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Preliminary List of Mediterranean Birds in Need of Special Protection

IN CO-OPERATION WITH:



PRELIMINARY LIST OF MEDITERRANEAN BIRDS IN
NEED OF SPECIAL PROTECTION

by

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International Council for Bird Preservation (ICBP)
International Union for Conservation of Nature and Natural
Resources (IUCN)

INTRODUCTION

A first list established by the authors, who took into account the draft report on Threatened Birds of Europe (this is being prepared by the Royal Society for Protection of Birds for the Council of Europe), was circulated to the national sections of the International Council for Bird Preservation (ICBP) and to other bird conservation organisations within the Mediterranean area. The present preliminary list was then finalized on the basis of the reactions received.

The sign of a double asterisk indicates that the species in question is typically coastal and a single asterisk that the species is more or less coastal. The initials "RSPB" indicate that the description is in line with the above-mentioned report on Threatened Birds of Europe.

In this list special attention is given to breeding bird populations, occasionally to migratory species. Very limited exact figures concerning migrating and wintering populations are available. The list is composed with the help of the following publications :

Parslow J.L.F. and Everett M.J.,
Threatened birds in Europe, Draft, prepared by the Royal Society for Protection of Birds, The Lodge, Sandy, Bedfordshire, U.K. for the Council of Europe, Strasbourg.

Council of the European Communities 1979: Council directive of 2 April 1979 on the conservation of wild birds (79/409/EEC) Annex 1, Official Journal of the European Communities 1979 No. L. 103/7.

IUCN Red Data Book Vol. 2 Aves, IUCN Gland.

Bruun B. and Singer A.
The Hamlyn Guide to Birds of Britain and Europe,
Hamlyn, London 1970.

Ethchecopar R. D. and Hüe F.
Les oiseaux du nord de l'Afrique,
N. Boubée et Cie., Paris 1964.

Heinzel H., Fitter R. and Parslow J.F., 1972.
The Birds of Britain and Europe, with North Africa and the Middle East.
Collins, London/Glasgow.

When the birds appear in (almost) all or in most of the Mediterranean countries, the names of the countries are not mentioned in the list. In other cases (few or small and isolated breeding-places) the breeding areas are mentioned in the list (mainly according to Heinzel e.a. 1972). The countries which are important wintering areas, are put between brackets.

The following abbreviations have been used:

| | |
|---------|--|
| Med | : Mediterranean (N,E,S,W, : North, East, etc.) |
| M.-East | : Middle-East |
| M | : Morocco |
| Alg | : Algeria |
| Tun | : Tunisia |
| Lyb | : Lybia |
| E | : Egypt |
| Isr | : Israel |
| Leb | : Lebanon |
| Syr | : Syria |
| Tur | : Turkey |
| Gr | : Greece |
| Alb | : Albania |
| Ju | : Jugoslavia |
| It | : Italy |
| Fr | : France |
| Sp | : Spain |
| Cyp | : Cyprus |
| Sic | : Sicily |
| Sard | : Sardinia |
| Cors | : Corsica |

Birds in need of special protection in the Mediterranean.

Struthionidae

Struthio camelus ostrich S-Med.

PROCELLARIIFORMES

Procellariidae

(Puffinus puffinus manx shearwater
Puffinus diomedea cory's shearwater

PELECANIFORMES

Pelecanidae

Pelecanus onocrotalus white pelican (E-Med.)
Pelecanus crispus dalmatian pelican Tur, Gr, Alb, Ju,
(E-Med.)

Phalacrocoracidae

Phalacrocorax pygmaeus pygmy cormorant (Tur, Gr, Alb, Ju.)
Phalacrocorax carbo cormorant
Anhinga rufa E, Mid. East.

CICONIIFORMES

Ardeidae

Egretta alba great white heron Tur, (Gr, Alb, E-Med.)
Egretta gularis E.
(Ardeola ralloides squacco heron)
Ardea goliath E.
(Ixobrychus minutus little bittern)

Threskiornitidae

Platalea leucorodia spoonbill S-Sp, Tur, (Med)
Plegadis falcinellus glossy ibis E, Tur, (N-E-Med.)
Geronticus eremita bald ibis M, Alg, Tur.

Ciconiidae

Phoenicopterus ruber flamingo M, Alg, Tun, Tur, Fr,
Sp, (S+E-Med, Sp, Fr.)

ANSERIFORMES

Anatidae

Tadorna ferruginea M, Alg, Mid. East, Tur
Sp, (M, Alg, Tun, E.)

continuation Anatidae.

Marmonetta angustirostris
Oxyura leucocephalamarbled teal
white-headed duckS+E-Med, S-Sp, Fr.
M, Alg, Tun, Tur, Ju,
It, Sard, Cors, S-Sp.Netta rufina
Branta ruficollis

red breasted goose

(Tur, Gr.)

FALCONIFORMESAccipitridaeElanus Caeruleus
Buteo rufinus
Hieraeetus pennatusblack-winged kite
long-legged buzzard
booted eagleM, Tun, Alg, E, Sp.
S+E-Med, Gr.
M, Alg, Tun, M.-East,
Tur, Gr, Alb, Ju, Fr,
Sp.Hieraeetus fasciatus
Haliaeetus albicilla
Aquila heliaca + subspeciesbonelli's eagle
white-tailed eagle
imperial eagleM, Tur, Gr, Alb, Ju,
Sp, (M.-East, E.)

Aquila rapax + subspecies

steppe eagle

M, Alg, Tun, Tur,
(M.-East, E.)
E.Aquila verreauxi
Pandion haliaetus
Neophron percnopterus
Gypaetus barbatus
Torgos tracheliotus
Aegyptius monachus
Gyps fulvus
(Accipiter brevipes
Melierax metabates
Circus pygargus
(Circus macrourusosprey
egyptian vulture
bacerded vulture
lappet-faced vulture
black vulture
griffon vulture
levant sparrowhawk
chanting goshawk
montagu's harrier
pallid harrierM, Tun, E, Isr, Leb.
N+E-Med, (M, E.)E-Med.)
M.

wintering in Med.)

FalconidaeFalco biarmicus
Falco peregrinuslanner falcon
peregrine falcon

S+NE-Med.

M, Alg, Tun, M.-East,
N-Med.Falco pelegrinoides
Falco eleonora

eleonora's falcon

M, Alg, Tun, E, M.-East
islands and cliffs in
Med.Falco cherrug
Falco concolorsaker falcon
sooty falconTur, (NE-Med, SE-Med.)
E, Lyb.GALLIFORMESPhasianidaeNumida meleagris
Alectoris barbara
Ammoperdix heyi and subspecies
(Coturnix coturnix
Francolinus francolinus
Francolinus bicalcaratusguinea-fowl
barbary partridge
sand partridge
quail

M.

S-Med, S-Sp, Cypr.
E.

E-Med.)

double-spurred francolin M.

GRUIFORMESTurnicidae

Turnix sylvatica

andalusian hemipode

S-Sp, M, Alg, Tun.

Gruidae

| | | |
|--------------------|----------------|---------------------------------|
| (Grus grus | crane | Tur, (wintering in Med) |
| Anthropoides virgo | demoille crane | Tur, M, Alg, Tun, (M.-East, E.) |

Otididae

| | | |
|-----------------------|-----------------|--------------------------------|
| Ardeotis arabs | arabian bustard | M. |
| Otis tarda | great bustard | M, Tur, Sp. |
| Otis tetrax | little bustard | M, Alg, Tun, Gr, It, Cypr, Sp. |
| (Chlamydotis undulata | houbara bustard | S-Med.) |

Rallidae

| | | |
|---------------------|------------------|------------------------------------|
| Fulica cristata | crested coot | M, S-Sp. |
| Porphyrio porphyrio | purple gallinule | M, Alg, Tun, E, Syr, Sic, Sar, Sp. |

CHARADRIIFORMES

Dromadidae

| | | |
|-----------------|-------------|------|
| (Dromas ardeola | crab plover | E.) |
|-----------------|-------------|------|

Charadriidae

| | | |
|----------------------|------------------------|--------|
| Charadrius pecuarius | kittlitz's sand plover | E. |
| Vanellus spinosus | spur winged plover | E+Med. |
| Vanellus leucurus | | E. |

Burhinidae

| | | |
|-----------------------|----------------------|----|
| Burhinus senegalensis | senegal stone-curlew | E. |
|-----------------------|----------------------|----|

Glareolidae

| | | |
|---------------------|-------------------------|----------|
| Glareola pratincola | pratincole | |
| Glareola nordmanni | black-winged pratincole | (E-Med.) |
| Pluvianus aegyptius | egyptian plover | E. |
| Cursorius cursor | cream-coloured courser | S-Med. |

Laridae

| | | |
|---------------------------------|---------------------|--|
| Larus genei | slender billed gull | Lyb, Gr, Fr, Sp, (wintering in several Med. country's) |
| Larus audouinii | audouin's gull | rocky islands and coasts in Med. |
| Gelochelidon nilotica | gull-billed tern | Alg, Tun, Tur, Gr, Alb, Ju, Fr, Sp, (M, E.) |
| Hydroprogne caspia (tschegrava) | caspian tern | E, Tun. |

COLUMBIFORMES

Pteroclididae

| | | |
|----------------------|--------------------------|------------------|
| Pterocles orientalis | black-bellied sandgrouse | S+E-Med. |
| Pterocles alchata | pin-tailed sandgrouse | S+E-Med, Fr, Sp. |

STRIGIFORMES

Strigidae

| | | |
|--------------------|-----------|-------------------|
| Bubo bubo | eagle owl | Med. |
| Ketupa zeylonensis | | Isr. |
| Asio capensis | | M. |
| Strix butleri | | E, Isr, Leb, Syr. |

APODIFORMES

Apodidae

| | | |
|---------------|--------------------|---------------|
| Apus caffer | white rumped swift | M, Alg, S-Sp. |
| Apus pallidus | pallid swift | |

CUCULIFORMES

Cuculidae

| | | |
|------------------------|----------------------|----|
| Clamator glandarius | great spotted cuckoo | |
| Centropus senegalensis | senegal coucal | E. |

CAPRIMULGIFORMES

Caprimulgidae

| | | |
|------------------------|---------------------|------------------|
| Caprimulgus ruficollis | red-necked nightjar | M, Alg, Tun, Sp. |
| Caprimulgus nubicus | | E, Isr. |
| Caprimulgus aegyptius | egyptian nightjar | Alg, Lyb, E. |

CORACIIFORMES

Alcedinidae

| | | |
|--------------------|---------------------|---------------|
| Halcyon smyrnensis | egyptian kingfisher | M.-East, Tur. |
| Ceryle rudis | pied kingfisher | E-Med. |

Meropidae

| | | |
|----------------------|------------------------|--------------------------|
| Merops apiaster | bee eater | |
| Merops superciliosus | blue cheeked bee eater | M, Alg, Lyb, E, M.-East. |

Coraciidae

| | | |
|-------------------|--------|------|
| Coracias garrulus | roller | Med. |
|-------------------|--------|------|

PICIFORMES

Picidae

| | | |
|----------------------|--------------------------------|------------------------|
| Dendrocopos syriacus | syrian woodpecker | M.-East, Tur, Ju, Alb. |
| Dendrocopos medius | middle spotted wood- pecker | N-Med. |
| Dendrocopos leucotos | white-backed wood- pecker | Tur, Ju, Alb, Sp. |
| Dendrocopos minor | lesser spotted wood- pecker | Alg, Tun, N-Med. |

PASSERIFORMES

Alaudidae

| | | |
|---------------------------|------------------------|-----------------------------|
| Chersophilus duponti | dupont's lark | M, Alg, Tun, Lyb. |
| Calandrella cinerea | short-toed lark | |
| Calandrella rufescens | lesser short-toed lark | S.-Med, Tur, Sp. |
| Melanocorypha calandra | calandra lark | |
| (Melanocorypha leucoptera | white winged lark | (wintering in M.-East)) |
| Melanocorypha bimaculata | eastern calandra lark | M.-East, Tur, (E). |
| Galerida theklae | thekla lark | M, Alg, Tun, Lyb, E, Fr, Sp |
| Eremophila alpestris | shore lark | M, NE-Med. |
| Rhamphocorys clot-bey | thick-billed lark | M, Alg, Tun, Lyb, E, Isr. |

Hirundinidae

| | | |
|--------------------|--------------------------------|---------------------------|
| Hirundo daurica | red rumped swallow | M, NE-Med. |
| Riparia paludicola | brown-throated sand- martin | M. |
| Hirundo obsolata | pale crag martin | M, Alg, Lyb, E, Isr, Leb. |

Motacillidae

| | | |
|-------------------------------|----------------|----------|
| Anthus campestris | tawny pipit | Med. |
| Anthus similis | | M.-East. |
| subspecies of Motacilla flava | yellow wagtail | |

Laniidae

| | | |
|--------------------------------|-------------------|-----------------|
| Lanius collurio | red-backed shrike | N-Med, (SE-Med) |
| Lanius nubicus | masked shrike | NE-Med, (E.) |
| Subspecies of Lanius excubitor | great grey shrike | |

Cinclidae

| | | |
|---------------------------|---------------|----------------|
| Cinclus cinclus | dipper | M, Alg, N-Med. |
| Cinclus cinclus olympicus | cyprus dipper | Cypr. |

Prunellidae

| | | |
|-------------------|-----------------|-----------|
| Prunella collaris | alpine accentor | M, N-Med. |
|-------------------|-----------------|-----------|

Muscicapidae

Turdinae

| | | |
|-----------------------|-------------------------|--------------------------------|
| Oenanthe isabellina | isabelline wheatear | M.-East, Tur, Gr, (E, Lyb, TM) |
| Oenanthe deserti | desert wheatear | S-Med. |
| Oenanthe leucura | black wheatear | M, Alg, Tun, Lyb, Fr, Sp. |
| Oenanthe finschii | finsch's chat | M.-East, Tur, (E.) |
| Oenanthe moesta | grey-headed wheatear | S-Med, M.-East. |
| Oenanthe monacha | hooded chat | E, Isr. |
| Oenanthe lugens | mourning chat | S-Med, Isr, Leb, Syr. |
| Oenanthe leucopyga | white-rumped black chat | S-Med. |
| Cercomela melanura | blackstart | E, Isr. |
| Monticola saxatilis | rock thrush | M, Alg, M.-East, N-Med, (S-Me) |
| Monticola solitarius | blue rock thrush | |
| Phoenicurus moussieri | moussier's redstart | M, Alg, Tun. |
| Irania guttularis | | M.-East, Tur, (E.) |

Sylviinae

| | | |
|-------------------------|---------------------|--|
| Cettia cetti | cetti's warbler | |
| Locustella luscinioides | savi's warbler | Alg, N-Med. |
| Locustella fluviatilis | river warbler | Tur. |
| Locustella naevia | grasshopper warbler | It, Ju, Fr, Sp, (M, Gr.) |
| Luscinola melanopogon | moustached warbler | Alg, Tun, Tur, It, Ju, Fr, Sp, (M.-East, Gr.) |

continuation Silviinae.

