The format for the species accounts of the final atlas will generally follow the well tried layout found in a number of regional atlases. Each account will be accompanied by a line drawing, a map of course and world distribution map. The map will include different sized blobs to denote possible, probable and confirmed breeding and a colour code for age of records. The final layout will be decided shortly. The following sample species account for brown-necked raven is one of the longer ones so far prepared.

“The typical crows Corvus spp. include the largest passerines and comprise a very successful genus with 40 species (Goodwin, 1967). Crows occur in a wide variety of terrestrial habitats in almost every corner of the world, except South America, Antarctica or New Zealand. Three species breed in Arabia.

Brown-necked raven Corvus ruficollis

The Brown-necked or Desert Raven is one of the typical Eremian region species, occurring throughout the desert belts of the Old World. Two races are recognised, the nominate one occurring throughout the above range except for north east Africa and Somalia where edithae occurs. The Brown-necked Raven has previously been treated as a race of the Common Raven C. corax but now is widely regarded as a full species. In Arabia birds from the Farasan islands in the Red Sea have been reported as being heavier billed and showing more extensive brown compared to mainland birds. Also from the Farasans, partial albinistic individuals have been noted. In the western Arabia highlands and some parts of central Arabia this raven is often observed associating with the Fan-tailed Raven C. rhipidurus. It is readily distinguished from that species by its longer tail and the Fan-tailed Raven is rarely found far from rock outcrops. The Brown-necked tolerates much more arid conditions that the Fan-tailed Raven.

The Brown-necked Raven is a widespread resident species, occurring in pairs and family groups for most of the year but often flocking after the breeding season until late autumn. It inhabits a wide variety of habitats occurring on some of the larger islands (Farasan, Masirah, Socotra), mountain tops (at or over 3,000 m in western Arabia and northern Oman) and in the extremely arid sandy wastes of the Empty Quarter. It is scarce or very local in southern Arabia and appears to be entirely absent from the south coastal region of Dhofar and Al Hawf region of the Oman/Yemen border, which catches the monsoon. There is little evidence of any historical change in either range or numbers except that it became extinct in Bahrain in 1971, possibly as a result of hunting. Also records suggest it is becoming increasingly scarce in the UAE, possibly due to the spread of urban areas and cultivation. It appears to avoid large irrigated areas, such as pivot irrigation schemes. It shuns agricultural and built up areas, except when flocking after breeding. It is generally resident wherever it occurs. No movements are known but post breeding flocking occurs generally from July to October. Sometimes flocks of 100 can be seen as early as May. Near Riyadh flocks built up from 300 in late June to 4-500 in July and August, reducing to 300 in October, with one group of 200 as late as 28 November. Six days of field work during ABBA Survey 22 to the Liwa and western Abu Dhabi failed to find a single raven and other observations suggest that numbers are severely depleted from large areas of their desert breeding areas during the flocking period.

During the ABBA period this species was one of the easiest to find and to prove breeding as its nests are readily found and often easily inspected. Coverage has generally been good. The gaps on the maps, in the Empty Quarter, the Great Nafud and eastern Yemen, are more likely to represent poor observer coverage rather than the absence of ravens. Indeed this species is probably the only bird that occurs throughout the Empty Quarter. Although they are widespread in the Empty Quarter, population levels there are low, except by highways. A 166 km transect of sand dunes in the south west part of the Empty Quarter in March, failed to find any ravens, but during a 594 kms drive along a highway at the same time in the same region, 38 ravens were counted. Birds probably concentrate near roads for greater food availability from spilt grain, road kills, rubbish from vehicles and the like. They also find more nest sites by roads in the form of telegraph poles, buildings, pylons etc, than in the surrounding desert. In the poorest deserts a pair of ravens probably occupies a nesting territory of about 40,000 ha., or about seven pairs in each atlas square. The population estimate for Arabia is 21,000 pairs based on the above density for the Empty Quarter (300 squares) and three times that density elsewhere (900 squares).

This species appears not to need a permanent water supply to survive, and even when water is available in hot weather it does not seem to go out of its way to drink. It feeds on carrion, digs in the ground for invertebrates (including the large beetle grubs that burrow just under the surface of dunes) and takes birds eggs and young if it can find them. Highways are attractive to them, especially parking lay-bys, because they often mean a sure supply of food scraps. They also attend temporary desert camps including bedouin tents for scraps. This behaviour, and their fondness of man’s rubbish and scraps, make it difficult to understand why they do not occur more often in towns and villages. They also associate with domestic stock, perching on camels apparently searching for parasites, and around sheep and goat flocks, possibly taking disturbed insects.

