoporum tenuifolium* hedge planted to act as an evergreen wind break along the northern and southern boundaries of the garden. The bee hives in the garden were constructed in the traditional style, using cane, and mud, with a tiny opening at one end. The peacocks were not the only birds seen but were certainly among the brightest coloured. All the while, during our wander in the gardens, we were treated to the loud, obtrusive calls of the Common Bulbul, *Pycnonotus barbatus* (known colloquially within the group as: Abdul the Bulbul). Its stumbling explosive series of sounds making it, more often than not, a heard but not seen bird. Laughing Doves, Crested Larks, Hoopoes and Woodchat Shrikes adding to the bird list. Perhaps the bird of the day proved to be the Moussier's Redstart (*Phoenicurus moussieri*), endemic to NW Africa, with its rich brick orange coloration mimicking the walls of the Kasbah. Swallows and swifts circled above while migrating flocks of Bee-eaters (*Merops apiaster*) passing high overhead revealed themselves with their liquid and pleasant-sounding calls.



After lunch we ventured out of the garden and began our foray into the neighbouring hinterland. Here we came across a decent variety of new plants, of perennials and colourful annuals, featuring prominently along the field edges and rocky verges along the road to Tighanimine. Just outside the Kasbah gates we stumbled onto *Periploca angustifolia* an interesting coastal shrub of Morocco and Spain; it had rather fleshy narrow leaves, horn-like fruits and wine-red and green stellate flowers with an unusual morphology. As we walked towards the village squadrons of migrating dragonflies accompanied our every step, as did Brimstones, Moroccan Orange-tip and Painted Lady butterflies. The roadsides proved to be good (though heavily grazed) habitat for: *Ononis natrix*, *Asphodelus aestivus* and *A. fistulosus*, *Plantago albicans* and *P. lagopus*, the tiny but rather enchanting grass *Lamarckia aurea*, *Fagonia cretica*, *Fumaria agraria*, *Ajuga iva* (yellow flowered), *Emex spinosa*, *Echium creticum*, *Astragalus sp.* and that ubiquitous bully, *Nicotiana glauca*. We walked past Tighanimine's new cemetery and craning our necks over the wall we spotted small stands of *Limonium sinuatum* alongside the blue violet flowers of *Lavandula multifida* held above its foliage. The slope just opposite the cemetery

walls was dominated by medium sized shrubs of *Withania somnifera* and in between these we caught

sight of the basal leaves of the autumn-flowering *Androcymbium gramineum* and the small, midday flowering Barbary Nut, *Gynandris sisyrinchium*, (*above*) missed earlier that morning. Tucked away in the rocky face, as if floating on thread-like stalks, we witnessed a *Kickxia* (yellow flowered).

The walk took us through the village, across a dry river bed, where frogs announced their presence in several shallow pools, and up onto the hillside opposite. From here we admired a very typical Moroccan scene (*below*)



Day 3 Fri 25 March: Oued Sous and Sous Massa National Park

The day started superbly. As soon as we left the rural landscape behind us and entered a quiet road on the outskirts of a new suburb development, the leader and guide shrieked with delight, which surprised Mohammed no end, causing him to perform an emergency stop. We'd spotted a pair of Stone Curlews (*Burhinus oedicanus*) flying low and landing on the central reservation just 100m away. We managed to get within 50m of the birds and enjoyed good views of this oddity among birds with its big head and eyes, often motionless posture, producing reptilian associations. This bode well for the rest of the day. We headed west in high spirits, towards Agadir and then south to the mudflats at the mouth of Oued Sous. We stopped opposite the entrance to the Agadir golf-course where the King Hassan II Golf Tournament was in full swing. The tide was out and although there were few birds in the river, we managed good views of shy and difficult to observe, pale Marbled Ducks (*Marmaronetta angustirostris*). Egrets, Black-winged stilts, Grey Herons and Yellow-legged Gulls being among the other birds spotted.

Some intrepid group members mounted a nearby camel before joining the rest of us on a brief recce along the banks of the Sous. A startlingly loud burst of a call, like a stuttering engine came from a Sardinian Warbler (*Sylvia melanocephala*) hidden amongst the *Suaeda maritima*. This was followed by an equally sudden exclamation from Edna – she'd found our first group of *Cynomorium coccineum* (*below left*). Belonging to a primarily tropical family (Balanophoraceae) of parasitic plants, their sombre appearance belied the beauty of its tiny blood red flowers. It's a rare and local species, lacking chlorophyll and with scale like leaves below ground, where it parasitizes various plants in saline habitats.

Among members of the sea beets and the samphires we came across *Mesembryanthemum crystallinum*, *Erodium*, and a Spur-thighed or Greek tortoise (could it have been the subspecies, *Testudo graeca soussensis*?) trying to make a 'quick' getaway before it was unceremoniously picked up for closer observation.



The river harboured some Oystercatchers, Black-tailed Godwits and Ringed Plovers – but no Flamingos. However, just as we were making our way back, a long way off we saw some unmistakable Spoonbills flying with necks outstretched.

From here we drove through Ait Melloul, a long, linear town with typical avenues of arcades, housing shops and bars of all descriptions, on our way to the Sous Massa and the National Park. It was from Ait Melloul in November 1975 that the Green March, organised by King Hassan II, set off with 350,000 Moroccans, unarmed, towards Western Sahara, calling for the return of the 'Moroccan Sahara' from Spain. The dispute over sovereignty continues. This whole area, covering the Chtouka plain, is well known for its tomatoes, turnips and carrots – 90% of Morocco's tomatoes come from here. French, Dutch and Spanish agricultural companies are now investing in this fertile area yet the lack of water remains a real issue. As we approached the village of Massa we spotted several Little Owls (*Athene noctua*) on the many stone walls demarcating the field boundaries.