| | | |
|----------------------------|-----------------------------|--|
| Acrocephalus paludicola | aquatic warbler | It, Ju. |
| Acrocephalus schoenobaenus | sedge warbler | N-Med, (all Med. country's) |
| Acrocephalus stentoreus | egyptian great reed warbler | E |
| Cisticola juncidis | fan-tailed warbler | |
| Prinia gracilis | gracefull warbler | E, M.-East, Tur. |
| Scotocerca inquieta | scrub warbler | S-Med, Isr. |
| Cercotrichas galactotis | rufous warbler | |
| Hippolais polyglotta | melodious warbler | |
| Hippolais olivetorum | olive-tree warbler | Isr, Leb, Tur, Gr, Alb, Ju. |
| Hippolais languida | | M.-East. |
| Sylvia rüppellii | rüppell's warbler | M.-East, Tur, Gr, Alb, (SE-Me ^d) |
| Sylvia melanocephala | sardinian warbler | Cypr. |
| Sylvia cantillans | subalpine warbler | |
| Sylvia conspicillata | spectacled warbler | M, Alg, Tun, Lyb, E, Isr, Leb, It, Fr, Sp. |
| Sylvia melanothorax | | Cypr. |
| Sylvia undata | dartfort warbler | M, Alg, Tun, It, Fr, Sp. |
| Sylvia sarda | marmora's warbler | Cors, Sard, Sp, (Alg, Tun.) |
| Sylvia deserticola | tristram's warbler | M, Alg. |
| Phylloscopus sibilatrix | wood warbler | N-Med, (S+E-Med.) |
| <u>Timaliinae</u> | | |
| Panurus biarmicus | bearded tit | N-Med. |
| Turdoides fulvus | fulvous chatterer | M, Alg, Tun, Lyb, E. |
| Turdoides squamiceps | arabian babbler | E, Isr, Leb. |
| <u>Nectariniidae</u> | | |
| Nectarinia osea | | Isr, Leb, Syr. |
| Anthreptes platyrhynchos | | E. |
| <u>Remizidae</u> | | |
| Remis pendulinus | penduline tit | N-Med. |
| <u>Paridae</u> | | |
| Parus lugubris | sombre tit | Isr, Leb, Syr, Tur, Gr, Alb, J |
| <u>Sittinae</u> | | |
| Sitta krüperi | | Tur. |
| Sitta whiteheadi | corsican nuthatch | Cors. |
| Sitta neumayer | neumayer's rock nuthatch | M.-East, Tur, Gr, Alb, Ju. |
| Sitta ledanti | | Alg. |
| <u>Tichodromadinae</u> | | |
| Tichodroma muraria | wallcreeper | M.-East, N-Med. |
| <u>Emberizidae</u> | | |
| Emberiza striolata | house bunting | S-Med, Isr. |
| Emberiza cia | rock bunting | |
| Emberiza caesia | gretzschmar's bunting | M.-East, Tur, Gr, Alb, Ju, (E.) |
| Emberiza cineracea | cinereous bunting | Tur, (Lyb.) |
| Emberiza schoeniclus | reed bunting | N-Med, (M, Alg, Tun, M.-East.) |
| Emberiza citrinella | yellowhammer | N-Med. |
| Emberiza cirillus | curl bunting | M, Alg, Tun, N-Med. |
| Emberiza melanocephala | black headed bunting | M.-East, Tur, Gr, Alb, Ju, It. |

Fringillidae

| | | |
|-------------------------------|----------------------|-------------------------|
| subspecies of Fringilla | | |
| coelebs | chaffinch | |
| Coccothraustes coccothraustes | hawfinch | M, Alg, Tun, N-Med. |
| Serinus citrinella | citril finch | It, Cors, Sard, Fr, Sp. |
| Serinus serinus | serin | |
| Serinus syriacus | | M.-East. |
| Carduelis chloris | greenfinch | |
| Carduelis spinus | siskin | N-Med. |
| Carduelis carduelis | goldfinch | |
| Loxia curvirostra + subsp. | crossbill | M, Alg, Tun, N-Med. |
| Carpodacus synoicus | sinaï rose finch | E, Isr. |
| Rhodopechys obsoleta | | M.-East. |
| Rhodopechys githaginea | trumpeter finch | S-Med, Isr. |
| Rhodopechys sanguinea | crimson-winged finch | M, Alg, M.-East, Tur. |

Ploceidae

| | | |
|---------------------------|-----------------------|--------------------|
| Passer hispaniolensis | spanish sparrow | |
| Passer domesticus italiae | italian house sparrow | |
| Passer moabiticus | | E, Isr, Tur. |
| Passer simplex | desert sparrow | M, Alg, Lyb. |
| Petronia petronia | rock sparrow | |
| Petronia brachydactyla | pale rock sparrow | M.-East, Tur, (E.) |
| Montifringilla nivalis | | N-Med. |

Sturnidae

| | | |
|------------------|-------------------------|----------------------------------|
| Sturnus roseus | rose-coloured starlings | M.-East, Tur. |
| Sturnus unicolor | spotless starling | M, Alg, Tun, Sic, Sard, Cors, Sp |

Oriolidae

| | | |
|-----------------|---------------|-------------------------|
| Oriolus oriolus | golden oriole | M, Alg, N-Med, (S-Med.) |
|-----------------|---------------|-------------------------|

Corvidae

| | | |
|-------------------------|---------------------|-------------------------|
| Cyanopica cyanus | azure-winged magpie | Sp. |
| Pyrrhocorax pyrrhocorax | chough | M, Alg, M.-East, N-Med. |
| Pyrrhocorax graculus | alpine chough | M, N-Med. |
| Corvus ruficollis | brown-necked raven | S-Med. |
| Corvus rhipidurus | fan-tailed raven | E, Isr, Leb, Syr. |

Wageningen, 16 January 1980.

Checklist

Birds in need of special protection in the Mediterranean

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| | | |
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Struthio camelus: Ostrich

With a height of between 180 and 240 cm, the male ostrich is the biggest living bird in the world. The head, neck and powerful legs are unfeathered. The male is black, except the feathers at the end of wings and tail, which are white. The female is smaller and brown.

Ostriches cannot fly; they usually live in groups but are sometimes solitary. They are mainly vegetarian but also eat many insects. Whilst foraging they swallow stones to help the stomach crush the food.

Habitat - semi-desert, steppes and savannas.

In the mating-season, the male ostrich gathers a variable number of females around him. These lay their eggs in the same shallow depression with the result that clutches may vary as much as from 10 to 60. The male takes a large share in incubation.

The ostrich was formerly found in most North African countries and, as it survives in Mauretania could perhaps still wander to Morocco or elsewhere in North Africa. The species' decline was mainly due to hunting.

Conservation and management: Remnant population should be strictly protected by:

1. strict protection, no hunting allowed;
2. conservation of habitat;
3. establishment of reserves.

Puffinus puffinus: Manx shearwater

The subspecies and their ranges are:-

- P. p. puffinus: nests north-east Atlantic, rarely north-west: has wandered in winter to Mediterranean, but winters mainly in south-west Atlantic.
- P. p. mauretanicus: nests Balearics, also islets off north-east Morocco.
- P. p. yelkouan: nests east and central Mediterranean, including islands of Aegean and, probably regularly, eastern coasts of Tunisia.

35 cm. Male and female look alike. In both the Atlantic and eastern Mediterranean subspecies, dark upperparts contrast sharply with white underparts, but west Mediterranean subspecies is noticeably darker beneath and paler above, and has a more rapid and careening flight. All subspecies have rose-pink legs and black bill.

The Manx shearwater nests in colonies, which can be very big, usually on islands, sometimes on the coasts of the continent. In the Mediterranean region it breeds in the middle of April.

Conservation and management: This species should be strictly protected and particularly its breeding places.

Puffinus (=Calonectris) diomedea: Cory's shearwater

45 cm. Male and female similar. Upperparts, sides of the head and tail are ash-grey, wings darker, underside white. Bill is yellow with black spots behind nail.

Cory's shearwater eats Cephalopods and eggs of fishes. It is often seen on the water, but during the day many hide or rest in caves. Usually silent but in breeding-time very noisy.

The nests are built at the end of May, and sometimes much later, usually high on steep cliffs, often under inclining rocks or bushes. The care of the eggs and young birds takes about five months.

Living on islands and rocky coasts of the Mediterranean. Local declines are caused by man taking birds for food and using breeding islands for naval activities, and by increasing tourism and pollution.

Conservation and management: Investigation of numbers and distribution. All the breeding colonies of Puffinus diomedea should be protected by:

1. establishing reserves in the breeding colonies;
2. protection against unwise exploitation, too much tourism and other human activities.

Pelecanus onocrotalus: White pelican

140-175 cm. Male and female similar. Big heavy white bird, in breeding plumage with a rosy tint. The ends of the wings are black. Yellow spot on the breast. Bill blue and pink, legs pink or orange.

When swimming pelicans float very high. Flight straight, a few deliberate wing-strokes interrupted by gliding. They often fish in groups, forming a half-circle to startle the fish and then surround them. As frequently visit salt as fresh water.

The nests are big hollows which the pelican digs in the ground, surrounded by a little wall of sand, feathers and bones. Breeding starts at the end of September but the dates vary with the migration of the fishes.

In the Mediterranean region the White pelican winters in eastern coastal states, notably Egypt and Greece. It also nests in Greece (Lake Mikra Prespa; 50 pairs in 1976) and in Turkey. In winter also sometimes seen in Algeria, Tunisia and Libya.

Conservation and management: The white pelican should be strictly protected. The breeding places should be especially protected as nature reserves, and habitat should be conserved.

Pelecanus crispus: Dalmatian pelican

160-180 cm. Male and female look the same. Both are white. The feathers of the upper wings and the body are darker at the ends, the underwings have a bluey tint. Feet are grey, eyes yellow. Curly neck-feathers.

Nesting in marshes and lakes. In winter often also resorts to sheltered shores. The Dalmatian pelican lives in south-east Europe and Asia, in winter also in north-east Africa, but never further to the south than Egypt.

Numbers are decreasing probably because of persecution (in spite of protection), destruction of habitat, disturbance by tourists and bird watchers.

Conservation and management:

1. Strict protection of the species.
2. Establishment of reserves in breeding areas and conservation of habitat.

Phalacrocorax pygmaeus: Pygmy cormorant

47 cm. Medium sized to large aquatic birds, feeding on fish, caught by diving from the surface of the water. Breeding adults are glossy greenish-black with dark brown head and neck, spotted with white. White spots are lost in winter and the birds develop white throats.

Breeds in Greece, Turkey, Yugoslavia and Albania.

Declining because of habitat disappearance through drainage and development of the freshwater and brackish marshes and the delta areas favoured by this species. Also persecution by fishermen.

Conservation and management:

1. Strict protection.
2. Conservation of habitat (breeding- feeding- and wintering areas)
3. Establishment of reserves.

Phalacrocorax carbo: Cormorant

90 cm. Male and female similar. Adults are black, with a white patch on the thighs in breeding time. White chin. Usually found along seashores and in larger lakes and lagoons. Rarely very far inland. Often sits on rocks or poles with half extended wings. Often nests on cliffs, but also under rocks or even on the sand.

In the Mediterranean countries the cormorant breeds in small numbers in Italy, Greece, Turkey, Tunisia and Algeria. In winter living along all coasts.

Conservation and management: conservation of breeding places.

Anhinga rufa: Darter

100 cm. A long tail, pointy bill and a characteristic kink in the long brown-white neck. Swims often with only head and neck above the waterlevel. Makes serpent-like movements with the neck.

Probably extinct in most areas in North Africa, except perhaps in Egypt. The species should be protected where it still occurs in North Africa, especially the breeding places and its feeding grounds.

Egretta alba: Great white egret

89 cm. A large slender heron with very long neck and legs. Pure white, with elongated back plumes in breeding plumage. Blackish legs and feet. Presumably once much more wide-spread across southern Europe.

Breeds in Turkey, wintering in east Mediterranean countries including Italy and Greece.

Declined because of persecution. A tremendous population growth followed protection but this in turn was followed by a collapse due to unknown causes.

Conservation and management: The Great white egret should be protected in all Mediterranean countries by means of:

1. Strict protection of the species;
2. Conservation of habitat in the breeding areas and the establishment of reserves where necessary.

Egretta gularis: Western reef-heron.

55 cm. Has white- and dark-coloured phases, *plumes* on the nape, also the back and shoulders, and usually yellow toes. Reef herons nest in colonies, find their food along the edge of the sea and in salt marshes. When hunting for fish, they often half spread their wings, the prey being easier to see when shaded from reflections and the glitter of the sun.

The nests are built in generally rather small groups on bushes or in trees, especially mangroves, ledges and clefts, occasionally the ground. In the eastern Mediterranean region the reef heron may breed in one or two of the transitional wetlands linking up with its normal breeding range on the coasts and islands of the Red Sea.

Conservation and management:

1. Conservation of breeding- and feeding habitat.
2. Strict protection of the species.
3. When necessary establishment of reserves.

Ardeola ralloides: Squacco heron

45 cm. Male and female are similar. In the summer the adults have a yellowish head and back of the neck. White wings and tail contrast sharply with darkish body. In breeding time black striped crown, blue coloured bill and long crest. Often spend the day perched in the branches of a tree or bush, coming out to feed at dusk. Sociable in nesting and behaviour.

Locally common in marshes, lagoons and swamps where it nests in reeds or trees. In the Mediterranean region breeds in small numbers in all countries except Libya and perhaps Italy (where only 120 pairs were estimated to survive in 1950).

Conservation and management: The species should be strictly protected; its characteristic habitats should be conserved. The main breeding places should be established as nature reserves.

Ardeola goliath: Goliath heron

120 cm. A breeding bird of tropical Africa, only occasional in the Mediterranean (Egypt). Living in swamps and shallow water. Resembles a large Ardea purpurea, but without black crown. Call like barking dog.

In the Mediterranean region probably only occurs in Egypt.

Conservation and management:

1. Strict protection.
2. Conservation of breeding- and feeding-habitat.
3. The establishment of reserves.

Ixobrychus minutus: Little bittern

35 cm. The neck and upperside of the male are black, underside and the sides of the head are yellow-grey. White patch on the wings. The female is brown, with black crown and neck and less clear patch on the wings.

The little bittern lives in the dense vegetation of swamps and freshwater shores alone or in pairs. Mainly insect eater. To escape danger runs or climbs rather than flies. Flies with fast wing-beats and long glides, usually for very short distances low over the reeds.

Nests singly amongst reeds and other dense vegetation, sometimes in bushes.

In the Mediterranean region small breeding populations in all countries except Libya.

Conservation and management: The little bittern should be totally protected. The breeding localities and main feeding areas should be protected as nature reserves.

Platalea leucorodia: Spoonbill

86 cm. A large, all-white waterside bird, the breeding adult with a conspicuous crest of long white feathers and yellowish gorget. Immatures show some black at the wing tips. In all plumages readily identified by long broad spatulate bill, black, tipped yellowish in adult.

In the breeding season spoonbills live in dense colonies of up to a thousand pairs. Nests in large reed-beds, sometimes in trees and bushes.

In the Mediterranean breeding has been recorded in Spain, Yugoslavia and Turkey, wintering in Greece and parts of North Africa, - in declining numbers due to the fact that eggs and young are taken by man and, more recently, to habitat destruction and pollution of feeding areas.

Conservation and management: Most breeding colonies are already protected. Extra attention should be given to conservation of main feeding areas, especially if these are outside nature reserves. Pollution of these areas should be eliminated and prevented.

Plegadis falcinellus: Glossy ibis

56 cm. The glossy ibis has wholly brownish-black plumage, glossed with chestnut purple and green. Male and female look alike, immatures generally duller and browner.

Flocks of these ibises fly in long, undulating lines. They breed in colonies, usually in reeds, sometimes in trees, and feed in marshes and on mudflats.

In the Mediterranean region widespread but very local and with small populations; ranging from south-east Europe to southern Asia and Africa.

Decline due to persecution and to draining and cultivation of the shallow wetlands preferred by this species.

Conservation and management:

1. Strict protection;
2. Conservation of habitat and establishment of reserves.

Geronticus eremita: Bald ibis

75 cm. Large dark ibis with a bald reddish head, red bill, an untidy neck and pink legs.

Nests in colonies on cliffs, riverbanks and sometimes on ruins, but feeds largely in open dry country.

Formerly reasonably widespread in southern Europe, northern Africa and western Asia, now confined, as far as known, to Morocco and a single colony in Turkey. Extremely rare and endangered. Original causes of long-term decline are unknown, but use of D.D.T., dieldrin and other insecticides resulted in the poisoning of large numbers in 1958-'60. Disturbance of colonies by human activities results in very low breeding success.

Conservation and management: The species should be strictly protected in all countries; breeding places should be properly safeguarded and maintained and habitat management is necessary to prevent poisoning of feeding areas. For the Turkish population many measures have been taken, but more are necessary. Recommendations to the governments of Morocco and Turkey should be made.

Phoenicopterus ruber : Greater flamingo (text RSPB)

127 cm. An unmistakable tall pink and white bird with very long neck, thick down-curved bill and very long legs; in flight the wings are strikingly red and black. Living in shallow lakes, usually in delta regions. Nests colonially and is highly gregarious at all times.

World distribution : There are roughly one million greater flamingos in about 30 widely scattered colonies in Europe, north and central Africa, south-west Asia, central and south America, the Caribbean and the Galapagos. Some populations are migratory.

