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G.H. BALAZS

1990s

United Arab Emirates University
Desert and Marine Environment Research Center

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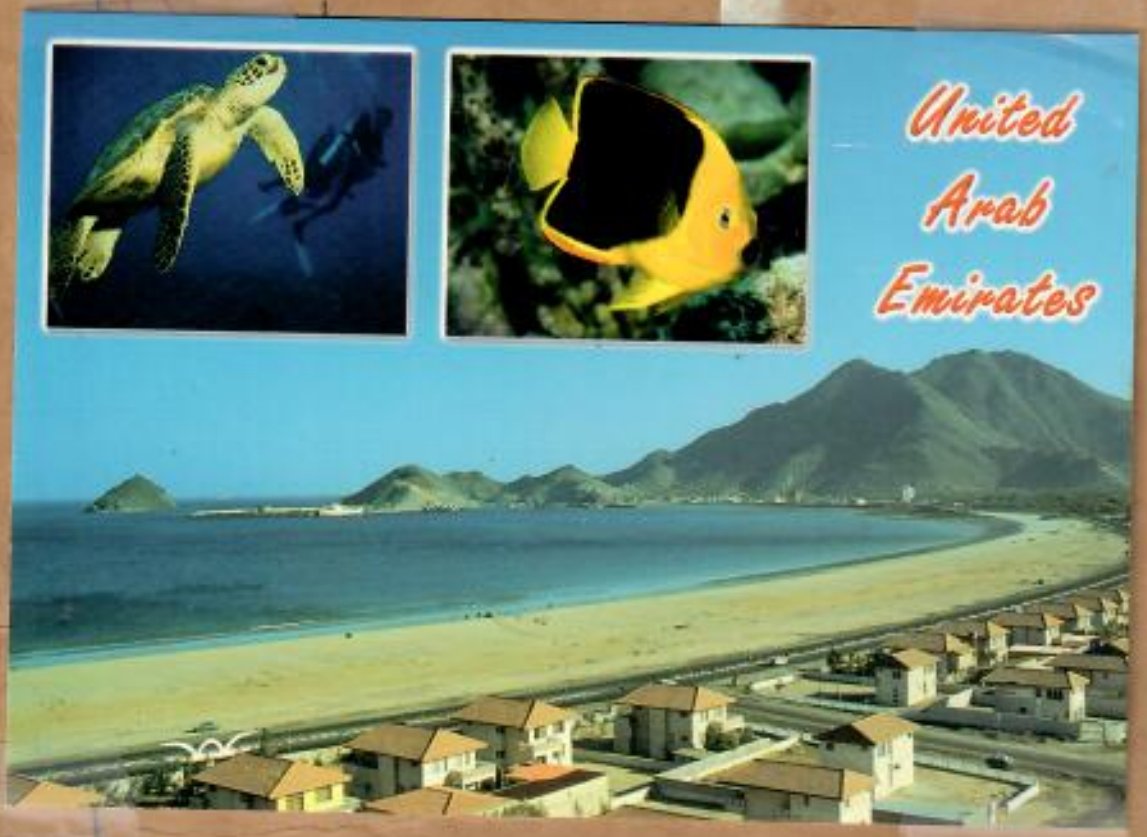