We strolled along some allotments, created on the floodplain of the Oued Massa. Here we caught sight of a fine example of Joint Pine, *Ephedra fragilis*, in flower, with its green rush-like stems weeping over other plants nearby. Good views of Moussier's Redstart, Stonechats and Little Grebes; an arrow of turquoise-blue flashed by indicating we'd glimpsed a Kingfisher speeding by. A very obliging Moroccan Cormorant (*Phalacrocorax carbo maroccanus*) allowed us to approach it, close enough for a half decent shot. Other birds seen were Squacco Heron, Coots, and good numbers of Marbled Ducks, Glossy Ibis, and Yellow Wagtail.

The river bank held several new plants for us: *Lupinus varius* (syn. *sonsentinii*), *Frankenia thymifolia*, *Atriplex* sp, *Medicago sativa* and *Linaria* sp. Lunch beckoned when I caught sight of some group members grazing on samphire. Lunch was eaten under the dappled shade of Eucalyptus trees, housing warbling chaffinch and tit parties, and sat on top-foamed concrete ready for trench reinstatement!

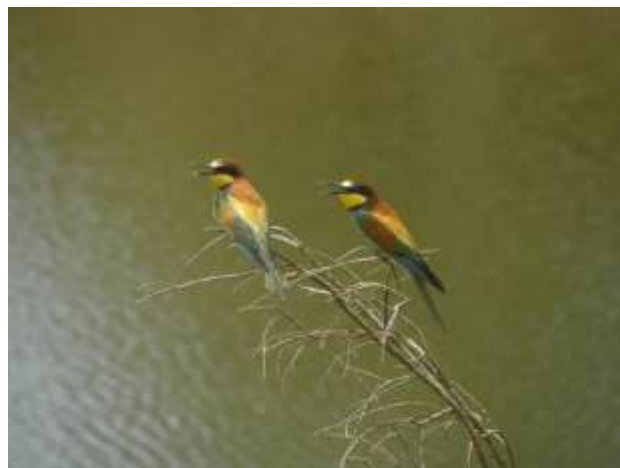


As we approached the Park entrance, Said, our guide, spied an Agama (*Agama impalearis*) on some piping and it was shortly after this that we stopped and scrambled up a slope which proved to be superb for 'botanising'. We kicked off with the beautifully architectural *Euphorbia officinarum* and *E. officinarum* ssp *echinus* (below), then a *Teucrium* (similar to *T. polium* - pink flowered) and the *Adonis annua*. The shrub-like endemic of southern Morocco *Warionia saharae*, with its recognisably strong, acrid smelling leaves, a little stunted here suffering from the sheep grazing; its bold yellow flowers standing proud from the surrounding vegetation. Other wonderful plants seen here included: *Orobanche sanguinea*, *Lavandula multifida*, *Ephedra fragilis* (source of the drug ephedrine), the skulking *Striga gesnerioides* (parasite of *Euphorbia officinarum*), *Frankenia laevis* and *F. thymifolia*, *Fagonia cretica*, *Mathiola tricuspidata*, and *Haplohyllum* aff. *linifolium* (yellow flowered, similar to Rue).

From this vantage point we could scan the Oued Massa as it skirted the coastal hills looking for a way out to the Atlantic; its rich alluvial floodplains providing ideal growing conditions. After an hour or so here, we hopped back onto the minibus and drove a short way down stopping every few metres to admire the wonderfully



managed to coo it into view.



exotic Bee-eaters, which were nesting on the cliffs adjoin the track. Stopping opposite some allotments growing, among other things, Alfalfa (*Medicago sativa*), we thought we glimpsed the colourful Black-crowned Tchagra (*Tchagra senegala*). Said, keen to tempt it into sight by imitating its fluty call,



The setting here was beautiful – allotments on our right, backed by sandy cliffs, with the towering *Phoenix canariensis* overlooking the Oued Massa on our left, and butterflies nectaring on the Alfalfa. It was low tide and whilst birds were few, Little egrets (*Egretta garzetta*) and Greenshanks (*Tringa nebularia*) made an appearance as did Woodchat shrikes (*Lanius senator*) on the Tamarisk trees bordering the river. There were a number of small houses attached to the allotments with one smothered in Pink Trumpet Vine (*Podranea ricasoliana*). At 16.45 we left this serene scene and headed back to our Kasbah, on the way back we hit traffic - the well known 5.00 o'clock veg vans of the Chtouka Plain (below right).

Little did we realise that we'd be getting a right Berber welcome on our return to the Kasbah. Local Berber dancers, musicians and singers combined to entertain us during our pre-prandial drinks – Heather, thoroughly enjoying it like the rest of us, took it that step further (*below*).



Day 4 Sat 26 March: The Atlantic coast, Tamri and Cap Rhir

Today we set off north along the N1 coastal road and headed for Tamri, negotiating European camper vans moving in the opposite direction - they hunt in packs! 3 kilometres north of present day Agadir we

saw evidence of the old town which was hit by an earthquake in 1960, Morocco's most destructive quake. We skirted the Atlantic coast, well known for its communities of succulent euphorbias like *Euphorbia officinarum*, mixed with shrubs such as *Lavandula dentata*, the Lentisc (*Pistacia lentiscus*), the endemic *Lavandula maroccana* and splashes of purple sea lavender *Limonium sinuatum*, interspersed with another endemic the rather special *Warionia saharae* (*below left*). The genus *Warionia*, with its only species *W. saharae*, is endemic to the north-western edge of the African Sahara desert. One peculiarity of this plant is the penetrating odour given by the glandular hairs in the epidermis of the leaves at the slightest contact. The plant is considered to have medicinal properties mainly by its essential oils and in addition the local Berber women anoint themselves with the perfume of the leaves, believing that the supernatural powers attributed to the plant make them more seductive – don't take my word for it, see Audissou, (1999).