European distribution: In Europe, confined to the Camargue in southern France, southern Spain (mainly around the Gualdalquivir area) and, more recently, one site in Sardinia. Some evidence of movements between these sites and possibly also to those in North Africa (Tunisia and perhaps Morocco). In recent years up to 200 have wintered in Portugal - but no evidence of nesting. In Turkey, two, perhaps three colonies known.

Estimated population France: Camargue numbers fluctuate widely (2000-8000 pairs) and breeding success likewise (depending on spring weather, water

levels, erosion of nesting islands, disturbance and predation). No breeding 1964-68, for example, but regularly since, with some very successful years. Spain: again very variable with often very erratic breeding, and largely unsuccessful in Guadalquivir marismas in 1935, 1944, 1945; but c. 3500 pairs elsewhere in Andalucia 1963 and c. 2400 young reared. In 1973, new colony at Alicante where 20-30 young reared. The Sardinian site has held up to 2500 birds and about 20 pairs have attempted to breed in recent years. In Turkey, up to 5000 pairs (1970) have nested at Tuz Gölü and at least 1500 at Kurbaga Gölü (1970), while breeding is suspected at Acigol (over 2000 birds recent summers).

Reasons for decline. Numbers are very variable and perhaps inter-related between sites in France, Spain and North Africa; the new colonies in south-east Spain and Sardinia are worthy of note. Generally, there is little reason to suppose that any decline has occurred.

Conservation measures taken The Camargue colony is effectively protected by nature reserve arrangements; earlier problems caused by low-flying aircraft have been overcome. Control measures are taken against an increasing gull population (*Larus* sp.) and artificial island nest-sites have been used successfully. In Spain, protection has been largely through secrecy as to the birds' whereabouts; some degree of protection has apparently been provided in Sardinia and arrangements to provide artificial nesting islands are in hand - partly to produce nesting areas inaccessible both to predatory mammals and to man.

Conservation measures proposed Full reserve status and effective wardening are essential at the Spanish and Sardinian colonies. Furthermore, since there is a link between the European colonies and at least some of those in North Africa, reserves in the latter region would undoubtedly help the Greater Flamingo population as a whole.

Tadorna ferruginea: Ruddy shelduck (RSPB)

64 cm. A large, goose-like duck, orange-brown with buffish or whitish head, male with narrow black collar, large white wing-patches and black wingtips and tail. Living in freshwater lakes inland, lagoons, rivers and streams in steppes, deserts and mountains.

World distribution Breeds north-west Africa, sparingly in south-east Europe, then from Black Sea region eastwards through central Asia to Amurland and Manchuria. Mainly migratory, wintering south to Sudan, Arabia and southern Asia; but westernmost birds largely sedentary.

European distribution Doubtful if it ever bred in south-west Spain and appearance there probably due to movements from North African population. In south-east Europe, much decreased with only a handful of pairs breeding in Greece, Bulgaria and Romania. Thought to be more numerous southern Russia and probably Turkey, but almost certainly declining in Russia too.

Estimated population Mediterranean/Black Sea population has been estimated at 70,000 birds, but doubtful if entire European population outside Russia exceeds 50 pairs. Exact position in Turkey unknown, but 10,000 have been counted there in winter. North African population thought to be 1000-1500 pairs.

Reasons for decline Since this is primarily an Asiatic species at the edge of its range in Europe, natural factors may be involved in the considerable

decline. Nevertheless, it has probably been hastened by habitat loss, shooting and the taking of eggs.

Conservation measures taken Protection by law in some countries, but not all; at least one nature reserve in its breeding range (Romania).

Conservation measures proposed Efforts should be made to establish reserves wherever the species still breeds, but not before its status has been accurately assessed and its ecology studied more fully. Total legal protection in Europe is necessary. Since the species is widely kept in captivity and is known to do well as an "escape", the possibility of controlled reintroduction in some areas should not be ruled out.

Marmaronetta angustirostris: Marbled teal (RSPB)

41 cm. A small, rather pale dabbling duck, lacking any obvious speculum, dappled light and dark brown and with a dark brown eye-patch. Sexes alike. Living near fresh water and brackish water with much vegetation and in swamps. In winter more on open water, even on temporary lakes in deserts.

World distribution Largely Palaearctic; formerly bred Cape Verde Islands and Canaries; now in scattered localities in north-west Africa, southern Spain, Egypt, Near East and through Iranian region to Transcaspia. Partially migratory.

European distribution Confined to southern Spain, mainly in Guadalquivir area, where now rare. Has bred France, Italy, Crete, Yugoslavia, Cyprus. At least two sites Turkey, possibly more. Small numbers in south-west Caspian region of Russia.

Estimated European population Probably very small southern Russia and under 100 pairs in Turkey. In Spain, formerly numerous (perhaps thousands at turn of century) but fewer than 200 pairs by 1960s and probably under 100 pairs 1970s.

Reason for decline Shooting and egg-collecting may have helped early decline in Spain, and shooting probably exterminated the species in Italy. Habitat loss through drainage is probably involved too, as is shooting of Spanish birds in Morocco. However, the full reasons for the decline are largely unknown.

Conservation measures taken The Coto Doñana Reserve in southern Spain protects a substantial part of the birds' breeding range.

Conservation measures proposed Further studies of status, numbers and habitat requirements would be worthwhile and further reserve areas may be desirable. Protection from shooting in North Africa is likewise desirable but probably impracticable.

Oxyura leucocephala: White-headed duck (RSPB)

46 cm. Europe's only native "stiff-tail" (Oxyurini); medium small with short neck, large head and long, stiff tail. Plumage mainly brown, male with white face, black crown and blue bill, female with buffish face crossed by brown horizontal line.

Living on shallow, reed-bordered fresh- or brackish-water lakes.

World distribution Very fragmented: southern Spain and North Africa, Sardinia, probably Romania, Turkey, parts of south-east Russia and Iran. Partially migratory.

European distribution Much decreased: former or sporadic breeding in Hungary, Yugoslavia (most recently 1967-69), Albania, Greece, Corsica, Sicily, Italy. Currently breeds only in southern Spain, Sardinia, Romania - though odd breeding records still likely elsewhere. Also breeds Turkey and western Kazakhstan.

Estimated population Spain: very rare, possibly under 30 pairs; Sardinia: at least two breeding sites, but numbers very small - almost certainly below 5 pairs; Romania: very small numbers in Dobrogea; Turkey: probably 100-150 pairs; Kazakhstan (USSR): not known, but numbers probably small.

Reason for decline Loss of habitat through drainage, reclamation etc., and shooting pressures; shooting in Sardinia - also nest destruction by fishermen. Trophy hunting is another problem in Sardinia where a specimen was on sale for 200,000 lira in 1965.

Conservation measures taken Partial reserve protection in Spain and Romania; little protection from shooting.

Conservation measures proposed Reserve or refuge establishment wherever this species is known to breed. Total, all year protection from shooting is highly desirable - but obviously very difficult in practice.

Netta rufina: Red-crested pochard

55cm. Male with red bill, broad white wing-bar very distinctive. Female brown with white cheeks and wing-bar.

Breeding by ponds and lakes. In winter also found on open lakes, sometimes along shores. Usually seen singly or in pairs, sometimes with other species.

In the Mediterranean region breeds in all the northern countries; also Algeria, Tunisia and probably Morocco, but in small populations. Wintering in North Africa and the Middle East.

Conservation and management: This species should be strictly protected. The habitat (breeding-, feeding- and wintering areas) should be conserved.

Branta ruficollis: Red-breasted goose (RSPB)

53-56 cm. A small goose, mainly black but with a striking pattern of white and chestnut on the face, neck and breast. Unmistakable. In winter mainly on fields or steppes near coasts or swamps.

World distribution Breeds mainly on and around Taymyr Peninsula, some also on the neighbouring Gydan and Yamal Peninsulas to the west, all in Arctic Siberia. Formerly wintered exclusively in Azerbaijan (USSR) on the Caspian coast, but wintering grounds have shifted in the last 15 years, partly to Romania, with the remainder of the winter range unknown. See remarks below.

European distribution Part of population winters Romania and Bulgaria, with less than 100 in Greece; see below.

Estimated population The largest count in Azerbaijan was of 40,000-60,000 birds in 1956-57. Since that area became largely deserted by the species, the size of the population has not been accurately assessed, largely because what proportion winters in Romania (25,000 counted in 1968 but only 4000-9000 subsequently) is unknown, as are the other "new" wintering areas. Up to 6000 have been seen recently in early winter in Bulgaria - but whether these birds move on later or whether they form part of the Romanian winter population is unknown, although a mid-winter count of 810 in 1977 shows that some birds do spend the winter in Bulgaria. The absence of complete knowledge of the whereabouts of all the geese in winter renders any assessment of the total population tentative, but it is thought likely that the population may indeed have halved during the last 20 years. To some extent this feeling is supported by 1972 and 1973 estimates at the breeding ground of about 25,000 birds.

Reasons for decline Falling numbers on the breeding grounds have been attributed to the declining population of peregrines (Falco peregrinus) in the Taymyr regions; the geese almost invariably breed in close association with the falcons. Cultivation of the original wintering grounds caused the shift to new areas in Romania and to wherever else the bird is currently wintering. Shooting is still permitted on the European wintering grounds, and elsewhere where the species is known to occur, e.g. Iraq.

Conservation measures taken The former Caspian wintering grounds have reserve status, but protection elsewhere seems largely non-existent. Work is being done on wintering numbers, but is incomplete.

Conservation measures proposed At the breeding grounds: restoration of a healthy Peregrine population would probably help the Red-breasted goose, but this will only come about in the long term if and when pesticide contamination among Peregrine prey species, presumably in winter quarters in the south of the USSR, ceases. Known wintering grounds in south-east Europe should be given reserve or refuge status where possible and, at least until the precise state of the population is known, shooting should be prohibited in all countries where the species occurs as a migrant or winter visitor. There is clearly an urgent need to discover the winter quarters of the remainder of the total population (i.e. outside Romania/Bulgaria) and to establish refuges there too. Continued surveillance of known wintering flocks is essential.

Elanus caeruleus: Black-winged kite (RSPB)

33 cm. A small, short-tailed grey and white raptor with black shoulder patches and striking red eyes. Hovers frequently. Immatures browner on head and upperparts. Local in dry, cultivated areas with scattered trees.

World distribution Breeds south-west Iberia, but main distribution Africa, southern Arabia, southern Asia from Baluchistan to south China and New Guinea region.

European distribution Confined to southern Portugal and recently confirmed breeding in south-west Spain.

Estimated population Portugal: c. 5 pairs, possibly rather erratic.
Spain: since breeding confirmed during 1970s estimate of c. 60 pairs.

Reasons for decline A marginal and probably always erratic species - but probably not endangered. In fact the Spanish population may even be thriving as a result of (otherwise undesirable) clearance of woodland.

Conservation measures taken Not known.

Conservation measures proposed Now that European population is known to be larger than at first supposed, some reserve protection may be feasible. Meanwhile, secrecy about breeding locations should be preserved.

Buteo rufinus: Long -legged buzzard (RSPB)

51-61 cm. A large Buteo, very like common buzzard Buteo buteo but with unbarred, often cinnamon tail and usually pale rump; very variable and immatures usually inseparable from immature B. buteo. Inhabits dry, open plains and steppes, more rarely mountains.

World distribution Breeds in North Africa, south-east Europe and southern Russia eastwards to northern Mongolia, Chinese Turkestan and the Iranian region. Eurasian population partly migratory, wintering from Balkans and Asia Minor south to north east Africa, Arabia and India.

European distribution Apart from south-east Russia (lower Don and north-east of Volga south to the Caucasus), confined to Yugoslavia (Macedonia), where scarce; possibly Albania; northern Greece, where probably scarce, possibly including Crete and other islands in the Aegean; and Bulgaria, where confirmed recently and probably very scarce. Commoner and more widespread in Turkey.

Estimated population Unknown, but at a guess entire Balkan population may not exceed 200-300 pairs.

Reasons for decline Obviously scarce and very local but no information on whether declining or not.

Conservation measures taken None known.

Conservation measures proposed None, until status and threats (if any) are known.

Hieraeetus pennatus: Booted eagle (RSPB)

46-53 cm. A small buzzard-sized eagle with two distinct plumage phases: mainly rufous with white underparts, or rich dark-brown with paler, unbarred tail. Immatures generally brownish.

Living in mixed and deciduous woods with clearings, usually in low mountains but also in flatter country.

World distribution North-west Africa and southern Europe east through south-west Asia to Manchuria, north to central Russia and south to north-west India. Winters north-east and tropical Africa and in India.

European distribution Breeds in Spain and probably Portugal, Majorca, southern France, Czechoslovakia, Hungary, Greece and Romania, and possibly Albania and Yugoslavia. Also in southern Russia (where scarce) and Turkey (in small numbers).

Estimated population Portugal: unknown, but if it breeds is probably rare; Spain: 9000 pairs and population probably reasonably stable; France: 100-200 pairs and apparently stable after earlier decline; Czechoslovakia: a few pairs breeding; Hungary: 10-15 pairs; Greece: unknown but thought to be reasonably numerous; Romania: fewer than 5 pairs. Has bred Austria, may be present in Albania, possibly a few pairs Yugoslavia.

Reasons for decline Loss of habitat through forest clearing, shooting, and, in some areas, pesticides. Decline seems to have halted in France and the species is believed to be thriving in many parts of Spain.

Conservation measures taken Legal protection especially in France and Spain, has helped this species.

Conservation measures proposed Enforced legal protection in all countries where it breeds is desirable. More information is required on its precise status in south-east Europe.

Hieraeetus fasciatus: Bonelli's eagle (RSPB)

66-74 cm. A medium-sized eagle, the adults with white underparts contrasting with dark undersurfaces of the long wings. Immatures browner. Living on wooded, often rocky mountains. In winter in more open areas.

World distribution Breeds from north-west Africa and southern Europe east through Iran and India to southern China; also Lesser Sundas (Indonesia) and Africa south of the Sahara. Largely sedentary.

European distribution Breeds in Portugal, Spain, Majorca, southern France, Corsica, Sardinia, Italy, Sicily and Greece. Possibly Albania. Sedentary.

Estimated numbers Portugal: unknown, but probably very rare; Spain: latest estimate 500 pairs, decreasing; probably still a few in Balearics (Majorca); France: c.30 pairs, 70-75% reduction since 1930s, but now stable; Corsica: probably very scarce; Sardinia: 10-20 pairs; Italy: confined to Calabria on mainland - no figures available, but undoubtedly very rare; Sicily: c.10 pairs and decreasing; Greece: status unknown, but probably rare, less than 100 pairs.

Reasons for decline Largely attributed to persecution (shooting) in France, Spain and Italy. Also in France attributed to reduction in rabbit numbers. Effects of pesticides unknown.

Conservation measures taken Full legal protection France and Spain, 1972; in France at least numbers have steadied after earlier decline.

Conservation measures proposed Full (and effectively enforced) legal protection throughout its range is essential. It is doubtful whether reserve

protection will help this species, except perhaps in areas where it has become very scarce. More information on its status in Greece would be very useful.

Haliaeetus albicilla: White-tailed eagle (RSPB)

69-71 cm. A huge eagle with large, broad wings and large, powerful bill. Mainly brown with wedge-shaped tail (not rounded as in other large brown eagles), white in adults - which are often noticeably pale-headed. Usually coastal or on large inland lakes and rivers.

World distribution Breeds Greenland, Iceland and from Scandinavia, central and south-east Europe east across Eurasia to the Pacific, north to Taymyr and south to Iraq. One pair has been found on US territory in the Aleutians.

European distribution North-west Iceland; coastal Norway (now main European stronghold); locally east Swedish coast and Swedish Lapland; very local in Finland; northern Germany and Poland south-east through to Balkans via Czechoslovakia and Hungary; also in Russia. Formerly bred Faeroes, Ireland, Scotland, Denmark, Corsica, Sardinia and Austria.

Estimated population Reasonably stable at c.350 pairs, Norway. Scarce or declining elsewhere: Iceland - greatly reduced: about 40 adults; Sweden - about 60 pairs, still declining, and only c.20% breeding success; Finland - decrease from c.40 pairs 1955 and only 8 successful pairs 1974; Poland - perhaps 50 pairs, declining; East Germany - about 100-110 pairs but declining and breeding success poor; West Germany - only 4-5 pairs, in Schleswig-Holstein; Czechoslovakia - probably only one pair, where 2-3 in early 1970s and more previously; Hungary - c.5 pairs, decreasing; Romania - 10 to 12 pairs, decreasing; Greece - numbers unknown but probably declining; no very recent data for Yugoslavia, Albania or Bulgaria. Probably also declining in southern Russia; 20-30 pairs in Turkey.