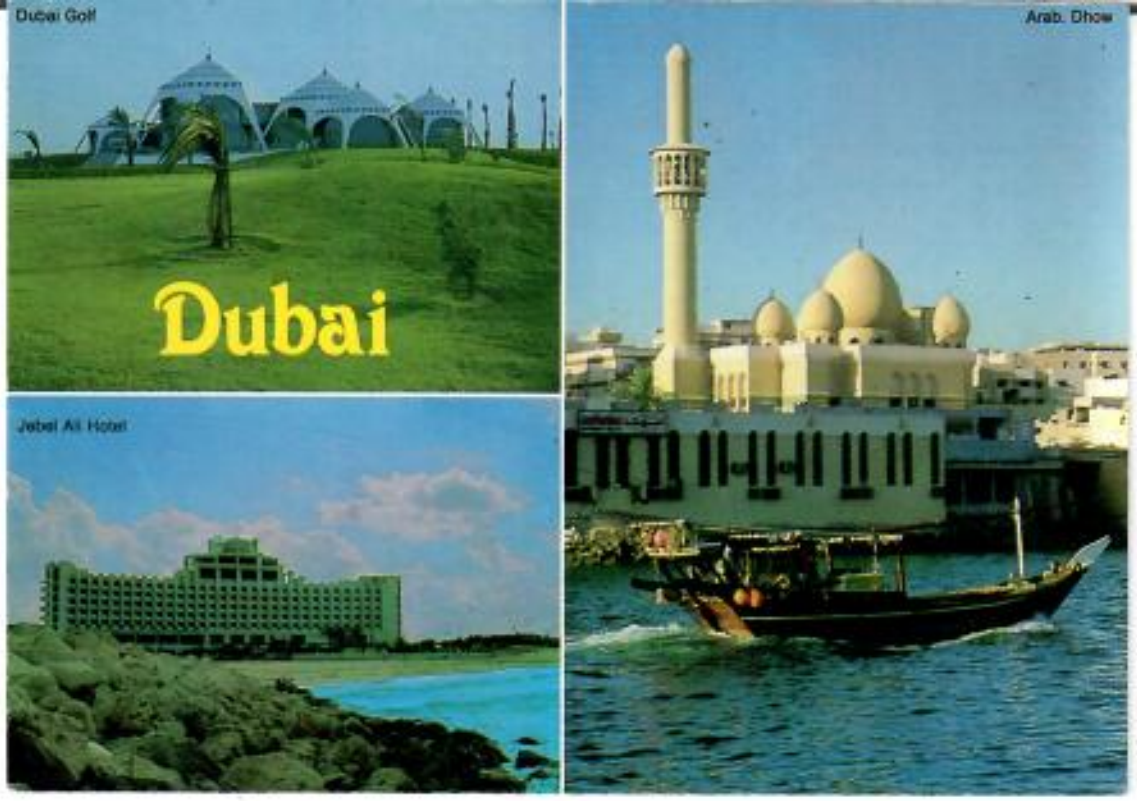
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Lesser Tumb
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Ad Dharbaniya
Ra's al Khaimah
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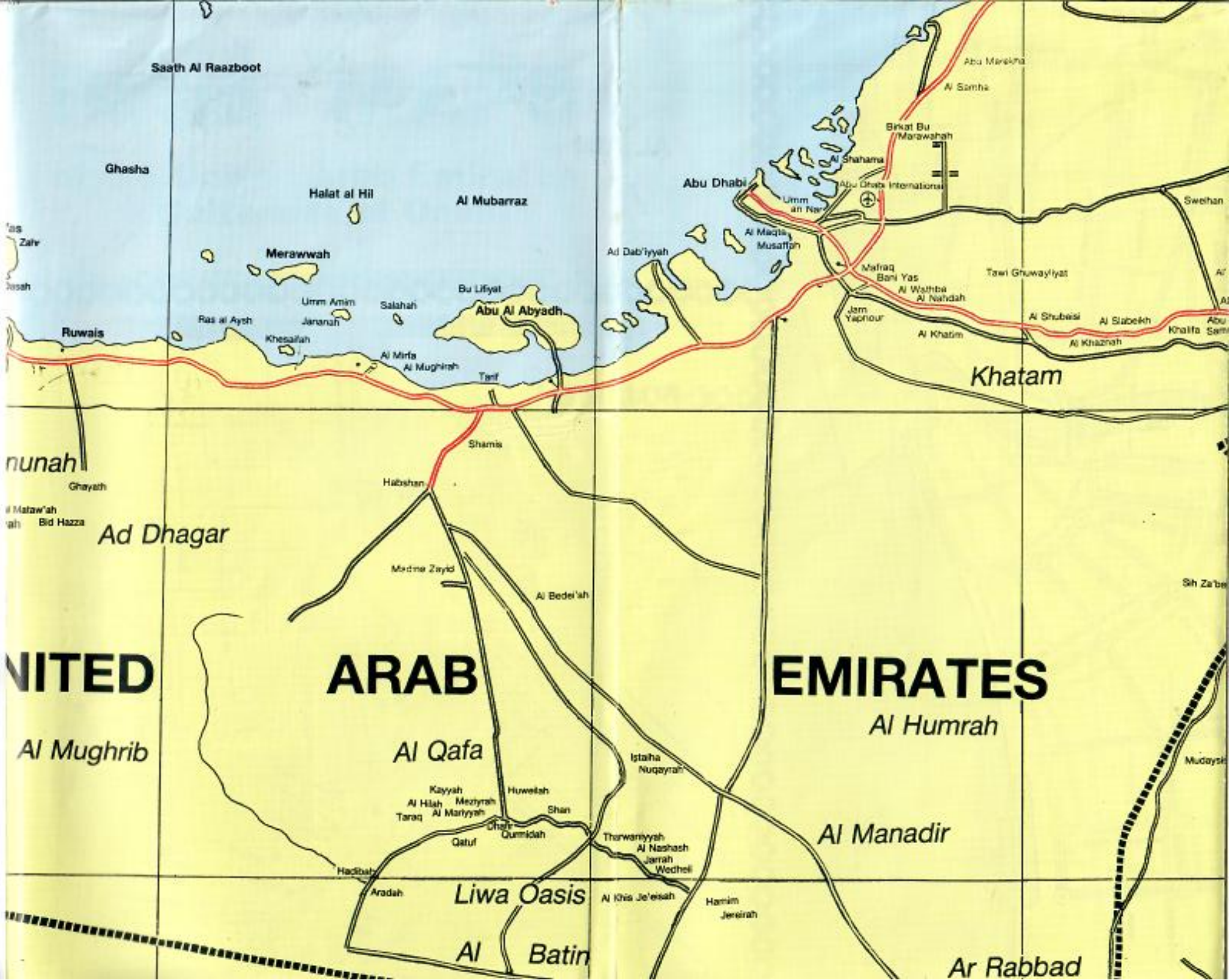
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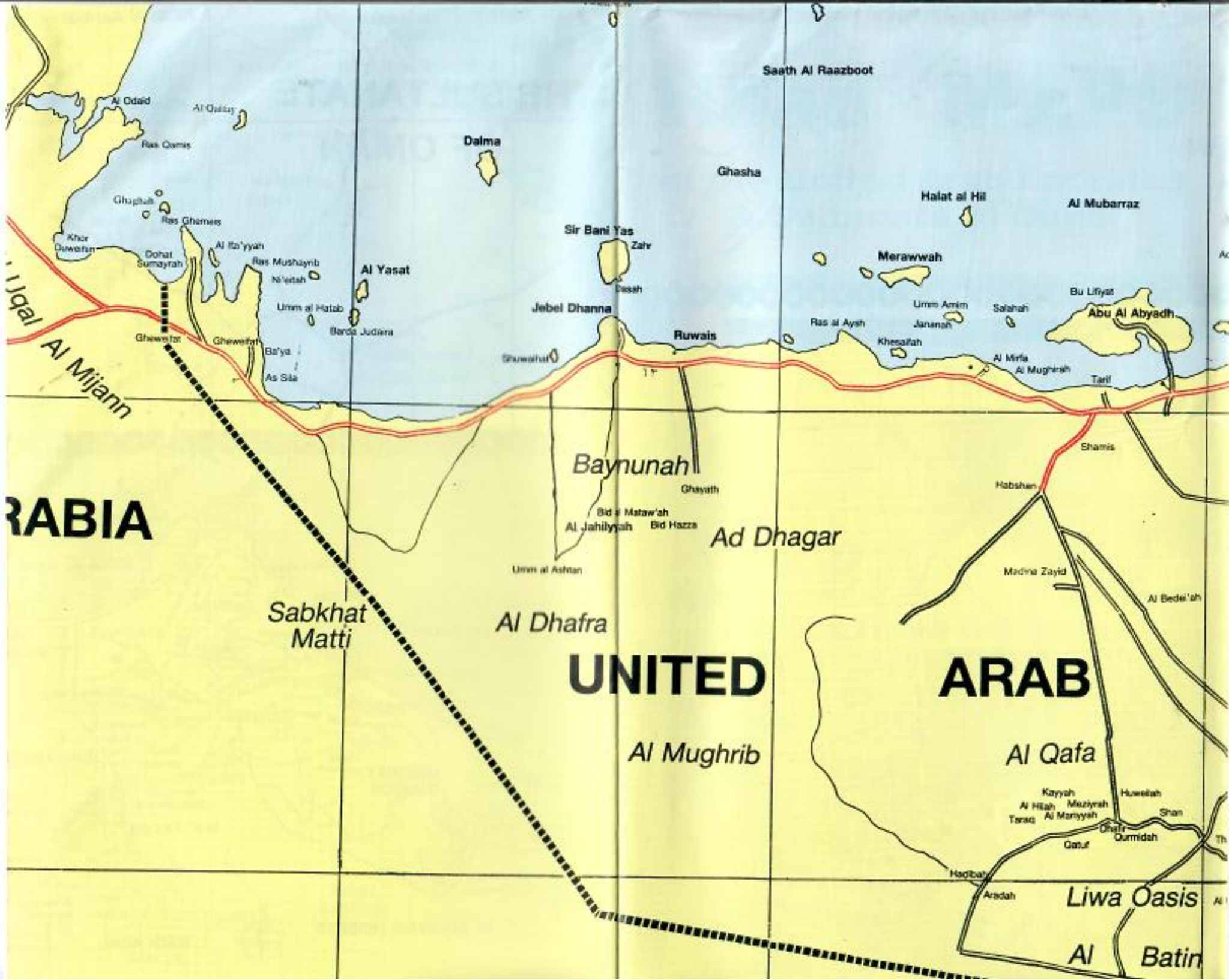
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Date: Mon, 20 Jan 1997 07:21:28 -0700
From: "R8_NWHR.HON" <R8__NWHR.HON@nbs.gov>
To: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu>
Subject: Re: UAE trip

UAE

Geo-

Only book I have is a little book called how to write the Arabic alphabet (which is about as far as I've gone to this point). Nothing much in there about customs and certainly little about pronunciation.

Given my limited understanding, I know that there are complications regarding phonetics of Arabic and that it is best to hear it if you want to speak it correctly. I'm still struggling to learn to read it let alone speak it.

Re: customs. Only thing I can advise is my personal experience traveling to different countries in middle east. Some pointers I found useful:

-Never show the soles of your feet to another person when sitting.
-Never eat with your left hand (you generally eat with your hands over there).
-It is impolite to refuse food or drink when it is offered.
-It takes an excruciatingly long time to get business done. Often, there will be long preamble involving tea and cakes and discussions before the bottom line is (circuitously) reached.