Nesting is exclusively in the spring in Palearctic Arabia, birds
pair by November and nests are usually under construction or occupied by late February. Nest sites are extremely variable. The preferred site is a tree, especially acacia or other thorny species such as *Maerua* or *Zizyphus*, but they will use any tree, including a date palm, if that is all that is available. Small flimsy waist-high shrubs are used to support a nest in remote regions, such as the Empty Quarter where ground predators are scarce and nest bushes are hidden in folds among the dunes. Rocks and cliffs seem to be a secondary choice for nests but really any structure will suffice if the nest is a metre or more off the ground, away from ground predators. Some range of nest sites have included the top of a 100 m microwave pylon, on a roadside telephone box, well markers in the oil fields (barrel on pole), the loop of a disused basketball pole and on top of 2 m high pile of rusting wire. On a Red Sea island the old nest of an Osprey *Pandion haliaetus* (at ground level) has been used and the ravens have been known to dispute a pylon nest site with an Osprey. Brown-necked Ravens are scarce or absent in many parts of northern Arabia, perhaps because of the lack of trees and bushes on which to place nests. In this area, like many other regions devoid of trees, the tall microwave relay towers (every 20-50 km) are used for nesting but they do not nest on such towers if they are in towns or built up areas. The main structure of the nest is always twigs, but scraps of cloth and plastic may be woven in. The nest is lined with softer materials, mainly goat and camel hair, wool, down, grasses, feathers and cloth, sometimes much paper. Egg laying is mainly in late February and early March but can be as early January (eastern Arabia). Nesting is latest in the mountains of the south west where young are sometimes in the nest until June. The clutch/brood size reflects the conditions for feeding young. Nests in the arid south and central parts of the peninsula often have only two eggs. In contrast a clutch of seven was once recorded after good rains, in an area with numerous trees and shrubs and stock animals. Of 18 clutches recorded on the ABBA database 7 have four eggs and 4 had five eggs, however of 27 nests containing young 8 had two and 8 had three young, and no nest raised five young to fledging, suggesting that a significant loss of eggs and nestlings. There is no evidence of double or replacement broods. Nesting brown-necked ravens, like most large corvids, show great hostility to birds of prey in the vicinity of their nests and harass (usually as a pair) even the largest raptors including Golden Eagle *Aquila chrysaetos* and Lappet-faced Vulture *Torgos tracheliotos* until they are out of the area. They have also been known to mob people near nests. There appears to be no particular animosity with the Fan-tailed Raven where the two species occur side by side. They are found in mixed flocks after the breeding season, especially at rubbish dumps and the like. However on occasions one species has been seen to aggressively chase the other, usually in situations where one is nesting. More often than not this has been the brown-necked chasing the fan-tailed.

The brown-necked Raven remains a successful and numerous species in Arabia, well able to survive in the most arid of environments and at present is not a subject for conservation concern. However its apparent avoidance of urban and irrigated areas when breeding may mean its traditional habitats areas are being encroached upon which could result in a population reduction. More information is needed in this respect. It is occasionally shot, nestlings are sometimes taken (Kuwait) and used to trap falcons and it is sometimes electrocuted by certain types of overhead power lines. Remains of Brown-necked Raven have been found in Golden Eagle nests but it has few other enemies.

**Population (prs): Bahrain nil (extinct 1971), Kuwait 10, Oman 3500, Qatar 10, Saudi Arabia 14000, UAE 1000, Yemen 2500.**

**Society News:**

**Yemen Ornithological Society and The Lammergeier**

Details of the YOS newsletter and of membership are available from the Chairman, David B Stanton, Yemen Ornithological Society, PO Box 2002, Sana'a, Republic of Yemen. Telephone number 9671269314, fax 9671234438. (Email <DavidStanton@qsi.org>.

**Fig 12.** There were breeding records of black-necked grebe *Podiceps nigricollis* from the mid 1980s in Qatar and south west Arabia, but none since. Have conditions not been right for them again or is it a case of inadequate observer coverage?

**NEWS FROM SOCOTRA**

The following report has been received from Dr Wolfgang Wranik who has experience and knowledge of the biology of Socotra from a number of expeditions to the island during the last 15 years. He has recently completed a two week pilot study on Socotra (September 1998) for more detailed surveys in 1999.

The study was in preparation for a detailed floristic and faunistic multidisciplinary survey in 1999. The faunistic interest during the