Reason for decline In the long term, persecution in many countries and loss of habitat in some. Despite protection in most countries, persecution continues and many are still shot or poisoned in eastern Europe. Pesticide contamination, notably in Baltic, by DDT and mercury (Hg), has killed adults and seriously reduced breeding success.

Conservation measures taken Protected by law in most countries where it breeds, though in some only recently (e.g. Norway 1968). Poisoning of foxes etc. (taken as carrion) in Iceland largely prohibited since 1964 and of gulls etc. since 1966. Relatively few breed in reserves; elsewhere (e.g. Sweden and Schleswig-Holstein) special protection schemes for remaining pairs. Special research/protection programme in Sweden since 1971 includes putting out uncontaminated food for these birds - a programme also operated in Finland. Natural food supplies in the Baltic are heavily contaminated by pollutants. In Schleswig-Holstein, young hatched from deserted eggs successfully fostered by wild birds. In Scotland, one unsuccessful reintroduction experiment in 1968 by Royal Society for the Protection of Birds (Fair Isle, Shetland); another, more promising, being carried out by Nature Conservancy Council (Rhum, Inner Hebrides).

Conservation measures proposed Better enforcement of legal protection is still necessary in some countries and should be backed by more education and propaganda. More nature reserve protection and special protection schemes

needed, especially outside Fenno-Scandia and the successful artificial feeding schemes started in Sweden and Finland might well be emulated elsewhere. Attempts must be made to control heavy contamination in the Baltic region especially. Reintroduction experiments, preceded by appropriate education/propaganda, would be worth trying in parts of the bird's former range where conditions are still apparently suitable. Finally, up-to-date censuses of the populations in the Balkans region, plus assessment of threats/declines, would be valuable.

Aquila heliaca: Imperial eagle (RSPB)

78-84 cm. A large brown eagle of woods, plains and steppes; pale crown and nape and, in adult, white shoulder patches which are especially conspicuous in the western race A. h. adalberti. Immatures lack these white markings and can best be told from the similar tawny eagle A. rapax by heavily streaked underparts.

World distribution Now apparently extinct north-west Africa, but still breeds Spain - birds in the west being of the race A. h. adalberti, usually known as Spanish Imperial Eagle. The nominate race A. h. heliaca breeds from south-east Europe and Turkey east to north-east Iran, Russian Turkestan and the Lake Baikal area. Western populations sedentary, eastern ones wholly or partly migratory.

European distribution A. h. adalberti - southern Spain only; no longer breeds Portugal (and also now extinct North Africa). A. h. heliaca - breeds Czechoslovakia, Hungary, Yugoslavia, Greece and Romania; may just survive Bulgaria. Spanish birds are sedentary, but most eastern ones winter south to northern Sudan. (No recent information from Russia and a scarce breeder in Turkey).

Estimated population Spain (A. h. adalberti): perhaps 60 pairs. Czechoslovakia: 10-15 pairs, decreasing; Hungary: 8-10 pairs, decreasing; Yugoslavia: perhaps 2-3 pairs; Greece - no numbers known, but unlikely to be above 10-15 pairs; Romania - 100-110 pairs (considerably more than were believed to exist by western commentators a few years ago).

Reasons for decline Not known for certain, but persecution has been an important factor. High pesticide levels have been found in Spanish eggs.

Conservation measures taken A. h. adalberti: only 1-3 pairs breed on the Coto Doñana reserve in Andalucia. Fully protected but doubtless still persecuted in some areas. Experiments with cross-fostering eaglets have been tried to improve poor breeding success. A. h. heliaca: has partial legal protection.

Conservation measures proposed Full and effective legal protection is essential wherever this species breeds, and protection from shooting in winter quarters is highly desirable.

Aquila rapax orientalis: Steppe eagle

66-79 cm. An eagle of dry, bushy plains or steppes. Adult has dark-brown plumage. In flight wings are held horizontal with slight bend. Immatures are very light, almost cream-coloured. Very sluggish in behaviour, rarely soaring high. Often perches on the ground.

Tawny eagle, the African subspecies (belisarius), is an accidental visitor to the Mediterranean countries and cannot be distinguished from the Steppe-eagle in the field.

Inhabits steppes, savanna, often without trees and rough vegetation.

In the Mediterranean region nests in Morocco, Algeria, Tunisia and Turkey, wintering in Egypt and the Middle East.

Conservation and management: Aquila rapax should be protected (no persecution). The main breeding-areas should be protected in reserves.

Pandion haliaetus: Osprey

51-58 cm. Dark upperparts with white crown, white underparts with poorly marked, narrow breast-band distinguish it from all other birds of prey. In flight wings are held at an angle and slightly arched. Usually seen flying slowly 20-30 feet above the water.

Nests in woods or woody landscapes with lakes and rivers. In winter often visiting large fresh- or saltwater lakes and rivers.

In the Mediterranean region breeds in Spain, Morocco, Tunisia, Algeria, Egypt and sometimes on islands.

Conservation and management: The typical habitat should be preserved. The species should be strictly protected.

Neophron percnopterus: Egyptian vulture (RSPB)

58-66 cm. A small vulture, off-white with black wing-tips and a wedge-shaped tail. Immature is dark brown. Less gregarious than the larger vultures. Living on open country in lowland and mountainous areas, in the villages in east- and north Africa the principal carrion-eater.

World distribution Breeds southern Europe, northern and north-eastern Africa, Arabia, south-west Asia and Indian sub-continent. Mainly migratory.

European distribution Breeds Iberian peninsula, Balearics, southern France, south-west Italy, Sicily, south-east Europe, Turkey and southern parts of the USSR. Winters in tropical Africa.

Estimated population Gradual decline throughout range. Portugal: no data but probably not numerous; Spain: 2000 pairs, decreasing, and probably about 5 pairs Balearics; France: c.50 pairs, Pyrenees and Provence - stable after decrease; Italy: probably almost extinct southern mainland, but c.20 pairs Sicily; no data Yugoslavia, Greece, Albania, but still fairly common northern Greece; still c.4 pairs Romania. Widespread in Turkey.

Reason for decline All European vultures have declined as husbandry and hygiene have improved and carrion becomes less easily available; persecution and poisoning are probably both important factors.

Conservation measures taken Legal protection in most countries. Also benefits from artificial feeding in some areas, e.g. northern Spain.

Conservation measures proposed Effective legal protection throughout Europe. Increased artificial feeding, perhaps with specially designated reserves for this and other vulture species.

Gypaetus barbatus: Bearded vulture (RSPB)

102-104 cm. A large vulture, uniquely shaped with very long, narrow wings and long, wedge-shaped tail. Whole upperparts dark, contrasting with whitish head and buffish-orange underparts. Immatures have dark brown head and underparts. Rather solitary.

Living in high and usually remote mountainous areas. Nesting on rock-ledges.

World distribution Patchy distribution across southern Europe through to southern Asia and Mongolia, west and central China; also north-west Africa and from Red Sea region south to southern Africa. Mainly sedentary.

European distribution Extinct in former breeding areas in Switzerland, mainland Italy, Sardinia, Austria, Yugoslavia, Bulgaria, Romania and Thrace. In Sicily, 2-3 individuals survive but breeding no longer occurs. Much reduced elsewhere, but still breeds Spain, France, Corsica and Greece - and rather more commonly in Turkey.

Estimated population Spain: c.30 pairs Pyrenees, decreasing, and only 2-3 pairs in southern Spain; France: 12-15 pairs Pyrenees, apparently stable; Corsica: probably 1-2 pairs only; Greece: no figures since 1969 estimate of c.30 pairs - probably decreasing - and 3-4 pairs on Crete. Total European population is probably under 75 pairs.

Reasons for decline As with other vultures, decline in livestock carcasses throughout European range - correlated with decline in sheep-rearing in some areas. Being a very specialised feeder, with pairs thinly distributed over large home ranges, always the most susceptible vulture to ecological change. Persecution too has played its part in many areas (shooting and poisoned bait for wolves) - and indeed led directly to its final disappearance from Bulgaria and Romania.

Conservation measures taken Now fully protected by law in France and Spain, but only partially in Greece. Success has been achieved with artificial feeding in the Pyrenees region; and a small reintroduction scheme (not so far successful) has been started in the Swiss Alps, using birds imported from Afghanistan.

Conservation measures proposed Strictly enforced legal protection is essential and legislation should be introduced to prohibit the laying of poison bait in open country. Large reserves in which artificial feeding could supplement the birds' food supplies would probably help the last remnants of the European population to survive. For educational and propaganda reasons, the name "Lammergeier" should be dropped!

Torgos tracheliotus: Lappet-faced vulture

100 cm. Male and female similar, but female a little bigger. One of the rarest and biggest vultures of the Mediterranean. All brown with broad wings.

Massive bill and bald red skin of neck and head. In flight white stripe on the underside of the wings, near the front margin, and white thighs are diagnostic. Usually solitary.

Living and nesting in savannas, steppes and semi-deserts with some scattered trees.

In the Mediterranean breeding in Morocco, Algeria, Egypt and Israel, in isolated areas of small size.

Conservation and management: The species should be strictly protected. Its typical breeding habitat should be preserved.

Aegypius monachus: Black vulture (RSPB)

99-107 cm. A huge, broad-winged vulture, more or less uniformly dark, with a brownish neck ruff. The similar Griffon vulture (Gyps fulvus) is paler with a whitish neck ruff. Usually solitary, except at carcasses and roosts.

Mainly in open country, in lowland as well as in mountainous areas. Nesting in trees.

World distribution Locally across southern Europe to Asia Minor and the Near East and across southern Asia to Mongolia. Mainly sedentary.

European distribution Much reduced throughout southern Europe: extinct mainland Italy, Sicily, Austria, Bulgaria and Romania. A few non-breeding individuals remain in Sardinia. Breeds in decreasing numbers in Spain, Majorca, possibly Yugoslavia, possibly Albania (no recent data) and in Greece; also in small numbers in Turkey and apparently locally and rarely in parts of southern Russia.

Estimated population Spain: perhaps 250 pairs, though other estimates suggest only 100 pairs, including c.40 individuals (and declining breeding success) on Majorca; a few pairs may still breed in Yugoslavian Macedonia; in Greece the latest estimates (1969) suggest 20-40 pairs.

Reasons for decline Modern agriculture and hygiene, plus a decline in sheep rearing in some regions, all resulting in fewer carcasses; also persecution, and poisoning through baits put out for wolves.

Conservation measures taken Protected fully in Spain, partially in Greece.

Conservation measures proposed Strictly enforced legal protection in all remaining breeding areas is essential; large reserve areas could be established to include concentrations in parts of Spain, including Majorca, and food supplies could be maintained artificially, as with other vultures. The prohibition of poison baits laid in open country is also essential. A careful watch on the situation in Majorca, with special reference to possible increasing disturbance from visiting birdwatchers, is desirable.

Gyps fulvus: Griffon vulture (RSPB)

97-104 cm. A very large, rather pale vulture with broad wings and a very short tail; neck ruff whitish. Dark flight-feathers contrast with paler

underparts and fore-part of underwing. Sociable when feeding and roosting, breeds semi-colonially where common. Living in rocky mountain-landscapes. Usually roosting on rocks or steep pinnacles. Nesting on steep rock-ledges.

World distribution Breeds north-west Africa, southern Europe, south-west and southern Asia and southern Africa. Largely sedentary.

European distribution Now much reduced and still declining. Extinct as a breeding bird in Austria (though 20-30 still summer), Sicily, Bulgaria and Romania. Breeds Portugal (rare), Spain, France (Pyrenees only), Sardinia, Yugoslavia and Greece and probably still in southern Russia; commoner and more widespread in Turkey.

Estimated population Portugal: unknown, but probably small; Spain: c.5000 pairs, decreasing; France: c.50 pairs, Pyrenees, stable; Sardinia 25-30 pairs, decreasing; Yugoslavia: unknown but certainly rather scarce; and Greece: numbers unknown, but still widespread and fairly common.

Reason for decline As with other vultures, due to changing agricultural and hygienic practices reducing its food supply, as well as through direct persecution and feeding on poisoned baits put down for wolves and foxes.

Conservation measures taken Now fully protected in Spain and France, but only partially in Greece. Attempts to reintroduce the species in Corsica failed when the birds were shot. Responds well to artificial feeding programmes (Pyrenees, Sardinia).

Conservation measures proposed Strictly enforced legal protection in all countries and legal prohibition of laying poison baits in the open. Large reserves are needed and in these (and elsewhere) artificial feeding should be increased.

Accipiter brevipes: Levant sparrowhawk

33-38 cm. Male and female similar, but female is a little bigger. Adults have white underside to wing (not barred). Male has grey, not rufous cheeks. Female is less brown, more grey above, with brown spotted throat. Bands on tail number 6-7, the terminal one wider.

Living in woods and wooded valleys.

In the Mediterranean region breeds in south-east Europe, wintering in Egypt and the Middle East. The species has a restricted distribution and is not common.

Conservation and management: This species should be protected. In its characteristic breeding habitats reserves should be established.

Melierax metabates: Chanting goshawk

Male 38 cm., female 48 cm., otherwise looking alike. Grey, dark tail with white terminal band, barred underparts, orange-red legs and base of bill. Wings broad and round.

Living in open, dry and wooded areas.

In the Mediterranean region breeds in Morocco in a small, isolated breeding area.

Conservation and management: The species and its habitat should be protected.

Circus macrourus: Pallid harrier

43-48 cm. Uncommon. Male distinguished from Montagu's harrier by white breast, unbarred wing and very limited amount of black on wing-tips. Females and immatures very similar to female and immature Montagu's.

Living on open grass plains, savannas and steppes.

Does not breed in the Mediterranean region but winters in all the countries bordering the central and eastern coasts.

Conservation and management: The species should be protected in its winter-quarters.

Circus pygargus: Montagu's harrier (RSPB)

41-46 cm. A slim, lightly-built harrier, the male grey with white underparts; very like male hen harrier (C. cyaneus), but has greyish rather than white rump, narrow black bars in mid-wing and brown streaks on belly and flanks. Female like female hen harrier, but with less white on rump. Immature has chestnut underparts.

Found in marshes, moors, heaths and cultivated land, also in young pine-woods.

World distribution Parts of North Africa; southern and central Europe east to Kazakhstan and south-east to the Caucasus and northern Iran.

European distribution Virtually extinct in Britain, where once 40-50 pairs. Recent range includes Iberia, most of Europe except Scandinavia (though it occurs in southern Sweden), Alpine region, much of Italy, most of Balkans. Apparently declining almost everywhere - see below. Migrant.

Estimated population Not precisely known, but present enquiries by RSPB/ICBP indicate as follows: Albania: unknown - but numbers low, if any at all; Austria: 5-10 pairs 1976 (decrease); Belgium: c.5 pairs (25-30 in late 1950s); Bulgaria: very rare - perhaps 1-2 pairs in some years; Czechoslovakia: 15-25 pairs, apparently stable; Denmark: 30-35 pairs, apparently stable (250-300 pairs late 1940s, declining to 15-20 pairs in 1970); East Germany: c.70 pairs 1976 (slight decline from up to 80 in 1950s and 1960s); Finland: first bred 1964 and 1 pair 1976; France: possibly under 500 pairs (formerly more numerous - 1000-2000 pairs in early 1960s); Britain: 1-3 pairs (50+ pairs in 1950s); Greece: very rare, less than 5 pairs; Hungary: 10-15 pairs (decrease in last 20 years - 30 pairs in one area alone in 1930s); Italy: very rare on mainland and in Sardinia; Luxembourg - probably does not breed; Netherlands: 25-35 pairs (c.50 pairs in 1950s); Poland: 100-120 pairs, apparently stable in most areas (perhaps 500 pairs in 1971); Portugal - perhaps 1000 pairs, decreasing; Spain: perhaps 1000-2000 pairs, but also recently estimated at 6000 pairs - nevertheless said to be decreasing considerably; Sweden: first bred 1923, population still increasing - c.36 pairs at present; Switzerland: apparently none, but formerly bred in small numbers; Turkey: unknown, but probably at least 50 pairs; Russia: perhaps 500-1500 pairs in central European Russia, some

expansion northwards; West Germany: 100-120 pairs, 1965 - no more recent figures; Yugoslavia: rare and probably decreasing.