Our first stop, just off the N1 road, where the foothills of the High Atlas slope down to the coast, not far from Cap Rhir, depicted beautifully the above plants and the special habitat conditions of this sub-



tropical eco-region, with mild, frost-free winters and relatively cool summers due to the moderating influence of the sea – sea mists are frequent and summer temperatures are ameliorated. Among the Euphorbia were stands of the endemic shrub *Senecio anteuphorbium*, with its upright, cylindrical, segmented, light green stems. The stems had a beautiful pattern of vertically striped dark green lines. Tucked away in between some *Euphorbia officinarum*, its host, we glimpsed the erect, annual, parasitic herb *Striga gesnerioides*, with its light pink flowers. Then came the cry 'What's this?', someone had spotted the rather sombre looking but nevertheless intriguing *Dipcadi serotinum*. From here we made our way to the beach at Tamri, where we hoped to view the rare and highly-protected Northern Bald Ibis (*Geronticus eremita*), known to frequent

this site to drink and generally loaf around. Initial indications weren't good but as we were about to leave seven birds treated us to a superb flypast above our heads. This dark ibis, larger than the Glossy Ibis, remains near their colonies all year in Morocco, dispersing along the coast. They've been on long-term

decline worldwide and in Morocco about 38 colonies were reported till 1940, 15 survived until 1975 and in 1989 only 3 colonies were left in this region close to Agadir. After the Souss Massa National Park was founded, the Northern Bald Ibis conservation project was started in 1994 when about 200 birds with 70 breeding pairs were present; HSH Prince Albert II of Monaco becoming its Species Champion. Hard to believe that once it bred across southern Europe and along the Danube and Rhone Rivers. Almost the entirety of the wild breeding population of just over 500 birds is in Morocco, at Souss-Massa National Park, and here near the mouth of the Oued Tamri, where a single colony contains almost half the Moroccan breeding population. The bird is known to associate freely with man, and sure enough this behaviour manifested itself after lunch when we had great views of 20+ birds feeding around the dwellings at Cap Rhir, unperturbed by children running around and Wildlife Travellers, eyes trained on their every movement. A rather special bird.

Much time was spent on the sands at the back of the beach admiring plant species, such as *Polygonium maritimum*, *Arthrocnemum perenne*, *Cakile maritima*, *Hippocrepis unisiliquosa*, and *Polycarpha nivea*. The sub-shrub *Halocnemum*, *Lotus creticus*, the slender *Euphorbia paralias* (Sea spurge), and the low sprawling, annual succulent herb *Mesembryanthemum crystallinum* (below right) covered in glistening crystalline hairs, did not fail to impress in the dunes. But perhaps the most emblematic specimen seen here was *Cistanche phelypaea*, stout, erect and emerging from the sands like a periscope. Yet another parasite, *Cistanche* (below left) feeds on the woodier members of the Chenopodiaceae.



After lunch at the Cap Rhir lighthouse we crossed the road to check out some of the lower slopes of the High Atlas. Many of the plants seen had been spotted earlier in day though we picked up *Pallenis spinosa*, *Limonium vulgare*, the beautiful endemic *Ebenus pinnata*, *Lavandula dentata* var. *candicans*, and we did enjoy seeing *Lavandula maroccana* once again. Time had caught up with us as we headed back south and we took the decision not to go as far as we would have wished into the Green/Paradise Valley to Imouzen, nevertheless we went sufficiently into the valley much greener with *Tetraclinis* Juniper-like small tree suffers particularly from burrs at the woodwork (see right - taken at the burr wood can kill the tree deforestation in places. We introduced us to fossils and



to appreciate the changed habitat, *articulata* dominating the scene. This from overgrazing, whilst its wood, base of the trunk, is used for decorative the Atlas Kasbah – unfortunately use of and this has resulted in mass stopped at a dry riverbed where John Said found several bivalve examples.

Day 5 Sun 27 March: The High Atlas

After an 'early' start we took off on our excursion to the High Atlas. Before our comfort mint tea stop at Taroudant we witnessed some Black Kites (*Milvus migrans*) soaring in the early morning thermals above the orange groves. Valencia orange production is concentrated in this part of the Sous valley where the soil is fertile; unfortunately rain is at a premium, hence the dam at Aoulouz, which was 90% full after the last two years' winter rains. We noticed that Cypress trees had been planted around the groves to act as windbreaks. Just outside Taroudant a queue of cars with drivers waited patiently to reach a stall. This, Said informed us, was a stall well-known for its goat and camel tagines sold on Sundays –'Mmm.. tagine!' to quote Said. To our left in the distance we could make out the High Atlas Mountains with their snowline still clearly visible. As we began our climb below Tafinegouit, the grey-green, bushy Dwarf fan palm (*Chamaerops humilis*) became increasingly evident in between the Aleppo pines (*Pinus halepensis*), planted to prevent erosion. At our first pic-stop, around 500m, *Fagonia*, *Lavandula multifida*, a stunning *Verbascum* sp. (similar to *sinuatum*), *Bryonia cretica*, *Anagallis arvensis*, *Pallenis spinosa* and the elegant endemic *Catananche arenaria* were all found nestling on an overhang on the side of the road.