A good book you may want to purchase is a travel guide to either Saudi Arabia or UAE or one of the other middle-eastern countries. Publisher is called "Lonely Planet". We used one of their guides for our trip to Viet Nam and it had an excellent section on dos and don'ts. Available at most major bookstores.

TMW

_____ Reply Separator _____

Subject: UAE trip
Author: "George H. Balazs" <gbalazs@honlab.nmfs.hawaii.edu> at NBS-Internet-Gateway
Date: 1/19/97 9:19 PM

Thierry- Since you mentioned to me you were studying Arabic, might you be able to recommend a small book of phrases, and maybe even customs, that I could pick up? Is there any tonal complication to the language, like Chinese? Or French? Or, can the sounds be read fairly straight forward from a booklet, like Japanese. Any tips you can offer would be appreciated. Geo.

****
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* National Marine Fisheries Service *
* Marine Turtle Research Program *
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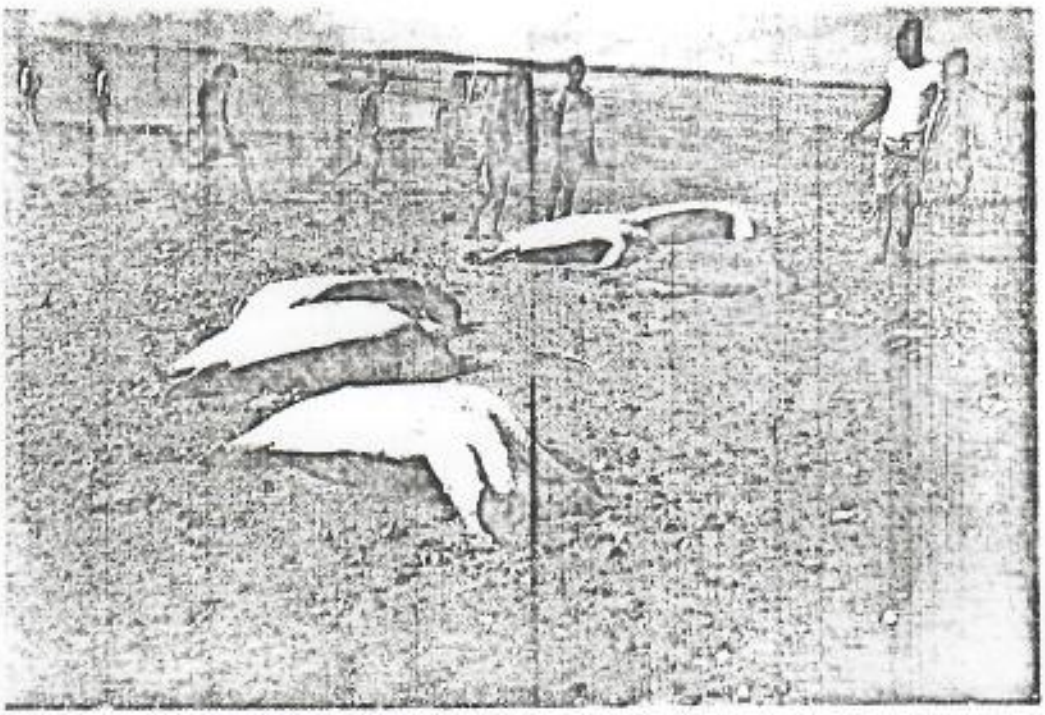
* 2570 Dole Street *
* Honolulu, HI 96822-2396 *
* Tel:(808) 943-1240 *
* Fax:(808) 943-1290 *

THE GREEN TURTLE IN SOUTH ARABIA

By V. T. Hinds



Freshly caught turtles on the beach.

Photo : V. T. Hinds.

WHEN next you have the opportunity of travelling along the beaches outside Aden, keep a sharp eye for signs of the green turtles (*Chelone mydas*) that are moving along the South Arabian coastline through the year. Broad tracks on the sand-dunes show where the female turtle has left the sea at the period of full moon when the tides are high, in search of a suitable site to lay her eggs. Occasionally a dark head may be seen bobbing among the waves off-shore as a turtle comes up to breathe and take its bearings. An estimated quarter of a million turtles are spread along the coastline from Perim Island to the farthest extent of the Mahra coast.

A grass eater

An air-breathing reptile, living in the sea, the green turtle is, however, tied to the land because the young turtles are hatched from eggs which must be laid ashore in the warm sand. A mature animal may weigh 300lb. depending on its age, and the overall length of the top shell may reach four feet. The male is characterized by a long prehensile tail and a horn-like hook on the leading edge of each of the front flippers. The male very rarely lands on the beaches, but some are occasionally stranded in shallow water during the breeding season. The female has a relatively short tail and after mating emerges from the water to lay her eggs.

The turtles gather on the turtle pastures where there is a good growth of the grass *Gymodocea sp.*, the main component of the animal's diet. In some areas turtles are found in association with the sea-cow (Dugong dugong), an air-breathing mammal which also feeds in shallow water. It is on these pastures that the turtles feed and sleep

Turtles mating (photograph taken under water).

The turning of female turtles on the beaches during the breeding season is not popular along the coast of South Arabia due to the fact that the animals come ashore in isolated areas where it is difficult to obtain transport to carry the animals to processing stations. This is in itself an economical control limiting this deplorable method. Capture by nets is far more efficient and selective.

Live storage

The care of turtles after capture and prior to processing is an operation developed from long experience in this industry. As the rib cage of turtles is not designed to support the weight of the body for long periods and the danger of suffocation would arise, the animals must be stored on their backs. The head must be supported by a wooden pillow at the correct level to allow for free respiration when the animal is stored in this manner. Since turtles are prone to pneumonia and sun-burn they must be stored in the shade, sheltered from draughts, and must not have water thrown on them. When correctly handled in this way the animals are still quite fit after fourteen days. Alternatively, a turtle kraal may be built for holding the turtles, surrounding an area of clean water and covered by a roof of matting for shade.

Turtle products of commerce

The commercial products obtained from the green turtle are channelled to a luxury retail trade. Turtle soup, made basically from beef bones and stock, contains a certain amount of turtle meat, similar to the piece of pork in a can of beans. The glutinous consistency of turtle soup is assured by the use of a dried resinous substance extracted from between the plates and bones of the shell and skeleton; this is called calipash, and calipee, the dried flesh of the flippers and neck, is reconstituted and added to the basic soup.

The green turtle fat, from which the animal obtains its name, is rendered down and the oil obtained is used in the preparation of unguent lotions, turtle creams, and shaving and toilet soaps. The oil is also used medicinally.

Turtle eggs can be processed to obtain a very fine quality oil which is required for certain intricate machinery. The shell of the green turtle has no commercial value as the plates are reputed to be too thin.

Conservation measures

The conservation aspect of the green turtle industry is always uppermost in the minds of those concerned. The annual uptake of the market for turtle produce in Europe is not large and can be easily flooded. Since the market is supplied by several producing areas, each in competition with the others, excessive production is not feasible; the economic control is therefore quite effective.