Reasons for decline Not precisely known, but variously linked with drainage of wetlands, changes in land-use, pesticides and, probably, persecution.

Conservation action taken Few specifically, but some reserve protection and in Britain special protection for remaining pairs. See also below.

Conservation action proposed Work undertaken so far by RSPB/ICBP indicates two main centres of population - North Africa/Iberia and Poland/USSR -, though the species is declining in both, and more markedly so in France and other countries between the two major populations. Work on numbers and distribution must continue to gain detailed, up-to-date knowledge of populations and reasons for decline so that conservation action can be recommended. Increased protection required on passage (e.g. 30 to 60 shot annually in Malta).

Falco biarmicus: Lanner falcon (RSPB)

43 cm. A large falcon, slightly smaller and slimmer than peregrine (F. peregrinus); brown above, with pale crown, narrow moustachial stripes and pale underparts finely streaked with brown.

Found on mountain slopes and plains, rocky shores and brushland. Usually nesting on cliffs or rocky protuberances, sometimes in ruins.

World distribution Most of Africa north to Mediterranean, south-east Europe, Asia Minor, the Near East and Arabia. Mainly sedentary.

European distribution Restricted to Italy, Sicily, and to southern Balkans from southern Yugoslavia and Albania to Greece and perhaps south-west Bulgaria. May formerly have bred Spain and France. Probably a scarce breeder in Turkey. Mainly sedentary.

Estimated population Largely unknown in Balkan region, but certainly uncommon in Greece and only very small numbers in southern Yugoslavia. About 100 pairs in total in Italy (Emilia) and Sicily.

Reason for decline Although little factual evidence, almost certainly affected by persistent pesticides. Also human persecution and the robbing of nests for falconry.

Conservation measures taken Partial legal protection. Partial restriction on import and export, limiting numbers taken for falconry and zoos - although this drain on the small European population is potentially still serious.

Conservation measures proposed Total protection throughout the year in all countries where it breeds. Information urgently needed on status in Balkans region.

Falco peregrinus: Peregrine falcon (RSPB)

38-45 cm. Large, robustly-built falcon, relatively long-winged and short-tailed, adults basically grey above with black or dark heads and black moustachial stripes contrasting with white cheeks; whitish below, finely barred black. Immatures brownish above, streaked below.

Usually found in open or semi-open country with trees or cliffs, where the nest is built. Also open woods. Outside the breeding season, this species is often found on marshes and moors.

World distribution Virtually cosmopolitan. The most widely distributed bird of prey in the world, ranging through most of Eurasia, except Iceland and parts of central Asia; south-east Asia and Australasia; much of Africa, Greenland and North America and southern South America. Resident and migrant, northern populations wintering well south of breeding range.

European distribution Breeds in all European countries except Iceland, Netherlands, Belgium (extinct since 1969), Denmark (extinct since 1972) and Luxembourg (extinct since c.1962): see below.

Estimated population Widespread decrease, especially in north and north-west Europe. Only fragmentary data for much of south-east Europe and European Russia. Britain: by 1978, 400-500 pairs, increasing and recolonising old haunts, though markedly more slowly in northern coastal areas than inland (only 157 successful pairs 1971; c.800 pre-1940); Ireland: perhaps 20-30 pairs; Norway: probably fewer than 10 pairs - marked decrease; Sweden: drastic decline from former population of perhaps 350 pairs to only 4 by 1976; Finland: now 20 pairs - fell from possibly over 1000 pairs in 1940s to 90 in the 1950s and 35 in 1960s; Denmark: fewer than 5 pairs since 1940s, last pair nested unsuccessfully 1970-72; Spain: still widespread and numerous - only estimate is of 2000 pairs, decreasing; Portugal: no data, but probably still breeding in some areas; France: after 80% decline since 1950s, now stabilising at c.150 pairs; Corsica: breeds, but numbers unknown; Italy: 300-400 pairs, of which 110-130 in Sardinia; also breeds Sicily; Switzerland: 4-5 pairs - at least 10 successfully bred 1961; West Germany: 40-50 pairs, stabilising, after fall from 400 in 1950 to c.70 in early 1970s; East Germany: latest figures 1965 - 23-28 pairs, decreasing; Poland: now very scarce - c.50 pairs, decreasing, in early 1970s; Czechoslovakia: 10-20 pairs, marked decline in last 15 years; Hungary: may now be extinct - fewer than 10 pairs in early 1970s; Austria: probably only a few pairs, still declining (c.50 pairs formerly); Greece: small numbers, status uncertain; Romania: fewer than 5 pairs; rest of south-east Europe: believed scarce and probably decreasing. Breeds Russia; and in small numbers in Turkey.

Reasons for decline The major cause of the great and unprecedented crash in the peregrine population (paralleled, e.g., in eastern USA) has been poisoning through persistent insecticides, notably DDT, ingested in its prey, causing death or, at sublethal doses, infertility, behavioural changes while breeding (e.g. eating eggs) and structural changes in egg-shells. Also the persecution suffered by most other birds of prey, including egg-collecting and the (usually illegal) robbing of nests for young used in falconry; and loss of habitat - e.g. trees where these have been used for resting.

Conservation measures taken Fully protected in most of Europe, including import and export regulations in some countries. Statutory or voluntary controls on the use of DDT etc. in some countries have certainly helped redress the decline - notably in Britain. Special protection schemes (e.g. Britain, Sweden, W. Germany) are increasing and were the subject of a particularly intensified effort in Britain in 1977 - prosecutions of nest-robbers and resulting publicity have undoubtedly aided the "image" of this species. Captive breeding and release techniques, along the lines of those now employed in the United States, are being tried - e.g. in Sweden.

Conservation measures proposed Full protection (plus strictly enforced control of exporting and importing) is essential throughout Europe. Where there are

not already effective controls over the use of organochlorine pesticides, these must be pursued. Efforts to guard nests will continue to be necessary in many countries, and the current widespread study of peregrine populations and their conservation must be maintained. Since falconry remains a great threat to this species, attention should be given to the possibility of captive breeding programmes to meet falconers' demands: strictly controlled licensing should accompany any such schemes and (as with all captive birds of prey) a licensing system for those who own peregrines should be applied and strictly enforced.

Falco pelegrinoides: Barbary falcon

Possibly subspecies of Falco peregrinus. Looks like peregrinus, but lighter and more red-brown. Crown and neck very red-brown. 38-45 cm.

In the Mediterranean region breeds in the North African countries and in eastern Mediterranean coastal states.

Conservation and management: The species should be protected in all countries where it occurs.

Falco eleonora: Eleonora's falcon

38 cm. Found on rocky Mediterranean islands and sea cliffs. Occurs in two colour phases: a dark slate grey and a more common light phase with dark upperside and light, heavily streaked underside.

In the Mediterranean region breeds on all islands except Corsica and Sicily and on the coasts of Morocco, Algeria, Tunisia, Turkey and Greece.

Conservation and management: The species should be strictly protected in its characteristic habitats.

Falco cherrug: Saker falcon (RSPB)

46 cm. A large, rather broad-winged falcon, wings and upperparts brown with head whitish and indistinct moustachial stripe; whitish below, lightly streaked or spotted with brown. A bird of the open plains, semi-desert with scattered trees, steppes and upland.

World distribution Asia Minor, and from central and south-east Europe through southern Russia and central Asia to northern China, and from north-east Iran to Chinese and Russian Turkestan. Partially migratory.

European distribution Confined to south-central and south-eastern Europe (see below); also central European Russia and in small numbers in central and eastern Turkey.

Estimated population Outside Russia, very small; Austria: perhaps 10 pairs after 1945, 2-3 pairs early 1970s, but apparently none now; Czechoslovakia: 10-30 pairs, stable or even increasing slightly; Hungary: perhaps 40 pairs (a higher estimate than the 8-10 pairs estimated in 1971); Yugoslavia: probably under 10 pairs in the north; Bulgaria: not known, but probably regular in very small numbers; Romania: c.20 pairs; Greece: not known, but uncommon and may not breed.

Reasons for decline Shooting, taking of young for falconry and possibly effects of pesticides.

Conservation measures taken Legal protection in most of range - but not necessarily effectively enforced. Import restrictions elsewhere probably help this species.

Conservation measures proposed Complete and effective protection wherever it breeds. More information required on precise status and threats.

Falco concolor: Sooty falcon

32-35 cm. Two colour phases. One grey with black wing-points, one all black. Nests in open areas with rocks and without trees. In winter also found in savannas and open woodlands.

In the Mediterranean region breeds in a very restricted area in Libya, Egypt and Israel.

Conservation and management: The species should be strictly protected in its characteristic habitats.

Numida meleagris: Tufted guinea fowl

63 cm. A big bird, grey with white dots; head and neck bald, neck blue-grey, cheeks white with red wattles.

Living in groups, restless and noisy. Wooded ravines and hilly areas. Mainly on the ground, but roosting in trees.

In the Mediterranean region breeds only in small, isolated areas in Morocco. In earlier days all over North Africa.

Conservation and management: Remaining populations should be preserved and sanctuaries should be established in typical guineafowl habitat.

Alectoris barbara: Barbary partridge

A North African species. 32 cm. Male and female look the same. Upperside red-brown, throat and eyebrows blue-grey, latter brownish-yellow behind the eyes. Red-brown collar with white spots.

Living on rocky hills in bushy deserts and open woodlands.

In the Mediterranean region breeds in North Africa, south Spain and Sardinia.

Conservation and management: The shooting of the partridge should be restricted as far as necessary to preserve fair breeding populations. Reserves should be established in characteristic habitat.

Ammoperdix heyi: Sand partridge

24 cm. Male reddish-brown-yellow with dark grey head, sides red-brown and

black-barred; white patch behind the eyes and orange-yellow bill and legs. Female brown-yellow and brown-grey with narrow bars.

Found on stony or rocky ground with little vegetation, but not in open sandplains. Usually in pairs.

In the Mediterranean region breeds only in a relatively small area in Egypt and Israel.

Conservation and management: The species should be effectively protected, and hunting should be restricted as far as necessary. Reserves should be established in characteristic habitats.

Coturnix coturnix: Quail

18 cm. Formerly abundant, but the species has declined in numbers. Sandy coloured with striped back and sides. Cock is striped on the throat, hen unmarked. Once on the wing flight is slow and low with very fast wingbeats.

Found in grassland and fields, usually keeping hidden in the vegetation and of solitary habits.

In the Mediterranean region breeds in all countries, but declining in numbers.

Conservation and management: The quail should be protected as breeding bird, and its characteristic breeding habitats should be preserved. Hunting should be strictly regulated.

Francolinus francolinus: Black francolin

34 cm. Male black-faced, with black throat and underparts, chestnut-brown collar, white spot on the side of the head and white-spotted sides. Female like other brown Phasianidae, but with chestnut-brown spot on the neck.

Living in areas of dense vegetation, such as high grass plains, bushland (especially tamarisks) and swamps.

In the Mediterranean region breeds in eastern coastal states, including Turkey, in small, isolated populations.

Conservation and management: The species and its habitats should be protected especially in the Mediterranean part of its distribution area.

Francolinus bicalcaratus: Double-spurred francolin

32 cm. Male has black, white and chestnut-brown stripes on the head, underparts barred in the same colours. Female looks the same, but the colours are duller.

Habitat open woods and bushes, palm-groves and barren fields.

In the Mediterranean region breeds in two small isolated breeding areas in Morocco.

Conservation and management: The species should be strictly protected in the breeding areas and the breeding habitat should be preserved by the establishment of reserves.

Turnix sylvatica: Andalusian hemipode (RSPB)

15 cm. Resembles tiny, brownish game-bird and not unlike quail, but even smaller and with rufous breast and black spots along flanks.

Inhabits sandy plains and dry grasslands, especially where there is some dwarf-palm vegetation.

World distribution Southern Iberia, Africa, eastern Iran and India eastwards through Indo-China to south-east China, Taiwan, Java, Bali and the Philippines (including the Sulu archipelago). Sedentary.

European distribution Formerly bred Sicily, now only southern Spain (Andalucia) and possibly Portugal (no recent data).

Estimated numbers Unknown: no data, but clearly very rare in Andalucia and a mystery species to most ornithologists. Status in Portugal (if it still occurs there) completely unknown.

Reasons for decline In Sicily, reclamation of wasteland and perhaps also shooting. For Spain - unknown, but could include shooting and possibly habitat change.

Conservation measures taken None known.

Conservation measures proposed A survey of distribution, numbers and ecology is urgently needed: this species is marginal in Europe, but almost nothing is known about it.

Grus grus: Crane

114 cm. Male and female look the same. Grey with black head and wing-tips. White stripe on cheek and neck. Red crown. Big plume of feathers covering the tail.

Locally common, outside breeding season found in marshes and on sandbanks, along rivers in grasslands and fields. Nesting in bogs and wooded swamps in Europe.

In the Mediterranean region breeds only in Turkey; the European populations visit all Mediterranean countries in winter.

Conservation and management: The species should be protected when on migration and in the wintering areas.

Anthropoides virgo: Demoiselle crane (RSPB)

96 cm. A small crane, mainly grey, but with the head, neck and breast black (the last with elongated plumes) and conspicuous white ear-tufts.

Living in marshes and swamp-like river valleys. Also on high plateaux.

World distribution North-west Africa; southern Russia and Asia Minor east to Manchuria. Migratory, wintering north-east Africa and southern Asia.

European distribution Formerly bred Romania (until c.1900). In Europe now only breeding in southern Russia from southern Ukraine and Crimea to north of the Caspian Sea along the lower Volga and the Ural rivers.

Estimated population Unknown, but has apparently decreased in some areas due to persecution, though equally thriving elsewhere.

Reasons for decline Persecution and loss of habitat through cultivation.

Conservation measures taken Not known.

Conservation measures proposed None at present.

Ardeotis arabs: Arabian bustard

Male 90 cm, female 74 cm. Black pointed tuft at back of crown, pale neck with very fine grey bars. Upperparts red-brown with fine black bars. White underparts, yellowish legs. Big white bars at base of tail. In flight white on the wings.

Living alone or in pairs on dry grass plains, open bush and semi-desert.

In the Mediterranean region breeds only locally in Morocco.

Conservation and management: The species should have special attention. Reserves should be established in its characteristic breeding places and hunting should be strictly regulated; preferably there should be no hunting at all.

Otis tetrax: Little bustard

42 cm. Male and female look alike in winter-plumage, when the upperparts are brown with black spots, most of the wings and undertail white, breast brown and underparts white. In summer the sides of the head of the male become grey and the neck a pattern of black and white.

Fairly common in open plains and farmland, sometimes with scattered trees and bushes. Seen in small flocks, outside the breeding season often far from the breeding grounds.

In the Mediterranean region breeds in all the countries to the north and in Morocco, Tunisia and Algeria.

Conservation and management: Although the species is fairly common, hunting should be regulated carefully and reserves in characteristic breeding habitats should be established.

Chlamydotis undulata: Houbara bustard

64 cm. Differs from the other bustards in having less white on the wings, longer wings and tail and elongated black patches on the neck. A short crest is more pronounced in the male than in the female.

The Houbara bustard prefers dry steppes, desert or semi-desert, usually with no, or very little, in the way of trees and bushes.

In the Mediterranean region breeds in all countries of North Africa and of the Middle East.

Conservation and management: Although the species has a wide distribution, populations are restricted and the species is vulnerable. Special attention should be given to hunting and the establishment of reserves.

Otis tarda: Great bustard (RSPB)

Male 102 cm, female 76 cm. One of Europe's largest and most spectacular birds. Male is particularly big, with long, thick neck and powerful legs, chestnut barred with black above and white below, with head and neck lavender-grey and long, white moustachial bristles. Females smaller and duller. Much white on black-tipped wings. Gregarious in small flocks.

Found on open plains and cultivated fields, where it feeds on cereals and other vegetable matter, also on insects, frogs and other small animals.

World distribution Morocco; Iberia, central and south-east Europe, east through Russia and Asia Minor and across Asia to southern Ussuriland and the Pacific coast. Largely sedentary.