The day was perfect as we continued our climb and in doing so we appreciated the effects of zonation. Said took us to a spot at c700m where he found us a group of Yellow Bee Orchids (*Ophrys lutea*). Also seen here, *Teline* sp., *Lavandula dentata*, *L. multifida*, and *Cistus* sp. before moving on to our next stop. A whoop of delight from the front of the minibus and Mohamed knew he had to stop or else fear a highjack. We'd spotted the wonderful *Polygala balansae* (Milkwort), a thorny sub shrub, with small maroon and yellow flowers. The stop proved very worthwhile, and also enabled us to take in the view before us, with the snow capped Atlas as a backdrop. Plants seen here in the nearby gully included, *Nerium oleander* complete with exploding seed heads, *Artemisia herba alba*, the first specimens of *Quercus ilex*, *Ebenus pinnata*, *Salvia verbanaca*, *Caparis spinosa* (just round the corner from the gully), *Isatis tinctoria*, *Adenocarpus* spp. and a Green Hairstreak (*Callophrys rubi*). As we climbed we could see some dead looking trees in the valley below – Walnut trees yet to come into leaf.

A final bend brought us to the Tizi-n-test cafeteria where we interrupted our journey for lunch with a great view of the Sous valley and floodplain around 2000m below. Eurasian crag martins (*Ptyonoprogne rupestris*) circled in front of the cliffs and then suddenly a huge raptor was spotted soaring against the blue sky, a Golden eagle (*Aquila chrysaetos*), which was followed by a Booted eagle (*Hieraaetus pennatus*) – known to nest on these cliffs. Other birds seen: the unmistakable Blue rock thrush (*Monticola solitarius*), sloe-blue in colour, Green woodpecker (*Picus viridis*) and Coal tit (*Parus ater*). After lunch we headed for the pass at 2100m, created between 1926 and 1932, the snow still very much in evidence. Judy and John were especially keen to find a rather a particular Narcissus, which they'd been told had been seen in bud the week before. Sure enough we found the plant but it was not a great specimen. We scanned the rocks, gulleys and slopes to no avail when, just as we were beginning to lose hope and patience, a solitary plant was espied on top of the roadside rock face. It was a beautiful, tiny (10cm H), endemic specimen of *N. rupicola watieri* (see below). Though sited in an awkward spot for a photograph, a few of us climbed the slope and soon another few plants were seen tucked away in nooks and crannies on the



north facing hillside, among the oak scrub. This most distinctive of wild narcissi, with sparkling icy white flowers, a pale greenish throat and grass-like leaves, is named after the French botanist Watier.



The silence at the pass was broken by the flapping wings of Wood Pigeons and the occasional Blackbird in song. Junipers covered parts of the slopes below. We began our descent around 16.30 and on the way down we caught sight of Barbary Squirrels (Ooooh...tagine!) scampering along the roadside walls. Choughs (*Pyrrhocorax pyrrhocorax*) took flight from cliff-side ledges. By the time we had reached the lower slopes of the High Atlas we'd made alterations to our itinerary and Taroudant awaited us tomorrow.

Day 6 Mon 28 March: Taroudant, the Berber market town

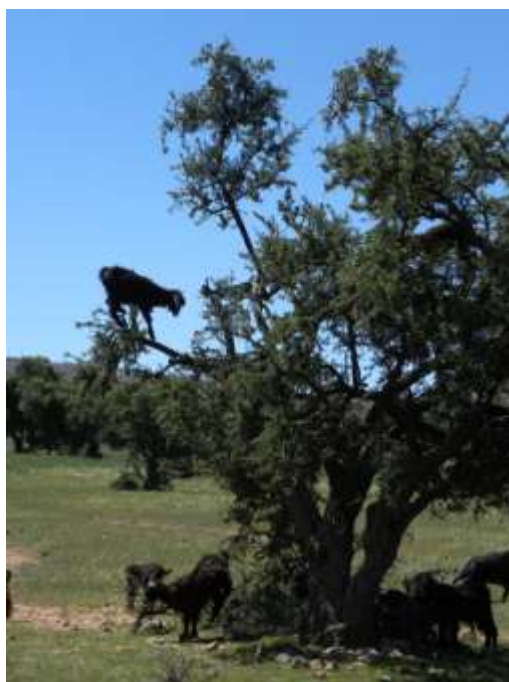
This 'mini Marrakech' of the Sous valley, had a character all of its own, reflecting the rich Berber culture behind its ancient walls. The Palais Salam Hotel was our first port of call for a refreshing drink and a wander around its gardens. Lesser Kestrels (*Falco naumanni*) flew in and out of the *Phoenix dactylifera* and *Washingtonias*, whilst *Daturas*, pink *Hibiscus*, Banana plants and Stripe-necked terrapins provided an exotic context to our visit. After, we strolled up onto the walls built in the 16th century, and 7.5 km long. The city is contained within the walls, built to protect the city from any possible attacks. We learnt from our new guide Hussein that Taroudant was a trading post for caravans coming from Saharan provinces (Ghana, Sudan, Mali). Thanks to its gold and silver mines, the town developed in the 11thC. Surrounded by the red ochre walls, Taroudant's rich bazaars and Souks reflected a strong craft tradition. Somehow we managed not to get separated as we wandered through the busy Berber market and



then the Arab market, to end up in the main square for lunch. With lunch finished, we began the hunt followed by bartering for teapots, slippers and spices. Back on the minibus we compared our bartered spoils before heading back for an early return to our oasis in the hills. In the evening we were treated to an informative introduction to Berber culture by Helene, Hassan and their beautiful assistant Eirlys in full Berber regalia. We bade farewell to Rachel who would be leaving us tomorrow.