Assistance is being sought from overseas by the Department of Fisheries of the Federal Government to carry out research into the life history and migration of the green turtle, and also advice on the establishment of turtle farms and hatcheries where the young turtles can be protected from their natural enemies until such time as they are able to fend for themselves. These methods of husbandry within the industry are just as essential as reafforestation in the timber industry of other countries.

★ ★ ★

With these points in mind the traveller along the beaches near Aden may keep a watch for young turtles, or mature turtles stranded in shallow water and helpless on the beach, and guide them back to their natural element. The purchase of baby turtles and turtle eggs offered for sale should be avoided. Very few of the people living on the coast of South Arabia eat turtle meat for religious reasons; poor fishing communities, however, earn badly needed money by the capture of mature turtles for processing. This increased prosperity can be reasonably ensured if measures are taken to protect the eggs and the young.

thalma), which take the first toll of these baby turtles. It is during the breeding season that the smell of turtles attracts sharks in the shallow water and large numbers of small sharks again cut down the ranks of the survivors. Perhaps three per cent of the hatchlings are left to reach maturity. However, even the large mature turtles are liable to attack by the tiger shark (*Galeocerdo cuvier*) and frequently turtle heads, flippers and pieces of shell are found in the stomachs of these sharks. Female turtles have been observed with stumps of flippers presumably amputated by these fierce predators.

Sucker fish and turtles

A common traveller with the green turtle is the sucker-fish (*Remora remora*), which grows to eighteen inches and has on the back of its head a flat sucker which is in fact a modified fin enabling this fish to adhere to the under shell of the turtle. In this way it obtains free transport and also free food, since when the turtle feeds it is able to pick up fragments left lying about; a large proportion of the food of the sucker-fish consists of the faeces of the turtle. The sucker-fish does not harm the turtle in any way, and consequently it cannot be called a parasite.

Set a fish to catch a turtle

Fishermen of the Bajun Islands, off the Kenya coast, make use of the sucker-fish to catch turtles. First they catch the fish by using a baited hook and keep them alive in a section of the canoe where fresh sea water is contained between wooden partitions forming a small tank. The fish are regularly fed and frequently exercised by making them stick to the side of the boat and gently, but with increasing effort as the days go by, pulling the tail, and consequently strengthening the back muscles of the fish. In this way the fish are strengthened and handled and treated as valuable pets. When the fisherman considers that his protégé is sufficiently strong a small iron ring is fitted over the narrow part of the tail and to this a line is attached.

The fish is then released into the water over a turtle pasture. The natural instinct of the sucker-fish drives him to find a turtle and this he does, in due course fixing himself to the large animal by means of the sucker on the back of his head, thus making contact between the fisherman in the canoe and the turtle on the sea floor.

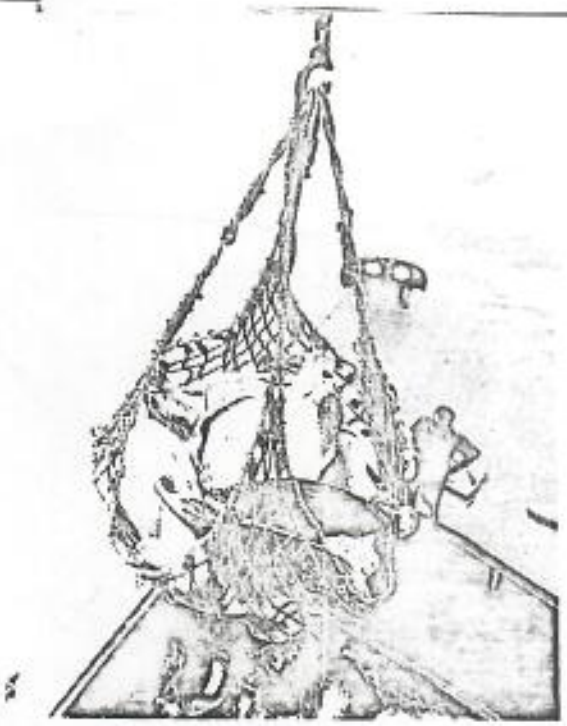
At this stage the fisherman clips on to the line holding the sucker-fish another small iron ring containing a miniature grapnel iron. This ring, attached to a second line, is allowed to slide down the first line leading to the turtle. As the grapnel swings beneath the turtle the fisherman strikes with a strong pull, driving the hooks into the under shell of the turtle, and in this way ensures the catch. This is a skilled operation peculiar to the Bajun Islands and was shown in detail in the film " West of Zanzibar."

Other methods of capture

Other methods of catching turtles include the use of floating walls of large-mesh nets in which the creatures become entangled, but because these nets have no weights attached to the bottom the turtles can surface in order to breathe and consequently can be collected alive.

The more common method used to capture turtles in South Arabia is the beach seine net. One end of the net is anchored to the beach, the main portion being shot around a section of the turtle pasture, and the other end is then brought back to the beach again. The fishermen then haul both ends of the net, pulling it ashore with the trapped turtles. An advance on the beach seine is the encircling net which is shot around groups of turtles swimming off-shore and hauled aboard the motor fishing boat. In the Seychelle Islands a specialized harpoon is used to capture turtles, the head being designed to lock between the plates of the top shell of the turtle without penetrating the fleshy parts, which would cause pain to the animal and possible serious damage.

Female (top) and male turtles, showing longer tail of the male.
Photo : V. T. Hinds.



Loading frozen turtles in Aden.

in fair numbers during their continual travels along the coast in search of suitable beaches to lay their eggs.

Breeding

In the breeding season the male turtles congregate within 100 yards of the beaches and mate with the females in the water. The female turtle presents an unstable platform in the water, but nature has provided the male with two hook-like appendages on the fore-flippers with which he grips the front edge of the top shell of the female turtle. The long prehensile tail is hooked under the female turtle, providing a third point of attachment, thus preventing the male from falling off during the mating process, which takes about twenty minutes. A characteristic of old female turtles is the deep groove to be found on each side of the head where the male hooks have cut into the plates of the top shell.

Egg laying in nest of sand

As the sun sets the female turtle leaves the water and proceeds to crawl across the beach and up into the sand-dunes. A suitable site is chosen and the animal proceeds to scoop out a wide hollow in the sand, using her broad flippers. When this hollow has reached a depth sufficient to hide the animal, and firm sand has been found, the rear flippers only are used to excavate a pit about eighteen inches deep and a foot in diameter. It is in this hole that the female turtle lays her clutch of approximately 100 soft-shelled eggs. After the eggs have been deposited the turtle fills the hole with moist sand, which she packs down tightly and further covers with loose dry sand to camouflage the nest. Female green turtles may lay up to 600 eggs in a season with intervals of three to four weeks between nests.