European distribution Outside Russia, restricted to three areas: Iberia, north-east Germany and north-west Poland, and, in south-east Europe, southern Czechoslovakia, eastern Austria, Hungary and Romania. In the USSR ranges from the Crimea region east to the Urals and south to the northern Caucasus.

Estimated population Portugal: probably 100 or so; Spain - unknown, but possibly several hundred birds; East Germany - probably 1000-1500; Poland: decreased from earlier good numbers to c.300 in early 1970s and only 123 by 1975; Austria: perhaps 200-250; Hungary c.2300; Czechoslovakia: 600-800 (mostly in south Slovakia); and Romania: c.1600. In European Russia numbers unknown, but despite decline in south (extinct now in Ukraine) apparently increasing in the north following forest clearances. Former much wider range included southern Sweden, Denmark, England, France (into 20th Century), Greece and Bulgaria.

Reason for decline Hunting and egg-collecting have hastened the decline in some areas, but the main factor has been habitat change - the cultivation or ploughing-up of extensive grasslands and steppe, plus increasingly mechanised agriculture. Nevertheless, the species has adapted to change in some areas and has also responded well to protection where granted.

Conservation measures taken Legal protection in most countries, sometimes with special penalties and special protection of breeding haunts, e.g. Hungary and Czechoslovakia. An experiment with captive breeding, with a view to eventual release, is under way in southern England, but whether it will succeed seems doubtful.

Conservation measures proposed Most governments have responded well to the need to protect this species, but more could be done in the form of establishing large reserves to conserve tracts of suitable habitat: this is particularly vital in Iberia which has the smallest of the three populations and the one most threatened at present. Continued strict protection is essential.

Fulica cristata: Crested coot (RSPB)

41 cm. Very like the common coot (F. atra), being all black with white bill and frontal shield - but has two small red knobs above frontal shield and lacks white on wings. Voice also different. Habitat reed-swamps.

World distribution Spain, Morocco (formerly also Algeria, Tunisia) and also southern and eastern Africa and Madagascar. Sedentary.

European distribution Restricted to southern Spain, in the marismas of the Guadalquivir though formerly rather more widespread. Largely sedentary, but in the past some wintered in southern Portugal.

Estimated population Apparently virtually extinct in Spain and numbers certainly very small. Little recent firm information, though a 1970-71 estimate put the total as low as only 10 birds.

Reasons for decline Unknown - but probably includes habitat destruction and possibly also intra-specific competition with Fulica atra.

Conservation measures taken Breeds (or bred) in Coto Doñana reserve.

Conservation measures proposed Precise information on its present status and ecology required.

Porphyrio porphyrio: Purple gallinule (RSPB)

48 cm. A rather secretive bird, not unlike a huge, bluish-purple moorhen (Gallinula chloropus) with long red legs and a heavy red bill. Juveniles are slate-grey.

Preference for swamps with dense vegetation.

World distribution Africa (including Madagascar) north to the Mediterranean and Caspian regions; also India, Indo-China, the New Guinea region, Australia and New Zealand. Sedentary.

European distribution Breeds in southern Spain, possibly still in Portugal, and in Sardinia. Formerly bred Sicily, Greece and the Balearics.

Estimated population Sardinia: 190-280 pairs, stable at present; Spain - no data, but mainly in Guadalquivir area where scarce and probably decreasing.

Reason for decline Habitat destruction through drainage, and possibly shooting in some areas.

Conservation measures taken Breeds in Coto Doñana reserve in Spain, but little direct protection in Sardinia.

Conservation measures proposed Total legal protection in southern Europe and north Africa.

Rostratula benghalensis: Painted snipe

23 cm. Sexes differ. Male has upperparts grey-brown, underparts white. Female more clear-coloured with red-brown neck and upper breast. Bill decurved. Legs are longer than those of the snipe. The rounded wing-tips have big round yellow-brown spots.

Living in marshes and swamps and freshwatershores with dense vegetation.

In the Mediterranean region breeds only in Egypt.

Conservation and management: The species should be strictly protected and reserves should be established in its characteristic habitats.

Charadrius pecuarius: Kittlitz's sand plover (RSPB)

13 cm. Small plover with sand-coloured crown, white neck, pale red-brown breast and black stripe from the eye to the back.

Prefers freshwater, coastal shores and mud-plains.

In the Mediterranean region breeds only in Egypt, where it deserves special attention.

Vanellus spinosus: Spur-winged plover

27 cm. A striking black-and-white plover, of the distinctive lapwing (Vanellus) group: black on crown, throat and underparts, white on sides of face and neck. Upperparts mainly brown, rounded wings black and white.

Habitat open country, near flowing saline or fresh water.

World distribution Mainly Africa: in the west south of the Sahara west to Senegal; in the east north from Tanzania to Egypt, thence northwards through Near East to Turkey and Greece.

European distribution Greece, where breeding first discovered in 1959, was presumably colonised from western Turkey, where the species is quite common. Known to breed in Nestos - Evros delta zones in the north-east, Gulf of Salonika further west and possibly elsewhere. Migratory.

Estimated population Unknown, but may well now number 50 pairs or more in Greece. Apparently still increasing.

Reasons for decline Not applicable

Conservation measures taken None known.

Conservation measures proposed Full legal protection desirable. The present population requires an accurate census; reserve protection may not be necessary yet.

Burhinus senegalensis: Senegal stone-curlew.

38 cm. Male and female similar. Upperparts are reddish-brown with black spots and stripes. The throat and body are cream-coloured, breast is reddish with black stripes. One light bar on the wings. Big eyes.

Living on sandy riverbanks, in orchards and gardens.

In the Mediterranean region breeds only in a restricted area in Egypt, where it deserves special attention.

Glareola pratincola: Collared pratincole.

25 cm. Brown with cream-coloured, black bordered throat and chestnut-brown underwing. White rump and black tail.

Found in open steppes and savannas, dried-out mudflats and freshwater shores, tending to live in groups.

In the Mediterranean region breeds in almost all countries, but locally and vulnerable.

Conservation and management: The breeding localities should be protected.

Glareola nordmanni: Black-winged pratincole

25 cm. Almost identical to G. pratincola, except for pitch-black underwing with no white or brown.

Locally common but not numerous on open steppes and dried out mudflats. Wintering in south-east Europe and also in Turkey and the coastal states of the eastern Mediterranean.

Conservation and management: This species should be protected in its breeding areas and in its winterquarters.

Pluvianus aegyptius: Egyptian plover

20 cm. Very tame wading bird with blue-grey upperparts (wings and tail), with a broad black stripe in the middle of the back. Crown and face black, with a white stripe above the eye. Underparts reddish, with a greenish-black stripe on the breast. Black bill, blue-grey legs.

Living near freshwatershores, sometimes in villages.

In the Mediterranean region occurs only in Egypt. Very rare.

Conservation and management: The species should be strictly protected and reserves should be established for it. The species deserves special attention.

Cursorius cursor: Cream-coloured courser

23 cm. Male and female look alike. Very light-brown with black eye-stripes and black wing-tips, grey neck. Bill decurved. Runs very fast, interrupted by sudden stops. Often tries to escape danger by crouching.

Living in the desert and semi-desert.

In the Mediterranean region breeds in all countries of North Africa and Near East, occasionally wandering to Europe. It is here on the outside fringe of its total distribution area, in small more or less isolated populations and, as such, calls for protection.

Larus genei: Slender-billed gull (RSPB)

43 cm. A smallish gull, white with pearl-grey back and wings, some black at wingtip, red bill (yellow in winter) and red legs. In breeding season has pinkish tinge to underparts. Not unlike winter black-headed gull (L. ridibundus) but has longer neck, no black on head, and longer bill.

Nests near fresh water and brackish lakes and lagoons on the coast, wintering mainly in coastal waters.

World distribution Breeds very locally in Mauritania, Tunisia, southern Spain, southern France, Sardinia, Greece, around Black and Caspian Seas, and in the west Siberian steppes. Winters within its breeding range but also as far as the Mediterranean and Red Seas.

Conservation measures taken Breeding places in France and Romania are nature reserves and part of the southern Russia population is similarly protected.

Conservation measures proposed Probably none necessary at present - but up-to-date information on the Danube Delta population and its trends would be very useful.

Larus audouinii: Audouin's gull (RSPB)

50 cm. White below and grey on the back and wings, midway in size between common (L. canus) and herring gulls (L. argentatus). Dark greenish legs, coral-red bill with black band near tip.

Nesting near freshwater and brackish lakes and lagoons on the coast.

World distribution Possibly the world's rarest gull, confirmed as a breeding bird on islands in the Mediterranean; outside Europe, two or three colonies in North Africa (Morocco, Tunisia) hold over half the estimated world population of 800-1000 pairs, though there is no very recent information nor is there for a possible colony off the Lebanon coast (18 birds in 1973).

European distribution No detailed numbers for most known colonies, and proof of breeding lacking for some suspected sites. Nests off eastern Spain; in small numbers in the Balearic Islands; on islands between Corsica and Sardinia and at one site on the Sardinian coast itself - this region possibly holding the bulk of the birds outside North Africa; on Capri, off western Italy; in the Greek islands in the Aegean (two colonies in the Northern Sporades and one in the Cyclades, perhaps 50 pairs in all); and on the Klidhes Islands off Cyprus (15-20 pairs). It is possible that a few small, undiscovered colonies exist.

Estimated population In Europe, possibly 400 pairs, with perhaps 300 of these in islets between Corsica and Sardinia.

Reasons for decline Population may actually be fairly stable, but full information is lacking. Very little is known of the ecology of this apparently very specialised bird. Locally some colonies are disturbed and suffer from human persecution; and predation by herring gulls (L. argentatus) may also be a problem in places.

Conservation measures taken None known.

Conservation measures proposed This is an IUCN Red Data Book species. It requires reserve protection at as many colonies as possible, but of equal importance are full-scale census work at all known sites and a detailed study of the bird's ecology. This is the rarest European breeding bird in terms of its total world population.

Gelochelidon nilotica: Gull-billed tern

38 cm. A fairly large sea tern, grey on the back and wings and white below, with black cap. Distinguished from other terns, especially Sandwich Tern (Sterna sandvicensis) by rather short, thick black bill and short, grey tail. Legs black and relatively longer than in most terns.

Nesting colonially on coastal marshes and sandy beaches. Also seen over land and along shores.

World distribution Almost cosmopolitan. Breeds locally in Europe, also in south-west Asia, south Iran, Pakistan and south-east China, and probably elsewhere in south-east Asia; also north-west Africa, Mauritania, Australia and the Americas. Sedentary and migratory.

European distribution Breeds very locally in Denmark, France (Camargue only), southern Portugal, southern and eastern Spain, Sardinia, Italy (Po delta only), Romania (lower Danube and the Dobrogea), Greece and the Black Sea coasts of southern Russia, and east to the Volga-Ural steppes and south to the northern Caucasus. Formerly bred Netherlands, Germany, Austria and on one occasion England. Winters in west and east Africa.

Estimated population Denmark: latest figures c.150 pairs - a decline from 500 pairs in 1950s and 200 in 1970, all at Limfjorden, Jutland; Portugal: unknown, but numbers probably small; Spain: perhaps 100-200 pairs in Guadalquivir area, where formerly up to 500 pairs; France: down to c.50 pairs; Italy: down to c.25 pairs; Sardinia: down to 13 pairs by 1975. Apart from c.400 pairs reported recently in the Axios delta near Thessaloniki, little information on populations in south-east Europe - but apparently thriving there and declines only noted in western half of range. Last bred Austria, Niesiedlersee, 1940; in Netherlands, extinct since late 1950s (see below); and in West Germany since 1940s (Friesian Islands) and Bavaria 1934.

Reasons for decline Decline confined to western populations and reasons not fully known. Ceased to breed Netherlands when DeBeer coastal reserve destroyed, and inland in Bavaria when cultivation destroyed breeding areas.

Conservation measures taken Fully protected in northern countries and colonies exist in nature reserves in Denmark, Spain, France and Romania.

Conservation measures proposed Full legal protection at all seasons in all European countries is desirable. Further reserve protection, particularly in south-west Europe, is recommended.

Hydroprogne caspia: Caspian tern (RSPB)

53 cm. Europe's largest sea tern, almost as large as Herring Gull (L. argentatus). Pale grey on back and white below, with shaggy black crest and large, stout red bill.

Nesting singly or in small colonies on islands and sandy beaches. Outside breeding season usually along seashores, but occasionally on larger inland waters.

World distribution Almost cosmopolitan, but scattered and local. Breeds Tunisia, the Baltic, Romania, around the Black and Caspian Seas and on the Kirghiz and west Siberian Steppes. Also locally in eastern, western and southern Africa, the Persian Gulf, Ceylon, eastern China, Australia, New Zealand and North America. Sedentary and migratory.

European distribution Very local: Baltic region (coasts and islands, Sweden, Finland and Estonia), Romania (the Dobrogea) and southern Russia (mouth of Dneestr to sea of Azov, in the Volga delta and on the Volga-Ural steppe lakes). Winters mainly off West Africa.

Estimated population Baltic: 1971 figures were 850-950 pairs in Sweden, c.1000 in Finland and 356 in Estonia; present numbers apparently similar. Population in Romania unknown, but probably under 100 pairs. Some 2300 pairs in Europe, outside Russia but including Estonia. Has bred occasionally Denmark, Germany, Yugoslavia and may occasionally breed in Greece and southern Spain.

Reasons for decline Not applicable.

Conservation measures taken In the Baltic much of the population has reserve protection (e.g. 2 sites in Sweden, 5 in Finland) and protection has enabled the population to almost double since the 1950s.

Conservation measures proposed Legal protection should extend to all countries where this species is likely to occur, even on passage. Otherwise it is best regarded as "local" rather than "endangered" - no threats are known at present, but the population should be kept under surveillance.

Pterocles orientalis: Black-bellied sandgrouse (RSPB)

34 cm. Larger and heavier than Pin-tailed sandgrouse (P. alchata) with black belly and shorter, less elongated tail. Male yellowish above with grey head, chestnut chin, black throat patch and grey breast crossed by a narrow black band. Female darker buff and more spotted than male.

Found on steppes and outlying fields. Very rare outside breeding grounds.

World distribution Breeds Canaries, north-west Africa and Iberia; also Cyprus and from Asia Minor and south-east Russia east to Iranian region and Chinese Turkestan. Eastern populations are partially migratory wintering as far to south-east as north-west India.

European distribution Resident Portugal and Spain, except in extreme north and north-west.

Estimated population Unknown, but certainly decreasing with species becoming increasingly local. Has virtually vanished from Guadalquivir region.

Reasons for decline Not certainly known, but probably related to cultivation of dry areas it prefers.

Conservation measures taken None known. Has almost disappeared from the only reserve it has inhabited, the Coto Doñana.

Conservation measures proposed Census work is necessary to ascertain status and distribution. The setting aside of a suitably large area of arid and uncultivated land in Spain as a reserve would help both this and the next species.

Pterocles alchata: Pin-tailed sandgrouse (RSPB)

37 cm. Smaller than P. orientalis, with elongated, pointed central tail feathers, and white underwing with black tip. Males have a black chin and a broad chestnut breast-band, females a white chin.

Found on dry steppes and other dry, flat areas. Very rare outside its normal range.

World distribution Breeds Morocco, Tunisia, Iberia and southern France and from Asia Minor and the Near East to the Iranian region and Russian Turkestan. Partially migratory, eastern population wintering in north-west India.

European distribution Confined to La Crau in southern France (Bouches-du-Rhône); and to Iberia, except northern and north-western areas.

Estimated population Iberia; unknown, but apparently decreasing. La Crau: most recent estimate is 100-120 pairs breeding, with 350-400 adults and immatures in winter; has decreased.

Reasons for decline In Iberia, probably linked to increasing cultivation of arid areas. On La Crau, cultivation of some sections, plus irrigation and also some industrialisation, have reduced the area of suitable habitat available.

Conservation measures taken None known.

Conservation measures proposed Census work, especially in Iberia, is required to determine population size, trends and problems. A large arid-zone reserve in Spain would benefit both this and the previous species. Long-term conservation of La Crau is desirable for this species and other fauna and flora found there.

Bubo bubo: Eagle owl (RSPB)

66-71 cm. Huge, tawny brown owl, streaked darker, with prominent ear-tufts and big orange eyes. The largest and most powerful of all owls.