Day 7 Tues 29 March: Tioute, the Oasis/Palmery, Argan oil co-operative

It was a misty morning as we drove out of the Kasbah to Tioute, taking the back route to Taroudant, past rows of plastic cloches, before heading south on a minor road through open plains with the Anti Atlas ahead of us. Here we saw some birds: a male Marsh Harrier (*Circus aeruginosus*), Stone Curlew (*Burhinus oedicephalus*), Northern Wheatear (*Oenanthe oenanthe*) and Black-bellied Sandgrouse (*Pterocles orientalis*). Just before we hit the village of Tioute we came across goats doing what goats do, climbing *Argania spinosa* and feeding on its fruits. Below the trees carpets of *Chrysanthemum coronarium* var. *bicolour* could be seen in the mid distance.



Our next stop was the famous Argan oil co-operative in Tioute. The Argan tree, a tree endemic to the calcareous semi-desert of the Sous valley where we were, and to parts of Algeria, is the sole species of the genus *Argania*. At the co-operative we learnt all about the fruit, its processing, marketing and sale, mostly by women. The most labour intensive part of oil-extraction is removal of the soft pulp (used as animal feed) and the cracking by hand, between two stones, of the hard nut. The seeds are then removed and gently roasted. Several of the ladies in our group cracked a few nuts before we moved on to the Tioute Kasbah for our packed lunch on the terrace facing the High Atlas. On the slopes outside the Kasbah we came across an endemic *Convolvulus trabutianus*. While we ate, we were treated to aerial displays by Kestrels and Swallows and the mint tea pourer! From the terrace we had good views of the size of the oasis/palmery we would visit after lunch.

The palmery was dominated primarily by *Phoenix dactylifera* - very fibrous, good for use in weaving, mat making and little camels. Bulbul calls emanated seemingly from every tree surrounding the small areas of cultivation; they were joined in song by European Serins (*Serinus serinus*), the greener North African Chaffinches (*Fringilla coelebs africana*), Spotless Starlings (*Sturnus unicolor*) and Moussier's Redstart (*Phoenicurus erythrogastrus*). Water flowed via irrigation channels which were fed from reservoirs just outside the oasis. A beautiful Spanish Festoon (*Zerynthia rumina*) alighted in a clearing, its larvae would feed on *Aristolochia* spp. which we saw along the main path; Small Coppers (*Lycaena phlaeas*) flitted around the place whilst we enjoyed the plants on view: *Linaria ventricosa* (see below left), *Euphorbia helioscopia*, *Lawsonia inermis* (Henna), *Hyocyamus*, *Marrubium vulgare*, *Mercuriales annua*, *Gladiolus italicus*, *Campanula patula*, *Adiantum* spp., *Populus alba*.



After our visit to Tioute, we headed for Imariden on the northern slopes of the Anti Atlas. Mohammed stopped the minibus on the side of the road, where some Trumpeter Finches (*Bucanetes githagineus*) hopped along on the roadside wall. The plateau on the foothills of the Anti Atlas provided some new species but also some old friends: *Cynoglossum* spp, the starry-flowered *Rubia peregrina*, *Centaurea calcitrapa*, *Forsskaolea tenacissima*, *Dianthus* spp. not yet in flower, *Urginea*, *Phagnalon rupestre*, carpets of *Rumex* with *Chrysanthemum coronarium*, and *Dipcadi* alongside *Gynandriis*.



On our return, and back on the plains where we'd seen the Black-bellied Sandgrouse, Said's eagle eye picked out six Cream-coloured Coursers (*Cursorius cursor*), a grounded Barbary Falcon (*Falco pelegrinoides*) and a Black Wheatear (*Oenanthe leucura*) – not on a pear tree.



After supper at the Kasbah we retired to the Berber salon where Mbark showed us some Arabic writing and when Helene and Hassan were later present, Pat kindly spoke on our behalf and expressed our appreciation for the lovely hospitality shown to us by everyone at the Atlas Kasbah. Whilst our trip had not quite finished, the road to Marrakech awaited us, we were agreed that the trip had been a tremendous introduction to the plant biodiversity of the Southern Morocco, and reflected a bio-

geographic heterogeneity where Mediterranean, tropical, succulent and endemic taxa came together against fabulous landscapes.

Day 8 Wed 30 March: Transfer to Marrakech along the N8

09.30 - bags packed, and having said our 'bessalamas' to Helene, Hassan and their staff, we walked out through those impressive Atlas Kasbah doors one last time and hopped on the minibus for our final journey, with Mohammed at the wheel. We headed north to Marrakech travelling through country roads avoiding the motorway – i.e. the scenic route, and what scenery. The terracotta colours of the bare earth, itself splattered with green argan trees and yellow *Ononis*, and set against the backdrop of the early morning North African blue sky left, most of us, speechless. Inevitably, the cry went out 'What's that plant?'. By now Mohammed knew what this meant and a stop was forthcoming. The reservoir was our pit stop and flora spot.