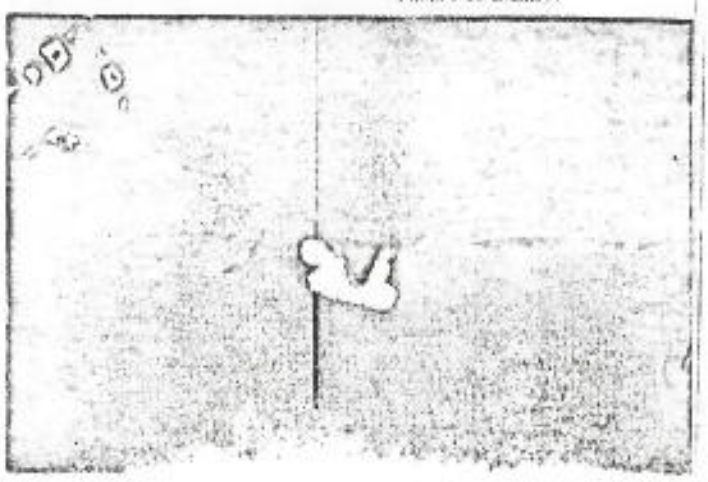
Emergence of young turtles

Towards the end of the incubation period, which may extend from fifty to seventy days, the young turtles emerge from their shelter and by concerted movement form a chamber at the bottom of the pit. The continual movement of the small turtles on the top of the pile breaks the roof of the chamber and the sand filters down between the bodies of the young animals and is again packed by the young turtles at the bottom of the pile, increasing the height of the floor. In this way the chamber containing the clutch of turtles moves towards the surface until finally the young animals emerge.

The race to the sea

Nature has ordained that these young turtles should orientate themselves towards the area of greatest light and least obstacles, i.e. the horizon between the sea and the sky. Now the newly hatched group move rapidly down the beach to the sea, running the gauntlet of predatory birds and ghost crabs (*Ocypoda ceratop-*

Turtle laying eggs at night.
Photo: J. Bradley.



PRELIMINARY OBSERVATIONS ON GREEN TURTLES, CHELONIA MYDAS, IN FORAGING PASTURES OF THE UNITED ARAB EMIRATES

The Environmental Research and Wildlife Development Agency (ERWDA) of the United Arab Emirates (UAE) initiated a sea turtle research and conservation program in 1997 with funding from Shell Oil Co. Sea turtles in the Arabian (Persian) Gulf area have not been studied extensively; however, some research primarily on nesting beaches has been undertaken in Saudi Arabia (Miller, 1989), Iran (Kinunen and Walczak, 1971) and in Oman (Ross and Barwani, 1982). Published reports of sea turtles from the UAE are scarce. Brown (1985) provides a few records of green, Chelonia mydas, and loggerhead, Caretta caretta, turtles. Heath (1989) reports a hawksbill, Eretmochelys imbricata, in Das Island, and Brown (1990) reports green turtles from Qarnein Island. More recently, Aspinall (1995) and Baldwin (1996) confirm the nesting of greens and hawksbills and the occurrence of loggerheads, leatherbacks, Dermochelys coriacea, and possibly olive ridleys, Lepidochelys olivacea, in the UAE.

A preliminary survey was performed 19-20 February 1997 at Ras Al Khaimah Emirate, located on the eastern tip of UAE. Nearshore waters in this section of the Gulf are shallow and free of coral reefs. This habitat permits artisanal fishermen targeting finfish and cuttlefish to drag seines into shore. Generally, a 500 m seine is dropped approximately 1 km or more from the shore utilising two 5-8 m boats propelled by high powered outboard motors. One boat remains at the location where the seine is dropped as the second boat drops the seine in a half-moon direction, parallel to the shoreline, ending again about 1 km from shore. Both boats then drag the seine very slowly toward the beach to prevent the escape of the captured marine life. A total of 8 to 10 men are needed to pull in the seine by hand when the depth becomes too shallow for the boats to operate. Several hours are required from start to finish.

Three seine fishing performances by three different groups of fishermen were monitored. Turtles were captured alive and unharmed in all cases. A total of 14 green turtles were captured; 3, 5 and 6 turtles in each set. All fishing was done during the day time. Captured turtles were examined, measured, tagged, and released. Size classes based on curved carapace length (CCL) were tallied as follows: one turtle 35-39.9 cm (7%); three turtles 60-64.9 cm (21%); one turtle 65-69.9 cm (7%); one turtle 70-74.9 cm (7%); three turtles 75-79.9 cm (21%); two turtles 80-84.9 cm (14%); two turtles 90-94.9 cm (14%) and one turtle 100-104.9 cm (7%). Based on tail length, one turtle was estimated to be an adult male and one an adolescent male.

As turtles of considerable size range (37-102 cm) were observed, it is possible that there exists a resident population comprised of all post-pelagic age/size classes. This could be attributed to feed availability due to the fact that sea grass beds are present in the Arabian Gulf, composed of Halodule uninervis, Halophila ovalis, Halophila stipulacea and Syringodium isoetifolium (Sheppard et al., 1992). Halodule was noted washed up along the Ras Al Khaimah shoreline while observing the seine fishing. Residency of foraging turtles has been confirmed for the reef systems around offshore islands, the areas of north Jubail and Abu Ali and south of Safaniyah, in Saudi Arabia by Miller (1989). Aerial surveys over this area confirms the presence of turtles year round. Surveys in UAE waters will be continued to assess the age structure, habitat use, reproductive migrations and ecology, as well as other biological parameters, in order to create the necessary foundations to support an adequate management scheme for the Arabian Gulf turtles.

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Marine Turtle Workshop, Bali, February 3 - 4, 1997

"UCLA HIMB UNIVERSITY HAWAII 96744"

UAE R.A.K. SEINE CAPTURES - Chelonia mydas

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19 February 1997 – 3 TURTLES						
2-D	1-D	81.5	72.5	61.5	16.5	10.5	EST. IMMATURE FEMALE
3-D	4-D	91.0	85.0	71.5	14.5	33.5	ADULT MALE 2 EGGS IN CLOACA
6-D	7-D	79.5	71.0	61.5	—	—	EST. IMMATURE FEMALE
20 FEBRUARY 97 – (BARRIER IS. SEINE) – 5 TURTLES						
10-D	8-D	64.5	55.5	51.0	11.5	9.0	COTS IN LEFT MARGIN. Right hind Amp-INJURED
12-D	11-D	60.0	53.5	47.0	10.5	7.0	Humped deformity TO CENTRAL CARAPACE.
18-D	17-D	79.0	72.0	63.5	14.5	10.0	
21-D	20-D	62.0	55.0	49.0	9.0	5.5	
23-D	22-D	37.0	35.5	31.5	4.0	3.0	PHOTO WITH TAIL
20 FEBRUARY 97 – 6 TURTLES						
24-D	29-D	102.0	84.0	79.0	26.0	17.5	ADULT FEMALE
31-D	32-D	92.0	80.0	73.5	41.0	29.0	ADULT MALE
34-D	33-D	76.5	66.0	61.0	13.5	10.0	
35-D	36-D	80.5	73.5	64.5	17.0	13.0	LESIONS ON BOTH EYES
37-D	38-D	67.0	58.5	56.0	13.0	8.5	LESION EGGS
39-D	40-D	70.5	68.0	56.5	12.5	9.0	

TRANSCRIBED BY G. BACRES 20 FEB 97

November '98

Turtle watch in the UAE

CHRIS BERRY EXPLAINS HOW CONSERVATIONISTS IN THE UNITED ARAB EMIRATES ARE USING THE LATEST IN SATELLITE TECHNOLOGY TO HELP SAVE ENDANGERED TURTLE SPECIES.