Found in large tracts of undisturbed land, woods, mountains and even open country. Usually nests on the ground or on rock ledges, but also in hollow trees.

World distribution Breeds from Iberia, France and Scandinavia east right across Eurasia to the Pacific coast, also south to Arabia and southern India and in Africa south to the southern fringes of the Sahara.

European distribution Breeds in Fenno-Scandia and northern Russia from around 68°N southwards through continental Europe, as far west as the German Rhineland, and eastern and southern France and over much of central, eastern and south-eastern Europe and on into Turkey and beyond. A separate population exists in Iberia. Decreasing in many countries - often markedly so - and no longer found in Belgium, Luxembourg and central and western France. Mainly sedentary.

Estimated population Data incomplete for this difficult, nocturnal species, but ample evidence of widespread decline. There is hardly any information for eastern and south-eastern Europe and in Spain the only estimate (1975) is of 2000 pairs, decreasing. Norway may hold 1000 pairs, stable except in the south where a marked decline has been noted; in Sweden, three estimates were 455 known territories in 1943-48, 175 in 1964-65 and 171 in 1974-75, though recently it has been said that the population could be as high as 350 pairs; Finland - perhaps 200-250 pairs, with some increase in the last decade following protection; France - varying estimates from under 100 pairs to perhaps 200-300, with the population possibly stable after a long period of decline; Czechoslovakia - perhaps 170-190 pairs; Poland - perhaps 50 pairs (60-70 in 1950s); West Germany - 50-70 pairs in Bavaria; Switzerland - 30-60 pairs; Italy - 50-100 pairs; and Hungary 11-25 pairs.

Reasons for decline Heavy and continuous persecution by man: human disturbance at breeding areas, loss of food supplies through myxomatosis and widespread deaths through collisions with power lines have all been cited as causes of decline. Others include capture for use as live decoys and for taxidermy, and no doubt toxic chemical poisoning has affected the birds in some areas.

Conservation measures taken Gradually, the species is approaching full legal protection in many countries and in some has responded well to a reduction in persecution. Reintroductions from captive-bred stock have been tried (e.g. in south-west Sweden) and are to be implemented in several areas - the species breeds well in captivity and reintroduction might prove an effective measure in a number of countries.

Conservation measures proposed Continuation of existing programmes as outlined above - but the first step is to secure full and effective legal protection for the Eagle owl throughout Europe.

Ketupa zeylonensis: Brown fish owl

56 cm. Differs from Bubo bubo by much shorter ear-plumes, unfeathered legs and feet and more uniformly coloured plumage.

Living in woods near water. Mainly fish-eater.

In the Mediterranean region breeds in small, isolated breeding areas in Turkey, Israel and Egypt.

Conservation and management: The species should be protected especially and reserves should be established in its breeding areas in all countries where it lives.

Asio capensis: African marsh-owl

30 cm. Smaller than short-eared owl, with longer ear-plumes, more evenly brown upperparts, brown eyes.

Living in marshes and wetlands. Hunting usually at dusk, mainly on insects.

Breeds in the Mediterranean region only in Morocco, where the species and its habitat should be protected.

Strix butleri: Hume's (=Palestine) tawny owl

38 cm. One of the least known of owls. Upperparts yellow-brown, wings more grey and clear gold-coloured collar. Toes unfeathered. Crown feathers have black tips.

Habitat rocky clefts and clumps of palm-trees.

Known in the Mediterranean region only in four or five localities in countries bordering the east coast.

Conservation and management: The breeding areas should be preserved as nature reserves. The species itself should be strictly protected.

Apus caffer: White-rumped swift (RSPB)

Distinguishing characteristics 14 cm. A small swift, blackish with a white chin and a narrow white band across the rump - the only European swift so marked, but very similar to the little swift (A. affinis) of North Africa, which has a square-ended (not forked) tail and much more white on the rump.

World distribution Africa, mostly south of the Sahara but also locally in south Morocco and, since 1966, southern Spain.

European distribution New colonist to Cadiz province (Sierra de la Plata and Los Barrios), southern Spain.

Estimated population Total of c.10 pairs, with some annual fluctuations.

Reasons for decline Not applicable.

Conservation measures taken None known.

Conservation measures proposed As far as is known, this newcomer is not threatened, despite its tenuous foothold; fears of too much disturbance by visiting birdwatchers and photographers have so far apparently proved groundless.

Apus pallidus: Pallid swift

16,5 cm. Hard to tell from Common swift, but paler brown and clearer white spot on the throat. Head is broader. Slower wing-beats.

Prefers rocky shores and mountains.

Breeds in all Mediterranean countries in restricted areas and in small, isolated colonies.

Conservation and management: The species is vulnerable. Especially the breeding places should be protected.

Clamator glandarius: Great spotted cuckoo

39 cm. Large size, characteristic white-spotted and striped dark upperparts, nuchal tuft and long, white-bordered tail; pale underparts.

Habitat groves, woods, open land with scattered trees and bushes, olive groves and savannas.

In the Mediterranean region occurs in Spain, Portugal, southern France and Turkey. Locally in the other countries bordering the eastern Mediterranean, also locally in Egypt, Tunisia, Algeria and Morocco.

This species deserves special attention.

Centropus senegalensis: Senegal coucal

41 cm. Male and female look alike. Head, neck and the long tail are dull-black, contrasting with chestnut-redbrown back and wings. The underparts are light reddish. Eyes are red.

Usually found in dense vegetation in marshes or near rivers.

In the Mediterranean region breeds only in Egypt, where the species should be protected.

Caprimulgus ruficollis: Red-necked nightjar

31 cm. Grey, brown and reddish, mixed so closely that the colour seems homogeneous. Red-brown collar, white spot on the throat, white spots on wings and tail.

Habitat dry open land and semi-desert with scattered trees and bushes.

In the Mediterranean region breeds in Spain, Portugal, Morocco, Algeria and Tunisia.

Conservation and management: This species needs special protection because its populations are rather small and vulnerable. Attention should be given to the establishment of reserves in known breeding places.

Caprimulgus nubicus: Nubian nightjar

22 cm. Small pale-greyish looking nightjar with reddish-yellow collar and very clear white spots on the outer tail feathers. Male also has white spots on the wing-tips.

Inhabits tamarisk, thorn and other bush and desert edges. By day sits in the shadow of rocks or bushes.

In the Mediterranean region only breeds in a very restricted area in Egypt and Israel.

Reserves should be established in the breeding habitats.

Caprimulgus aegyptius: Egyptian nightjar

25 cm. Pale, sandy-coloured nightjar with clear white spots on the throat and tail, but only faint if any wingspots.

Habitat deserts and semi-deserts, often near water. Hunts close to camps of Bedouin and other nomads, flying by day, if the soil is too hot for resting.

In the Mediterranean breeding in restricted areas of Morocco, Algeria and Egypt.

Conservation and management: Special attention should be given to the preservation of the breeding habitats.

Halcyon smyrnensis: Smyrna kingfisher

27 cm. Male and female look alike. Bill and legs red. Head, neck, part of the wings and flanks chestnut-brown. The rest of the wings, back and tail bright blue. Throat and breast white.

Inhabits arable land, gardens, open fields, bushes, fresh water and seashores, feeding on lizards, insects, frogs and crabs.

In the Mediterranean region breeds in Turkey and the other countries bordering the eastern coasts.

The species is vulnerable and should be protected.

Ceryle rudis: Pied kingfisher

25 cm. Black and white plumage and kingfisher silhouette easily distinguish this species. Always close to water. Male has two black breast-bands, female only one. Soars and hovers above the surface of the water before plunging head-first to catch fish. To be found on salt and fresh water everywhere except in woods or high in mountains.

In the Mediterranean region breeds in Turkey, Egypt and countries bordering the east coast, where it should be given attention.

Merops apiaster: Bee-eater.

28 cm. Very colourful plumage with yellow-brown upperparts and blue-green underside. Black breast-band and eye-stripe. Often seen perching on horizontal wires. Flight is extremely elegant on long pointed wings. Sometimes hovers. Hunts insects in the air.

Rather common in open country with scattered trees and bushes.

Nests colonially in dried-out river banks and sandpits, but solitary nesting pairs are sometimes found.

Breeding in all Mediterranean countries including islands, except Libya and Egypt, where it is only a winter visitor.

Conservation and management: The species, although rather common, is vulnerable. Special attention should be given to the preservation of breeding sites.

Merops superciliosus: Blue-cheeked bee-eater

31 cm. Green coloration without any brown on upperparts and reddish underside of wing distinguish it from the Bee-eater. Blue cheeks. Habits are similar to bee-eater's.

Nests colonially in holes in river-banks or sandpits.

In the Mediterranean region breeds locally in countries bordering the east coast, Egypt, Libya, Algeria and Morocco.

Conservation and management: see Merops apiaster.

Merops orientalis: Little green bee-eater

25 cm. Mainly green, including throat, black breast-band. Smaller and with less blue on the head than Blue-cheeked bee-eater.

In the Mediterranean region occurs only in Egypt and Israel, where local and not common.

The species and its characteristic habitat should be preserved.

Coracias garrulus: Roller

31 cm. Blue colour with chestnut back makes this species unmistakable. Sexes similar. Often sits in the open on a perch from which it catches insects on the ground or even in flight; on the ground it is rather clumsy.

Fairly common in open country with scattered trees and bushes, and in open woodland.

Nests in hollow trees or other cavities.

Breeding in all Mediterranean countries except Libya where it is a winter visitor.

Conservation status not well known. Probably vulnerable.

Dendrocopos syriacus: Syrian woodpecker

23 cm. Black and white plumage, two large white areas on the back. Red under the tail and the male also has a red nape.

Inhabits woods (mainly on mountain slopes), areas with scattered trees, orchards and gardens, and is spreading steadily through Europe from the south-east.

In the Mediterranean region breeds in Greece, Albania, Yugoslavia, Turkey and countries bordering the east coast.

Conservation and management: Populations are rather small and vulnerable. Special attention should be given to the preservation of the forest habitat.

Dendrocopos medius: Middle spotted woodpecker

22 cm. Black and white plumage with noticeable white patches and spots on the wings and a red crown. Little black on the sides of the head and neck.

Fairly common in mature deciduous forests, keeping rather high in the canopy.

Breeds in all northern Mediterranean countries.

Conservation: see Syrian woodpecker.

Dendrocopos minor: Lesser spotted woodpecker

14,5 cm. Smallest woodpecker of the area. Male has a red crown. No red feathers under the tail.

Common in rather open deciduous and mixed woods, orchards and parks.

Breeds in all northern Mediterranean countries, Algeria and Tunisia.

Conservation: see other woodpeckers.

Dendrocopos leucotos: White-backed woodpecker

25 cm. White upper rump and lower back and black upper back. Bill is longer than that of the other spotted woodpeckers. Male has red crown, female has a black crown.

Rather uncommon in old deciduous forests and mixed woods with old, rotting trees. Sometimes in areas with scattered trees.

Breeding sometimes very locally in most northern Mediterranean countries, but not in Italy or Portugal. Its populations are sometimes small and isolated.

Conservation: preservation of the forest habitat is essential for the conservation of this species.

Chersophilus duponti: Dupont's lark

16 cm. Male and female similar. Brown to redbrown, with rather long decurved bill, rounded crown without a crest and whitish eye-stripe.

Frequents (dry) steppes with scattered bushes. Secretive in behaviour hiding in the vegetation.

In the Mediterranean region breeds in Morocco, Algeria, Tunisia, Libya and Egypt in rather small and isolated localities.

Two subspecies in North-Africa:

C. d. duponti from Morocco to central Tunisia; and

C. d. margaritae from central Algeria to north-west Egypt.

Conservation and management: Special attention should be given to the preservation of this typical Mediterranean species in its characteristic habitats.

Calandrella cinerea: Short-toed lark

14 cm. Male and female are similar. Rather small and pale. Underside unstreaked. Dark patches on the sides of the breast.

Common in open, dry country and dried-out mudflats, steppes, semi-deserts and dunes.

In the Mediterranean region breeds in all countries, including many islands, except Libya, where it is a winter-visitor.

Conservation: as for Dupont's lark.

Calandrella rufescens: Lesser short-toed lark.

14 cm. Resembles short-toed lark closely, but has streaked upper breast and is darker, greyer and more uniform in colour. It also lacks the dark patches on either side of the breast.

Fairly common in open country and on dried-out mudflats or dry margins of swamps.

In the Mediterranean region breeds in all the North African countries, those bordering the east coast, including Turkey, and Spain.

Conservation: as for other Mediterranean larks.

Melanocorypha calandra: Calandra lark

19 cm. Male and female similar. Very large with comparatively short tail, broad wings with white trailing edge and large black neck patches (less prominent in females).

Living on grassy steppes with low bushes, cultivated areas and dry, stony fields.

Breeds in all Mediterranean countries.

Conservation: as for other Mediterranean larks.

Melanocorypha leucoptera: White-winged lark.

18 cm. Similar to Calandra lark, but slightly smaller, lacks black neck patches, wings narrower (with broader white wing-bar) and more red-brown, especially on crown of the male (female has grey crown).

Inhabits dry grassy steppes, rough rocky areas and semi-deserts.

In the Mediterranean region this species is a winter visitor to countries of the Near East.

Conservation: as for other Mediterranean larks.

Melanocorypha bimaculata: Bimaculated lark

16,5 cm. Smaller and a more rufous brown than Calandra lark, with much narrower neck patches and more marked white eyebrow.

Habitat: grassy steppes with low bushes, cultivation and dry rocky terrain.

In the Mediterranean region breeds in Turkey and other countries bordering the east coast, wintering in Egypt.

Conservation: as for other Mediterranean larks.

Galerida theklae: Thekla lark

17 cm. Male and female similar, brown with black streaks, rather long tail and crest, grey underwing and shortish bill.

Common in dry, open country with sparse vegetation, usually preferring rocky landscapes with bushes, away from cities and villages.

In the Mediterranean region breeds in the North African countries, Spain and Portugal.

Conservation: as for other larks.

Eremophila alpestris: Shore lark

16,5 cm. Generally resembling other larks except for the black and yellow facial pattern and short black 'horns' of the breeding male. Outer tail feathers are white.

Breeds on dry tundras above or north of the tree limit, wintering along shores and on fields with short vegetation.

In the Mediterranean region breeds locally in Morocco, also in high mountains of countries bordering the east coast including Turkey, Greece, Albania and Yugoslavia.

Conservation and management: The shore lark and its breeding places in the Mediterranean mountains should be carefully protected.

Rhamphocorys clot-bey: Thick-billed lark

17 cm. Male and female similar. In addition to thick bill, dark-spotted breast and black-and-white face, neck and wings (producing a conspicuous black and white wing-bar in flight) are diagnostic.

Habitat mainly deserts, preferably rocky ones, but also grassy river banks.

In the Mediterranean region breeds locally in North African countries.

Conservation and management: Since the species is uncommon and its breeding places widely separated, it is important that a substantial number of such sites should be conserved.

Hirundo daurica: Red-rumped swallow

18 cm. Male and female similar and resemble H. rustica, but have pale rufous to buffy brown rump, pale brownish-white throat, shorter forked tail and chestnut-brown nape.

Usually near cliffs, bridges or buildings, often in cities. Nests singly or in small loose colonies.

In the Mediterranean region breeds in all northern and eastern countries, also Morocco and Algeria. In winter passing through Libya and Egypt.

This species should be protected, and is protected in several countries.

Riparia paludicola: Brown-throated sand martin

12 cm. Very similar to R. riparia but with brown chin, throat and breast and no dark brown breast-band.

Usually in the vicinity of water, nesting colonially and excavating nest-holes in steep banks of rivers or gravel pits or in suitable sea-cliffs.

In the Mediterranean region breeds only in Morocco and Algeria.

Conservation and management: in view of its very restricted distribution in the region, the colonies of this species deserve to be protected in one or more sanctuaries.

Hirundo obsoleta: Pale crag martin

12,5 cm. Looks like Hirundo rupestris but smaller and paler, with almost white throat and breast.

Nests on cliffs near the sea and inland on buildings, even those of cities.

In the Mediterranean region breeds in all North African countries except Tunisia, but not near the coast.

Conservation and management: characteristic breeding localities of this species should be protected in each country.