Here we came across a carpet of *Lupinus varius* (*syn. sonsentinii*), good stands of *Dipcadi* and Heather espied *Orobanche ramosa* in the bushes. Eucalyptus trees were in flower alongside the road as we came onto Imintanout, a Berber village nestled in the valley. Lunch was had in Chichaoua on the edge of the desert plain; fed by underground springs which explained the fields of melons and olive plantations. An interesting sight in town were the Russian workers' houses, typically Russian in style, constructed by the workers brought out to build the roads in the area in the 1970s. Swallows swooped around the orange grove in the cafeteria chosen for our lunch and chickens roamed everywhere, including the outdoor

kitchen – much too close to the cooking pots. We could almost hear Said's words, 'Ooh tagine'. We reluctantly got up to go about an hour later and the scenery changed dramatically, with little or no vegetation and the desert seemed to engulf the landscape from east to west. The temperature stood at 33C. In the east we made out the northern flanks of the Atlas Mountains, snow still visible and the highest peaks here were probably Jebel Toubkal, 4165m high. Serene looking White Storks heralded our entrance to Marrakech but soon the unabashed hustle and bustle of the city, with motor scooters weaving in and out of the traffic and claxons of all descriptions that sounded like mating calls, punctuated the mid afternoon. The 15K long Avenue Mohammed VI opened up in front of us as we weaved our way to Rue Yves Saint Laurent and the Jardin Majorelle, were in 1924 Jacques Majorelle began landscaping the land to create the gardens we visited in the heart of the Marrakech. Succulents predominated in what seemed like an oasis in the city. Yves Saint Laurent later acquired the gardens and entrusted them to the Foundation Pierre Berge.



We concluded our visit to Marrakech with a visit to the minaret overlooking the impressive World Heritage Site, Djemma el-Fna Square (Square of the Dead). From here to the airport and the end of our introduction to Southern Morocco - by now we felt we were on very familiar terms with this part of the world. We spent our last remaining dirhams on delicious Moroccan cakes and headed for security checks.

On the plane home, I couldn't help overhearing the tail end to this conversation:

Passenger: 'Do you mind...?'

Hostess: 'Not at all... I'll just grab your nuts sir.'

Surely, a direct reference to the fruits of *Argania spinosa*.

Thank you for making it such a memorable holiday. Hope to see you soon on another Wildlife Travel trip.

Report compiled by Charlie Rugeroni

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Plant List

Pinaceae

Pinus halepensis Aleppo Pine

Cupressaceae

Tetraclinis articulata Araar/Sictus tree

Juniperus communis Common Juniper

Ephedraceae

Ephedra fragilis Joint Pine

Fagaceae

Quercus ilex Holm Oak

Balanophoraceae

Cynomorium coccineum Cynomorium

Salicaceae

Ppulus alba White Poplar

Moraceae

Ficus carica Fig

Urticaceae

Urtica dioica Stinging nettle

Urtica pilulifera Roman Nettle

Forsskaolea tenacissima

Aristolochiaceae

Aristolochia baetica Birthwort (Dutchman's Pipe)

Polygonaceae

Polygonium maritimum Sea Knotgrass

Rumex vesicarius Bladder/Rosy Dock

Emex spinosa Emex

Chenopodaceae

Arthrocnemum perenne Perennial Glasswort

Halocnemum strobilaceum Halocnemum

Suaeda maritima Annual Seablite

Suaeda vera Shrubby Seablite

Atriplex prostrata/hastata Spear-leaved Orache

Nyctaginaceae

Bougainvillea glabra Bougainvillea

Phytolaccaeae

Phytolacca dioica Pokeweed/Ombu

Aizoaceae

Carpobrotus edulis Hottentot Fig

Mesembryanthemum crystallinum Ice Plant

Caryophyllaceae

Paronychia argentea Paronychia

Polycarpaea nivea

Spergularia fimbriata Sand-spurrey

Ranunculaceae

Adonis annua Pheasant's-eye (red-flower)

<i>Adonis aestivalis</i>	Pheasant's-eye (yellow-flower)
<i>Capparis spinosa</i>	Caper
Papaveraceae	
<i>Papaver rhoeas</i>	Common Poppy
<i>Glaucium corniculatum</i>	Red Horned-poppy
Fumariaceae	
<i>Fumaria agraria</i>	Fumitory
Cruciferae	
<i>Isatis tinctoria</i>	Woad
<i>Matthiola sinuata</i>	Sea Stock
<i>Matthiola tricuspidata</i>	Three-horned Stock
<i>Alyssum</i> sp.	
<i>Eruca</i> cf. <i>vesicaria</i>	Eruca
<i>Cakile maritima</i>	Sea Rocket
Resedaceae	
<i>Reseda alba</i>	White Mignonette
<i>Reseda lutea</i>	Wild Mignonette
Leguminosae	
<i>Acacia gummifera</i>	
<i>Teline</i> sp.	Teline
<i>Retama monosperma</i>	Broom
<i>Adenocarpus</i> sp.	Adenocarpus
<i>Lupinus varius</i>	Lupin
<i>Astragalus</i> sp.	Milk-vetch
<i>Melilotus indicus</i>	Small Melilot
<i>Ononis natrix</i>	Large Yellow Rest-harrow
<i>Ononis diffusa</i>	
<i>Medicago sativa</i>	Lucerne
<i>Lotus creticus</i>	Southern Bird's-foot Trefoil
<i>Hippocrepis unisiliquosa</i>	Horseshoe Vetch
<i>Ebenus pinnatus</i>	
<i>Erodium laciniatum</i>	Stork'sbill
Zygophyllaceae	
<i>Fagonia cretica</i>	Fagonia
<i>Linum usitatissimum</i>	Flax/Linseed
Euphorbiaceae	
<i>Euphorbia helioscopia</i>	Sun Spurge
<i>Euphorbia paralias</i>	Sea Spurge
<i>Euphorbia rejis-jubaeor obtusifolia</i>	
<i>Euphorbia officinarum</i> ssp. <i>echinus</i>	Spiny Euphorbia
<i>Mercurialis annua</i>	Annual Mercury
<i>Ricinus communis</i>	Castor Oil Plant
Rutaceae	
<i>Haplophyllum</i> aff. <i>linifolium</i>	Haplophyllum
Polygalaceae	
<i>Polygala balansae</i>	Milkwort (shrubby)