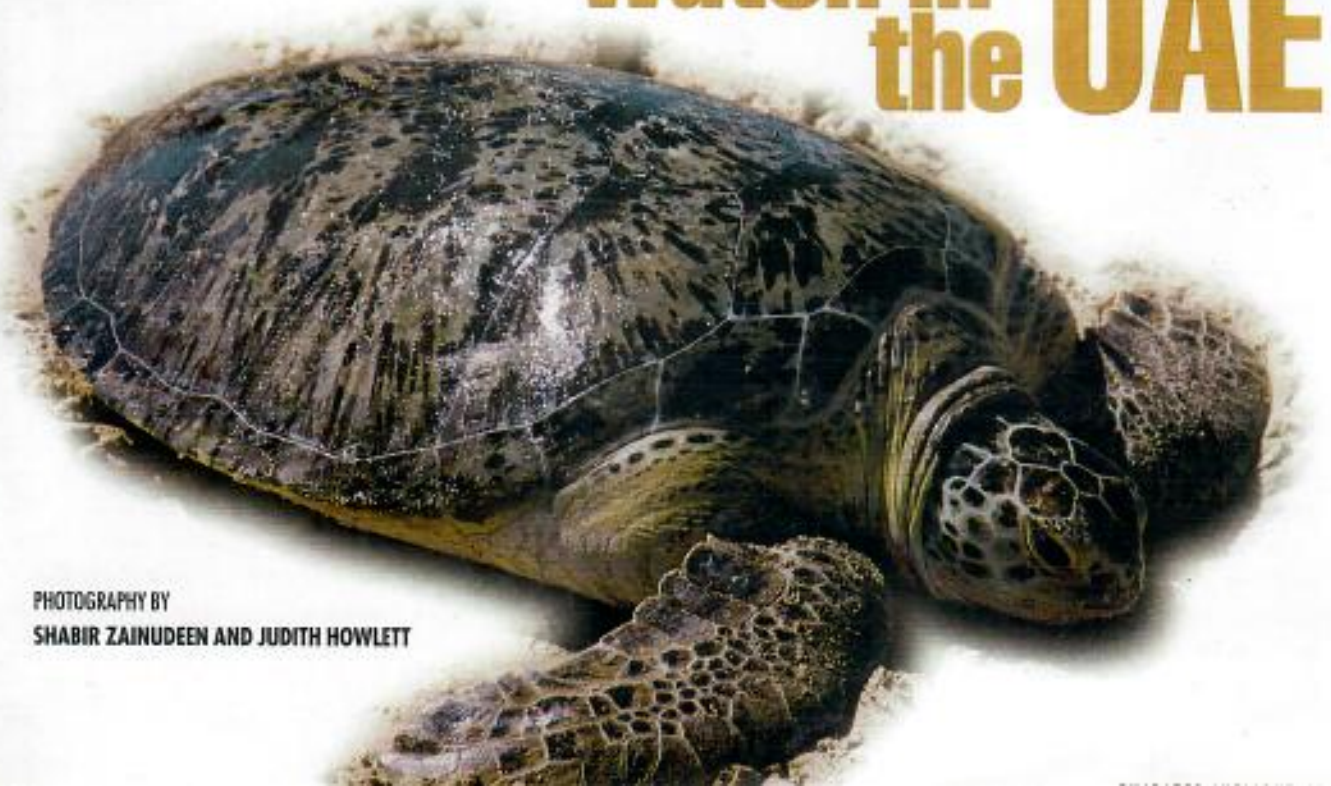
Somewhere deep down in the Arabian Gulf, a mature green turtle feeds innocently on beds of drifting seagrass. Attached to its back is a tiny transmitter, sending a stream of information to satellites orbiting 1,000 kilometres overhead. It may sound like science fiction, but the transmitter is a vital component in a project which, experts hope, will eventually save the marine turtle from extinction.

Even for the experts, marine turtles have always been something of an enigma. Fascinating reptiles which have changed little in 180 million years, they are one of the great oceanic travellers. Much is known about their daily habits, but quite why they make their long migrations, and how, has until now been a mystery.

What we do know is that turtles are increasingly endangered. All seven recognised species are considered in need of special protection efforts, and one, the hawksbill turtle, is among the 10 most endangered animals on the planet. The reasons for this

الدكتور سيف الغيص، الأمين العام لهيئة وأبحاث البيئة والحياة الفطرية وتنميتها، يعيد سلحفاة خضراء إلى مياه البحر في رأس الخيمة بعد معاينتها في إطار برنامج حماية السلاحف البحرية.

Dr Saif Al Ghais, secretary-general of ERWDA, releases a young green turtle into the sea at Ras Al Khaimah.



PHOTOGRAPHY BY
SHABIR ZAINUDEEN AND JUDITH HOWLETT


الدكتور سيف الفيص والفريق البحثي مع سلحفاة تحمل جهاز البث

منذ ١٨٠ مليون سنة تعيش السلاحف البحرية في كوكبنا دون أن يحدث لها أي تغيير إلا في السنوات الأخيرة وهو ما دفع هيئة أبحاث البيئة والحياة الفطرية إلى استخدام تكنولوجيا الاتصال الفضائي في تعقب أثر السلاحف البحرية في دولة الإمارات العربية المتحدة،
وقد تم اختيار إمارة رأس الخيمة كموقع تمهيدي لاجراء الدراسة التي تقوم بها الهيئة بالاستعانة بالخبير الدولي (جورج بلازس) الذي كان يرأس مشروعاً مماثلاً في المعهد القومي الأمريكي للمصايد في مدينة هونولولو بهاواي.

استخدام الأقمار الصناعية للمحافظة عليها بالإمارات

البحث عن السلاحف البحرية

سعيد شلش

وعن سبب اختيار إمارة رأس الخيمة كموقع تمهيدي لاجراء الدراسة يقول الدكتور سيف الفيص الأمين العام للهيئة رئيس المشروع: إنه تم اختيار إمارة رأس الخيمة نظراً لسهولة الحصول على السلاحف فيها بشكل نسبي.. حيث انها كثيراً ما تقع في شباك الصيادين.

وحول استخدام أجهزة البث الفضائية في المشروع قال: إن أجهزة البث ستوفر قدراً كبيراً من المعلومات حول حركة السلاحف البحرية والأماكن التي تتكاثر فيها ومناطق النمو ومسارات الهجرة مما يساعد على اعطاء مؤشرات واضحة لتحديد المناطق التي يمكن تحويلها إلى محميات طبيعية في الدولة.

بعد الانتهاء من النتائج العلمية سيتم عرضها على عدد كبير من الناس وخاصة الصيادين ليمكنهم ذلك من المحافظة على المناطق التي تتكاثر فيها السلاحف وتتغذى.

جورج بلازس الخبير الدولي الذي يعمل في المشروع قال: إن ما يربو على نصف سكان العالم يعيشون على بعد لا يتجاوز الخمسين ميلاً من الخط الساحلي بينما القليلون هم من يتصورون أو يعلمون اليسير عما يجري تحت الأمواج. وقد كانت دولة الإمارات العربية المتحدة سباقة في توقيع اتفاقية المحيط التي تهدف إلى تشجيع الحكومات لتنهض بمسئولية العناية بسلامة البحار في المستقبل.

جهاز البث الفضائي يزن ٧٦٥ جراماً ويتم لصقه على ظهر السلحفاة بطريقة آمنة باستخدام نسيج صمغي من زجاج معزول، ومن المتوقع أن يدوم عمل أجهزة البث فترة تتراوح

demise, after millions of years, are entirely man-made: adult turtles are hunted for meat, shell, bone, oil and leather, their eggs are sought as a luxury food and onshore development is continually destroying their natural nesting and foraging habitat.

Even discarded plastic bags are a hazard, easily mistaken for the jellyfish on which loggerheads and other species feed. Enormous numbers of turtles suffocate on this sort of rubbish every year.

Nor does the chemical pollution of the seas help, spreading disease among turtle populations, while the illegal trade in turtle by-products, such as shells, remains a cruel and unnecessary activity. As with elephant ivory, the aesthetic appeal of the animal has been part of its downfall.

'Ironically, having contributed to the turtles' decline, mankind is now essential to their survival.'

Ironically, having contributed to the turtles' decline, mankind is now essential to their survival. In the United Arab Emirates, where green and hawksbill turtles are frequently found, the Abu Dhabi-based Environmental Research and Wildlife Development Agency (ERWDA) is leading the campaign.

ERWDA introduced a marine turtle programme last year, weighing and measuring turtles along the UAE coast. The team collected samples from 127 specimens, which were then sent for blood chemistry analysis. The intention was to set normal health parameters and detect possible abnormalities, and apart from some minor skin lesions most were healthy.

Since then, research assistant Steve Britsch has tagged and analysed samples from a further 113 green turtles, collecting data to postulate on age and population structure. The result of all this work, when finished, will be the most comprehensive study yet carried out in the UAE.

يقوم خبراء من «هيئة أبحاث البيئة والحياة الفطرية وتنميتها» بقياس حجم ووزن السلاحف وإجراء التحاليل اختبرية عليها، قبل تثبيت جهاز الإرسال الصغير على صدفتها وإطلاقها في البحر.

Experts from ERWDA measure a green turtle, fix a satellite transmitter to its back and release it into the sea.

But it is the migratory patterns which have most confounded the experts, and ERWDA's ambitious new satellite monitoring project appears to be a major breakthrough. The aim, says ERWDA secretary-general Dr Saif Al Ghais, is to discover as much as possible about the turtles' habits.

"We hope the transmitters will provide us with detailed information on the turtles' movements," he says. "In particular, we hope to gain information on their breeding grounds, feeding grounds and migration routes. This will indicate very clearly which coastal foraging pastures, beaches and offshore areas of the UAE need to be protected."

It is not an easy process. A world expert on marine reptiles has flown in from Honolulu to oversee the difficult recovery and tagging process, while the technology being used is a sophisticated and expensive arrangement involving transmitter tags, US weather satellites and a data processing facility in France with a modem link to Abu Dhabi.

Paving the way in conservation

Abu Dhabi's Environmental Research and Wildlife Development Agency (ERWDA) was established in 1996 with the support of H.H. Sheikh Khalifa Bin Zayed Al Nahyan, Crown Prince and Deputy Ruler of Abu Dhabi. Its aim is to establish projects which redress or eradicate the effects of industrial, agricultural, recreational and economic activities on the environment and wildlife of Abu Dhabi emirate.

In practical terms, this involves terrestrial, marine and avian research, veterinary wildlife work, policy research and environmental impact assessment. Or, as secretary-general Dr Saif Al Ghais puts it: "Our priorities are the sustainable development of wildlife and biological diversity of the marine environment."

ERWDA's concerns are being echoed globally, with 1998 designated International Year of the Ocean by the United Nations — a year in which the UN is highlighting the wonders of the ocean, and the role it plays in our lives. The UAE is a signatory to the resulting Ocean Charter, an agreement for governments to take responsibility for the seas, and ERWDA is a key part of the UAE's commitment.

■ ERWDA can be contacted on (+971-2) 319317

'Adult turtles are hunted for meat, shell, bone, oil and leather, and their eggs are sought as a luxury food.'

تواجه السلاحف الخضراء التي تعيش في منطقة الخليج الكثير من الأخطار التي تهدد حياتها، بما في ذلك وقوعها في شباك صيد السمك التقليدية المستخدمة في أنحاء متفرقة من المنطقة. ولحسن حظ السلحفاة (إلى أسفل)، أنه تم تحريرها وإعادتها إلى البحر.

The green turtles of the Gulf face numerous hazards in their battle for survival, not least the Seine nets that are used in traditional fishing in some parts of the region. Happily, this turtle was freed alive and released into the sea.

The transmitters weigh 765 grams, and are attached to the carapace or upper shell of the turtle using resin and fibreglass cloth. When the turtle surfaces the transmitter sends out a stable signal of around 401MHz every 39-42 seconds, a short pulse containing information on the identity of the turtle, sea temperature and battery voltage.

The signals are monitored by three US National Oceanic Administration satellites, which calculate the position of the sender, accurate from within one to five kilometres, from the exact frequency and elapsed time of the pulses.

This information is then stored until the satellite next passes over France, when it is beamed down to a computer processor. Finally, the data is fed electronically to the research team in Abu Dhabi, where it is analysed and recorded. From start to finish the process takes less than three hours, although for ERWDA the work is far from finished. Educating people is the most vital part, persuading local fisherman and others to keep clear of areas which the research suggests are sensitive.

If fewer turtles are subsequently caught in nets, or fewer nesting sites are disturbed by

human activity, then a significant difference will have been made.

Satellite tags have been attached to the carapaces of two potentially egg-laying female turtles, and are already contributing invaluable data. Both were captured in the Ras Al Khaimah region in the Northern Emirates, where green turtles are frequently caught in fishing nets, although the ERWDA team is now switching its attention to the coastal waters off Abu Dhabi itself.

Beach seine nets are rarely used for fishing around the UAE capital, so the intention is to tag females as they come ashore to nest. The results will then be compared to those of the Northern Emirates, to see if migratory patterns differ for turtles in the two areas.

Early results have been revealing. One of the specimens located off Ras Al Khaimah had already been conventionally tagged in Oman, suggesting it had travelled to the Arabian Gulf via the Strait of Hormuz. Since then, satellite data shows that this and the other Ras Al Khaimah turtle have remained in the area, feeding on the large seagrass beds which are found off the Ras Al Khaimah coast.