Anacardiaceae	
<i>Pistacia lentiscus</i>	Mastic Tree, Lentisc
Rhamnaceae	
<i>Zizyphus zizyphus</i>	Jujube
Cistaceae	
<i>Cistus</i> sp.	
Tamaricaceae	
<i>Tamarix aphylla</i>	
Frankeniaceae	
<i>Frankenia laevis</i>	Sea Heath
<i>Frankenia thymifolia</i>	Thymed-leaved Sea Heath
Cactaceae	
<i>Opuntia ficus-indica</i>	Prickly Pear
Curcubitaceae	
<i>Bryonia cretica</i>	White Bryony
Lythraceae	
<i>Lawsonia inermis</i>	Henna/Mignonette Tree
Myrtaceae	
<i>Eucalyptus</i> sp.	
Punicaceae	
<i>Punica granatum</i>	Pomegranate
Umbelliferae	
<i>Ferula communis</i>	Giant Fennel
Primulaceae	
<i>Anagallis arvensis</i>	Scarlet Pimpernel
Plumbaginaceae	
<i>Plumbago europae</i>	Plumbago
<i>Limonium sinuatum</i>	Winged Sea Lavener
<i>Limonium vulgare</i>	Common Sea Lavender
Apocynaceae	
<i>Nerium oleander</i>	Oleander
Asclepiadaceae	
<i>Periploca angustifolia</i>	Milkweed
Convolvulaceae	
<i>Covolvulus trabutianus</i>	
Rubiaceae	
<i>Rubia peregrina</i>	Wild Madder
<i>Ipomoea batatas</i>	Sweet potato
Boraginaceae	
<i>Echium creticum</i>	Bugloss
<i>Cerithe major</i>	Honeywort
Labiatae	
<i>Ajuga iva</i>	Bugle
<i>Teucrium polium</i>	Felty Germander
<i>Marrubium vulgare</i>	White Horehound
<i>Lavandula dentata var.candicans</i>	Toothed Lavender
<i>Lavandula multifida</i>	Cut-leaved Lavender

<i>Lavandula maroccana</i>	
<i>Salvia verbenaca</i>	Wild Clary (halfway up Atlas)
Solanaceae	
<i>Lycium intricatum</i>	
<i>Hyoscyamus niger</i>	Henbane (in the Kasbah garden)
<i>Withania somnifera</i>	Withania
<i>Withania frutescens</i>	
<i>Brugmanisa suaveolens</i>	Angel's Trumpet (in Hotel gardens, Taroudant)
<i>Nicotiana glauca</i>	Shrub Tobacco
Scrophulariaceae	
<i>Scrophularia peregrina</i>	Nettle-leaved Figwort
<i>Scrophularia scopoli</i>	
<i>Striga gesnerioides</i>	Cowpea (parasitic)
<i>Verbascum</i> sp.	Mullein
<i>Linaria ventricosa</i>	Toadflax
<i>Kickxia</i> sp.	Fluellen
Orobanchaceae	
<i>Cistanche phelypaea</i>	Cistanche
<i>Cistanche sanguinea</i>	
<i>Orobanche ramosa</i>	Branched Broomrape (blue-flowered)
Myoporaceae	
<i>Myoporum tenuifolium</i>	Ngaio
Globulariaceae	
<i>Globularia</i>	
<i>alypum</i>	Shrubby Globularia (near reservoir shore, trip to Marrakesh)
Bignoniaceae	
<i>Podranea ricasoliana</i>	Pink Trumpet Vine (Oued Massa Estuary)
Plantaginaceae	
<i>Plantago lagopus</i>	Plantain
<i>Plantago albicans</i>	Silvery Plantain
Campanulaceae	
<i>Campanula</i>	
<i>patula</i>	Spreading Bellflower (in Oasis/Palmery)
Compositae	
<i>Phagnalon rupestre</i>	
<i>Pallenis spinosa</i>	
<i>Cladanthus arabicus</i>	Cladanthus
<i>Chrysanthemum</i>	
<i>coronarum</i>	Crown Daisy
<i>Chrysanthemum</i> aff. <i>carinatum</i>	Annual Chrysanthemum
<i>Senecio anteuphorbia</i>	
<i>Onopordum</i> sp.	Scotch Thistle
<i>Crupina crupinastrum</i>	Crupina
<i>Catananche arenaria</i>	Cupidone
<i>Centaurea calcitrapa</i>	Red Star-thistle
<i>Reichardia</i> sp.	Reichardia
<i>Launaea arborescens</i>	Launaea
<i>Warionia saharae</i>	

Artemisia herba-alba

Liliaceae

Asphodelus fistulosus

Asphodelus aestivus

Androcymbium sp.

Urginea

Dipcadi serotinum

Muscari comosum

Amaryllidaceae

Narcissu rupicola ssp. *Watieri*

Iridaceae

Gynandris sisyrinchium

Gladiolus italicus

Palmae

Phoenix dactylifera

Phoenix canariensis

Washingtonia robusta

Chamaerops humilis

Orchidaceae

Ophrys lutea

Gramineae

Lamarckia aurea

Cynodon dactylon

Paspalum sp.