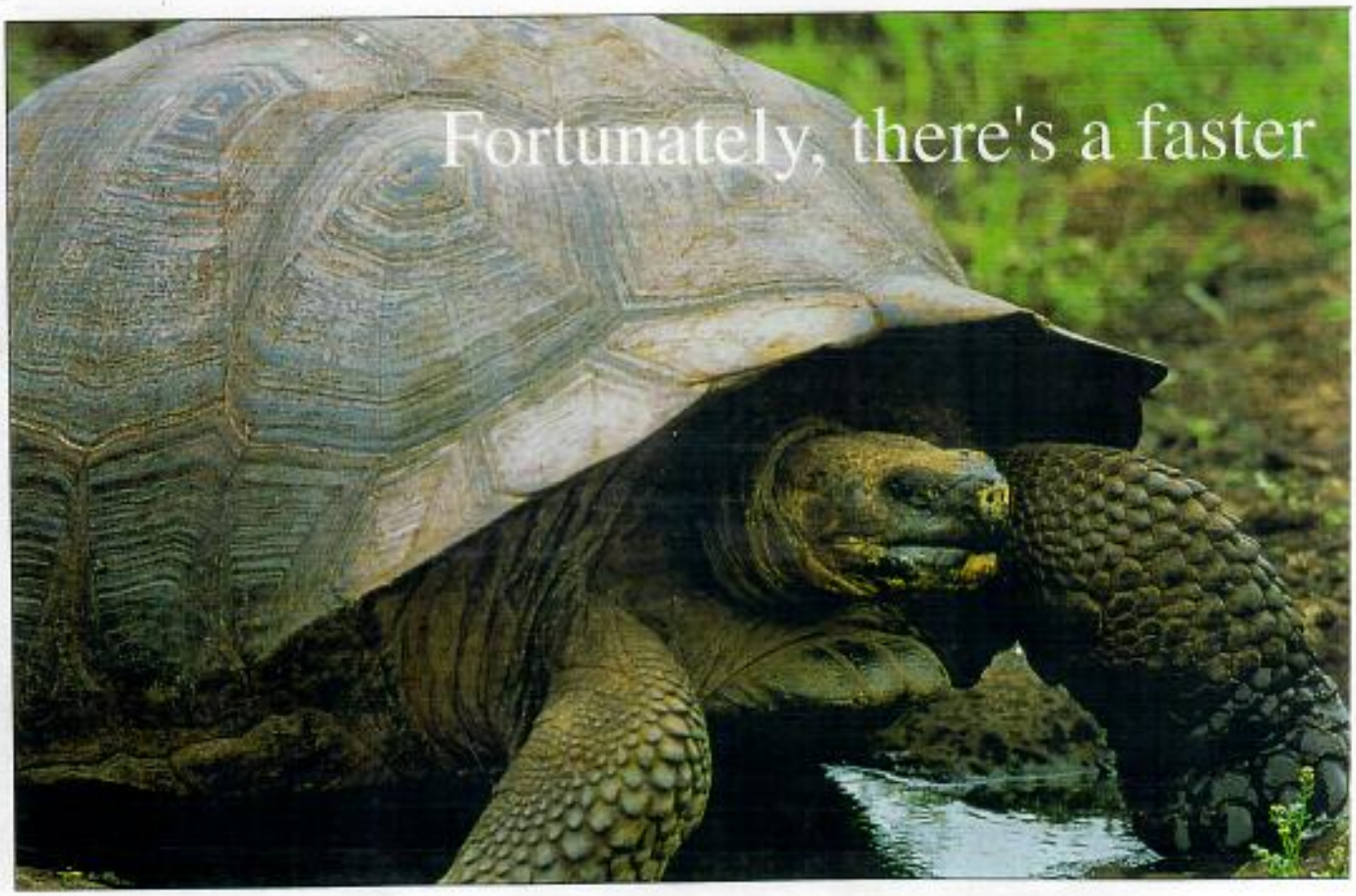
الدكتور سيف الغيص يحمل سلحفاة صغيرة التقطت قبالة سواحل أبوظبي لدراستها.

Dr Saif Al Ghais with a young turtle caught for tagging off Abu Dhabi.

But researchers don't expect them to stay there indefinitely. Dr Walter Pearson, director of marine research at the centre, feels the long-term results may be much more exciting: "Who knows exactly where the turtles will go? As a migratory species they can travel thousands of kilometres, and cross regional and international boundaries to feed and reproduce. We expect to be surprised."

To some extent, they already have been. Among the early findings is the fact that turtles spend between 94 and 97 per cent of their day underwater, so perfectly have these reptiles adapted to their marine environment.

It is just one more fascinating part of the jigsaw, and with the work of ERWDA and organisations such as the National Marine Fisheries Service in Hawaii, more and more missing pieces will be found. Perhaps then, they hope, when mankind has a fuller understanding of these gentle nomads, it can finally start playing a real part in their recovery. ■



"Living in The Gulf" Motivate Publ., Dubai
April, 2004

from: Dennis Russell

Playing tag with turtles

STEVE HILL gives up his lazy Friday to catch up with a man called 'the diver' and help in the campaign to conserve the gentle giants of the sea.

Dr Saif Al-Ghais grew up eating turtles as a young boy living on the coast in Ras Al Khaimah but now focuses his attention on trying to protect these marine creatures.

He has been tagging turtles for more than 10 years in an attempt to learn more about their lives in the coastal waters of the UAE. And, despite fears that populations are in rapid decline, Dr Al-Ghais is trying to remain optimistic.

A visit to his marine station by members of the Dubai-based Emirates Diving Association certainly helped induce a wide smile.

Mobilised by Ibrahim Al-Zu'bi, the EDA's director of environment and research department, the volunteers were on hand to help tag and measure turtles caught in nets.

Just one was found on Al-Zubi's previous private visit. But what could have proved to be a complete waste of time ended with a record haul of 44 green turtles which feed in this area.

"I was afraid," said Dr Al-Ghais. "The fog was so thick that the fishermen did not know where they were putting their nets. To find 44 turtles was fantastic."

All were measured, cleaned of barnacles and tagged before being released while their details were later logged into a database maintained by Dr Al-Ghais, the vice-chairman of the Western Indian Ocean/Marine Turtle Specialist Group and associate professor of marine biology at the UAE University.

How you can help

Emirates Diving Association (www.emiratesdiving.com) organises regular diving trips and activities, including beach clean-ups and coral monitoring, throughout the year.

- Further turtle tagging sessions in Ras Al Khaimah are being planned as well as excursions to the east coast and traditional-style pearl diving sessions in Dubai Creek.
- For more details, call 04 393 9390.
- Dr Al-Ghais would also welcome help at his marine station. For more information, call 07 244 6535.

Whether he will have any further contact with these turtles remains to be seen. "In 10 years I've tagged more than 400 but have since only seen or heard of two or three of them," he said.

"There are two ways to interpret that. The first is that the population is so healthy that there are lots of turtles out there. The second is the exact opposite, that they are all leaving or dying."

Man, of course, is largely to blame for falling populations through marine pollution, beach-side development and demand in certain parts of the world for turtle meat and shell.

"My name – Al-Ghais – means 'the diver'. It refers to my grandfather who was a pearl diver, while my father was a fisherman and I grew up here.

"The sea is very close to my heart, especially turtles. I am worried about the developments on beaches. But I believe the turtles and humans both have a right to be there.

I don't want future generations to only be able to see turtles by looking at a book, as we do dinosaurs."

Involving the public in his tagging sessions is therefore an important first step towards raising awareness of the plight of the turtles which lay eggs in the RAK area from March to June.

It was certainly a very different way to spend a Friday morning.

The volunteers' first task was to help the fishermen haul in the nets which bulged with a large school of sting-rays – all released back into the open ocean – as well as sherry, jackfish and barracuda of varying size and maturity.

But it was the turtles which attracted the most attention. The majority were young and immature but still so heavy that it required two people to drag them out of the water and on to the beach where they were flipped on to their backs to await processing.

Dr Al-Ghais reassured the volunteers to pinch a tag into loose skin on the underside of each flipper before the turtle was measured and turned back on its front to scuttle into the waves.

"It's like having your ears pierced. Not painful at all," he said.

Warnings, though, to keep clear of flapping flippers were heeded. "You won't forget it if you get too close and one hits you across the face."

It took around an hour for this school of turtles to be measured and their details logged, Dr Al-Ghais finishing the session soaked but happy.

"There's still a very long way to go," he said. "It's better here than other areas in the world but unfortunately a lot of people are still thinking that it's only important to keep the environment clean.

"That's not everything. We should also be looking at the resources which need protecting – and I hope that in the future there will be more funding