Sapotaceae

Argania spinosa

Hollow-leaved Asphodel

Common Asphodelus

Autumn Crocus

Sea Squill (not in flower)

Dipcadi

Tassel Hyacinth

Barbary Nut

Field Gladiolus (in the Palmery)

Date palm

Canary Palm

Washingtonia

Dwarf Fan Palm

Yellow Ophrys

Golden Dog's-tail

Bermuda Grass

Argan Tree

Bird List

Anatidae

Marmaronetta angustirostris

Marbled Duck

Phasianinae

Alectoris barbara

Barbary Partridge

Crex crex

Common Juniper

Podicipedidae

Tachybaptus ruficollis

Little Grebe

Sulidae

Morus bassanus

Gannet

Phalacrocoracidae

Phalacrocorax carbo

Great Cormorant

Phalacrocorax carbo ssp. *maroccanus*

Moroccan Cormorant

Ciconiiformes

Ardeola ralloides

Squacco Heron

Egretta garzetta

Little Egret

Casmerodius albus

Great Egret

Ardea cinerea

Grey Heron

Ciconia ciconia

White Stork

Ardea purpurea

Purple Heron

Plegadis falcinellus

Glossy Ibis

Geronticus eremita

Northern Bald Ibis

Platalea leucorodia

Eurasian Spoonbill

Pandionidae

Pandion haliaetus

Osprey

Accipitridae

Aquila chrysaetos

Golden Eagle

Aquila pennata

Booted Eagle (Light phase)

Milvus migrans

Black Kite

Circus aeruginosus

Marsh Harrier

Falconidae

Falco tinnunculus

Common Kestrel

Falco naumanni

Lesser Kestrel

Falco pelegrinoides

Barbary Falcon

Rallidae

Fulica atra

Eurasian Coot

Recurvirostridae

Himantopus himantopus

Black-winged Stilt

Burhinidae

Burhinus oedicnemus

Stone Curlew

Glareolidae

Cursorius cursor

Cream-coloured Curser

Charadriidae

Charadrius hiaticula

Common Ringed Plover

Scolopacidae*Tringa nebularia*

Common Greenshank

Limosa limosa

Black-tailed Godwit

Laridae*Larus michahellis*

Yellow-legged Gull

Pteroclididae*Pterocles orientalis*

Black-bellied Sandgrouse

Columbidae*Columba palumbus*

Common Wood Pigeon

Streptopelia senegalensis

Laughing Dove

Strigidae*Athene noctua*

Little Owl

Apodidae*Apus apus*

Common Swift

Apus pallidus

Pallid Swift

Upupidae*Upupa epops*

Eurasian Hoopoe

Alcedinidae*Alcedo atthis*

Common Kingfisher

Meropidae*Merops apiaster*

European Bee-eater

Picidae*Dendrocopos major*

Great Spotted Woodpecker

Alaudidae*Galerida cristata*

Crested Lark

Hirundinidae*Ptyonoprogne rupestris*

Crag martin

Hirundo rustica

Barn Swallow

Motacillidae*Motacilla alba*

White/Pied Wagtail

Motacilla flava

Yellow Wagtail

Turdidae*Phoenicurus phoenicurus*

Common Redstart

Phoenicurus ochruros

Black Redstart

Phoenicurus moussieri

Moussier's Redstart

Muscicapidae*Oenanthe oenanthe*

Wheatear

Oenanthe leucura

Black Wheatear

Saxicola torquatus

Common Stonechat

Monticola solitarius

Blue Rock Thrush

Turdidae*Turdus merula*

Common Blackbird

Sylviidae*Sylvia melanocephala*

Sardinian Warbler

Cisticolidae*Cisticola juncidis*

Zitting Cisticola

Paridae*Periparus ater*

Coal Tit

Laniidae*Lanius excubitor*

Great Grey Shrike

Lanius senator

Woodchat Shrike

Malaconotidae*Tchagra senegalus*

Black-crowned Tchagra

Pycnonotidae*Pynonotus barbatus*

Common Bulbul

Corvidae*Pica pica*

Common Magpie

Pica pica ssp. mauritanica

North African/Maghreb Magpie

Pyrrhocorax pyrrhocorax

(Red-billed) Chough

Corvus corax

Common Raven

Sturnus unicolor

Spotless Starling

Passeridae*Passer domesticua*

House Sparrow

Fringillidae*Fringilla coelebs*

Common Chaffinch

Carduelis cannabina

Common Linnet

Serinus serinus

European Serin

Loxia*Bucanetes githagineus*

Trumpeter Finch

Emberizidae*Emberiza calandra*

Corn Bunting

Emberiza sahari

House Bunting

Butterfly List**Papilionidae***Zerynthia rumina*

Spanish Festoon

Pieridae*Anthocharis belia*

Morocco Orange Tip

Gonopteryx rhamni

Brimstone

Nymphalidae*Vanessa cardui*

Painted Lady

Lycaenidae*Callophrys rubi*

Green Hairstreak

Lycaena phlaes

Small Copper

Polyommatus icarus

Common Blue

Mammal List**Camelidae***Camelus dromedarius*

Camel

Sciuridae*Atlantoxerus getulus*

Barbary Ground Squirrel

Reptile List

Lacertidae

Acantodactylus erithrurus

Red-tailed Spiny-footed Lizard

Agamidae

Agama sp.

Agama

Testudinidae

Testudo graeca ssp. soussensis

Spur-thighed Tortoise (Southern Morocco)

Geoemydidae

Mauremys caspica

Stripe-necked Terrapin (in Hotel fountain)