Anthus campestris: Tawny pipit

16,5 cm. Plain sandy-brown plumage, long tail and buffy eye-stripe.

Found on dry, usually somewhat open and often sandy plains, dunes, hills, savannas, cultivated land and vineyards.

Breeds in all Mediterranean countries except Libya and Egypt, where it is a winter visitor.

Conservation and management: In each country characteristic habitats for the Tawny pipit should be reserved, to ensure that a certain minimum population is safe.

Anthus similis: Long-billed pipit.

19 cm. Like a big, pale tawny pipit, plain brown above, pale below, only lightly streaked; outer tail feathers yellowish brown. Dry or grassy terrain with scattered rocks and occasional bushes.

In the Mediterranean region only breeds in countries bordering the eastern coast.

Conservation and management: An adequate sample of characteristic habitats of this species should be preserved as nature reserves.

Motacilla flava: Yellow wagtail

16,5 cm. Long tail, yellow underside and greenish upperparts; coloration of head and neck varies with the subspecies. Outside breeding season usually seen in loose flocks, often in association with grazing cattle.

Inhabits grassland, both moister meadows and dry but fertile terrain; also cultivated land, mudflats or shores of freshwater rivers and lakes, especially on migration.

The many subspecies which characterise different parts of the Mediterranean deserve special attention.

Lanius collurio: Red-backed shrike

17 cm. Male has a chestnut-red back and wings, blue-grey head and rump, and black cheeks bordered white above and below. Female and juvenile are brown with closely barred breast.

Common in open bushy country, breeding in all the countries bordering the Mediterranean on the north and a regular visitor to Libya, Egypt and the eastern Mediterranean countries in winter.

Conservation and management: This species deserves special attention in view of the great decrease in European populations in recent decades.

Lanius nubicus: Masked shrike

17 cm. Black and white upperparts, black crown and cheeks, white forehead and rump, pale reddish-brown flanks. Female and juveniles browner.

Common in open, dry country with trees and bushes.

In the Mediterranean region breeds in Greece, Albania, Turkey and other eastern coastal states, and winters in Egypt.

Conservation and management: The Masked shrike and its habitat should be given special attention.

Lanius excubitor: Great grey shrike

24 cm. Largest shrike in the area, with entirely black, grey and white plumage, notably a grey forehead, white eye-stripe and one or two white wing-bars. Females and juveniles have poorly defined grey barring on the breast.

Quite frequent in open country but prefers better-wooded areas.

In the Mediterranean region one or other of the subspecies breed in all countries except Turkey, Greece and Albania, where they are only winter visitors.

Conservation and management: The species has proved to be vulnerable in Europe and attention should be given to safeguarding populations of each of the different subspecies.

Cinclus cinclus: Dipper

18 cm. Short tail, cocked slightly upwards, large white breast patch and rufous underparts.

Constantly bobs up and down when standing on usually midstream rocks. Upland and mountain streams, in winter sometimes sea or lake shores, are typical habitat features.

In the Mediterranean region breeds in all countries to the north and in Morocco and Algeria.

Conservation and management: Special attention should be given to the population of this species, which is never numerous and always vulnerable because of its special habitat requirements.

Cinclus cinclus olympicus: Cyprus dipper

This subspecies is confined to Cyprus, where it needs (and may already have been accorded) the strictest protection.

Prunella collaris: Alpine accentor

18 cm. Largest accentor of the region, seldom seen away from mountains, is an unusually brightly coloured representative of its genus, with black and white speckled chin and throat, and the streak on its flanks imparting a bright chestnut glow.

Inhabits high mountainsides, stony or rocky, with or without vegetation, usually above the tree limit.

In the Mediterranean region breeds in montane zones of all the northern countries (including the island of Crete), and also in Morocco.

Conservation and management: The breeding places of this species should receive special attention; its populations tend to be small and to occupy restricted areas.

Oenanthe isabellina: Isabelline wheatear

16,5 cm. A large pale wheatear with tail broadly tipped black and long legs. Sexes similar.

Its habitats comprise steppe, desert and stony plains or hillsides.

In the Mediterranean region breeds in Greece, Turkey and other countries bordering the east coast, and Egypt. Winter visitor to Tunisia and Libya.

Conservation and management: Representative populations of this species and characteristic habitats should be protected in each of the countries in which it lives.

Oenanthe deserti: Desert wheatear

14,5 cm. Distinguished from other wheatears^{by} almost wholly black tail. Male also has black wingtips, chin, throat and cheeks. Female is brown

except for tail. Habitat is dry desert or semi-desert, but extends to arable land in winter.

In the Mediterranean region breeds in all North African countries and some of those of the eastern coasts.

Conservation: as suggested for other Oenanthe species.

Oenanthe leucura: Black wheatear

18 cm. Large wheatear. Male completely black except for white rump, undertail coverts and basal two-thirds of outer tail-feathers. Female a browner black.

Inhabits cliffs, ravines and other rocky places.

In the Mediterranean region breeds in all North African countries except Egypt; also in Spain, Portugal and southern France.

Conservation: as suggested for other Oenanthe species.

Oenanthe finschii: Finsch's chat

13,5 cm. Male has paler upperparts than any other wheatear, being whitish from crown to tail though black from throat to wings. Female dull grey with white or blackish throat. Shy and rather scarce species of stony hillsides and deserts, but often in vicinity of cultivation.

In the Mediterranean region breeds in Turkey and other eastern coastlands, visiting Egypt in winter.

Conservation: as suggested for other Oenanthe species, but requiring particular attention in view of its scarcity.

Oenanthe moesta: Red-rumped wheatear.

16,5 cm. One of the biggest wheatears of the region with reddish-brown on rump and base of outer tail feathers. Female is reddish-brown on crown and mantle and lacks black on throat.

Habitat desert fringes with sparse vegetation.

In the Mediterranean region breeds in all the countries of North Africa.

Conservation: as suggested for other Oenanthe species.

Oenanthe monacha: Hooded wheatear

17 cm. Mainly black with white crown, rump, underparts and outer tailfeathers.

Inhabits bare rough banks of seasonally dry watercourses and ravines in desert country.

In the Mediterranean region only breeds in Egypt and Israel.

Conservation: as suggested for other Oenanthe species, but of special importance to this species in view of its limited range.

Oenanthe lugens: Mourning chat

13,5 cm. Male has black mantle, wings and throat, white rump and breast, and pale rufous under tail-coverts. Female grey crown, neck and mantle, looking like the male of the North African subspecies O. l. halophila.

Habitat dry river-banks and other rough and stony desert areas.

In the Mediterranean region breeds in all North African countries and in some of the eastern coastal states.

Conservation: as suggested for the other Oenanthe species.

Oenanthe leucopyga: White-crowned black wheatear

17 cm. Male as name implies but with white outer tail-feathers and rump. Female lacks white crown.

Inhabits rugged deserts, but can also be found in cities and villages.

In the Mediterranean region breeds in all North African countries and in some of the eastern coastal states.

Conservation: as suggested for other Oenanthe species.

Cercomela melanura: Blackstart

14 cm. Male is a small grey bird with black tail. Female browner but also with black tail. A bird of the most desolate and arid desert.

In the Mediterranean region breeds only in Egypt and Israel.

Conservation and management: This species and its characteristic habitat should be given special attention.

Monticola saxatilis: Rock thrush

19 cm. Male unmistakable with its blue, white and red pattern, though the colours are largely obscured in winter. Female is a mottled brown all over, with occasionally a suggestion of white on the back, but with chestnut outer tail feathers, the latter feature distinguishing the species in all plumages.

Retiring in habits, often hiding among rocks. Usually seen singly or in pairs.

Inhabits rocky and mountainous areas, with or without scattered trees, usually at high altitudes but sometimes lower.

In the Mediterranean region breeds in all northern and eastern countries and also in Morocco and Algeria. Winter visitor throughout North Africa.

Conservation and management: The Rock thrush is a species which needs special protection. Although it has a wide range, populations are usually small.

Monticola solitarius: Blue rock thrush

20 cm. Male unmistakable with dark blue plumage, looking blacker in winter. Female barred and resembling female M. saxatilis but darker brown and with no chestnut on tail.

Shy and retiring in habits.

Habitat rugged sunny hillsides and mountain slopes with sparse vegetation, usually at lower altitudes than frequented by saxatilis.

In the Mediterranean region breeds in all countries except Libya and Egypt.

Conservation and management: as suggested for M. saxatilis.

Phoenicurus moussieri: Moussier's redstart

12 cm. Small redstart, confined to North Africa, the male with strongly contrasting black and white upperparts, the black on crown, cheeks, back, wings and centre of red tail, a broad white eye-stripe and a big white patch on the wings. Female brown with red tail and pale reddish underparts.

Inhabits woods and hills or mountainsides with or without vegetation.

In the Mediterranean region breeds only in Morocco, Algeria and Tunisia.

Conservation and management: This species needs special attention since it is found in only three countries and parts of its habitat are vulnerable.

Irania gutturalis: White-throated or Persian robin

16,5 cm. Male can be recognized by the head pattern - white throat and eye-stripe and black cheeks, rufous underparts and black tail. Female brown-grey with grey cheeks and no eye-stripe.

Inhabits bushland, especially on stony ground and in mountain ravines.

In the Mediterranean region breeds in Turkey and other countries of the eastern coasts, visiting Egypt on migration (which extends to East Africa).

Conservation and management: Representative habitats and populations should be given attention with a view to the creation of reserves.

Cettia cetti: Cetti's warbler

14 cm. Unstriped, dark rich chestnut-brown upperparts, greyish-white below, white stripe above and small whitish streak under the eyes. Tail wide and rounded. Sexes similar.

Living in dense, low vegetation of ditches, streams and swamps, where it stays well hidden and is difficult to see.

In the Mediterranean region breeds in all countries except Libya and Egypt.

Conservation and management: This species is generally not threatened, but its characteristic habitat is often endangered. Special attention should be given to the establishment of representative reserves where needed.

Locustella luscinioides: Savi's warbler

14 cm. Unstriped reddish to olive-brown above, whitish below with ill-defined pale streak over eye. Tail long, wide and rounded. Sexes similar.

Habitat dense reed-beds and swamps with reed, reed-mace, sedges and scattered bushes.

In the Mediterranean region breeds in all the countries to the north, some of the islands, and Algeria.

Conservation and management: This species tends to have limited populations, and breeds in vulnerable habitats. It should be given special attention.

Locustella fluviatilis: River warbler

13 cm. Unstriped olive-brown above, with warmer brown tail, whitish below, with faint spotting on throat, breast and flanks, and with whitish eye-brow. Tail wide and rounded. Under tail-coverts are brownish with white tips. Sexes similar. Stays well hidden in dense vegetation.

Inhabits dense bushes and vegetation in damp woodland and clearings.

In the Mediterranean region only breeds in Greece and Turkey.

Conservation and management: This species and its habitat deserve special attention. Establishment of nature reserves in some typical areas is recommended.

Locustella naevia: Grasshopper warbler

13 cm. Coloration somewhat variable, but usually comprises streaked olive-brown upperparts, faint stripe over the eye and whitish underside with a few indistinct streaks on breast. Characteristic graduated tail. Very secretive in habits, staying well hidden in dense vegetation.

Habitat dry as well as damp open areas covered by thick vegetation and scattered bushes.

In the Mediterranean region breeds in all countries to the north except Greece, where however, and also in Morocco, some spend the winter.

Conservation and management: It is unusual for this species to occur in large populations and it often breeds in vulnerable habitats. It should be given special attention.

Lusciniola melanopogon: Moustached warbler

13 cm. Resembles sedge warbler Acrocephalus schoenobaenus but darker brown above with more pronounced white eye-stripe and white throat.

Haunts reed-beds and swamps with dense vegetation.

In the Mediterranean region breeds in Turkey, Italy, Albania, France and Spain, also in limited areas of Tunisia and Algeria. In winter also occurs in Greece and eastern Mediterranean countries.

Acrocephalus paludicola: Aquatic warbler

13 cm. Paler than A. schoenobaenus, with striped head, buffy rather than whitish over the eyes, blackish streaks on back extending to rump and faint streaking on breast and flanks. Tail more pointed compared with schoenobaenus.

Stays well hidden in the dense vegetation which constitutes its habitat, usually in low heath and only sometimes near open water.

In the Mediterranean region breeds in Italy and Yugoslavia.

Conservation and management: This species and its habitat should be especially protected in the Mediterranean countries where it lives.

Acrocephalus schoenobaenus: Sedge warbler

13 cm. Dark-striped upper side and distinct (but not pure white) stripe over the eye. Red-brown rump. Sexes similar.

Inhabits reed-beds, swamps and other dense vegetation along banks of lakes, rivers and ditches.

In the Mediterranean region breeds in all countries to the north except Spain and Portugal, in winter occurring also in east Mediterranean countries and North Africa.

Conservation and management: as suggested for Acrocephalus paludicola.

Acrocephalus stentoreus: Clamorous reed warbler

18 cm. Entirely brownish with redbrown tint on the upperparts. Light eye-stripe. Looks very much like a great reed warbler A. arundinaceus, but has longer bill.

Habitat reed and papyrus beds.

In the Mediterranean region breeds in only Egypt and Israel.

Conservation and management: Special attention should be given to this species and its habitat. The species should be strictly protected and habitats safeguarded by establishing reserves in representative areas.

Cisticola juncidis: Fan-tailed warbler

10 cm. Small size, pronounced stripes on crown and upper side and very short tail with black and white tip. Sexes similar. Secretive behaviour.

Lives in dense vegetation, usually in wetter open places but also in drier ones.

In the Mediterranean region breeds in all countries except Libya.

Conservation and management: The species should be given special attention, particularly in countries where its typical habitat is scarce.

Prinia gracilis: Graceful warbler

10 cm. Very small, with striped greyish upperparts and black and white tipped feathers in the long often up-tilted tail. Sexes similar.

Habitat comprises bushy or other vegetation in semi-deserts, cultivated land, gardens and palm groves.

In the Mediterranean region breeds in Egypt and countries bordering the eastern coasts including Turkey.

Conservation and management: The species needs attention if the maintenance of its populations in the region is to be assured.

Scotocerca inquieta: Scrub warbler

10 cm. Restless, rather pale little warbler with up-tilted tail. Plain grey-brown upperparts, only very faintly streaked except on the crown.

Inhabits deserts, semi-deserts and wadis, with scattered bushes in which it often skulks.

In the Mediterranean region breeds in all the North African countries.

Conservation and management: Representative habitats of the species should be included in nature reserves.

Cercotrichas galactotes: Rufous bushchat

15 cm. Two distinct subspecies in the west and east of the Mediterranean range of the species - C. g. galactotes and C. g. syriacus -, galactotes having a rufous crown, neck and back, those of syriacus being dull greyish-brown. The tail is long with striking black and white feather tips.

Habitat comprises open, dry, bushy places in vineyards, hedges (especially cactus), and gardens; also in oases, wadis and other semi-desert areas.

In the Mediterranean region breeds in all countries except in France and Italy.

Conservation and management: Representative habitats and populations of this species should be parts of well managed nature reserves.

Hippolais polyglotta: Melodious warbler

13 cm. Greenish-grey upperside and usually bright yellow underside; shorter wings, more rounded crown and less prominent wing patch help distinguish from H. icterina. Sexes similar.

Habitat - open deciduous woods with lush undergrowth, parks and gardens, riparian scrub.

In the Mediterranean region breeds in Spain, France, Italy, Morocco, Algeria and Tunisia.

Conservation and management: Representative habitats and populations of the species should be included in nature reserves.

Hippolais olivetorum: Olive-tree warbler

15 cm. Brownish-grey above, whitish below, pale wing-edges and long, pointed bill.

Habitat - olive groves, open oak woods and taller scrub.

In the Mediterranean region breeds in Greece, Albania, Yugoslavia and countries bordering eastern coasts including Turkey.

Conservation and management: as suggested for Hippolais polyglotta.

Hippolais languida: Upcher's warbler

14 cm. Plain grey-brown or olive-grey with whitish eye-ring, eye-brow and tips or webs of outer tail-feathers.

Inhabits bush-country, gardens and vineyards in hills and also high mountains.

In the Mediterranean region breeds only in countries bordering the eastern coasts; occurs in Egypt in winter but majority move further south.

Conservation and management: as suggested for Hippolais polyglotta.

Sylvia rüppelli : Rüppell's warbler

14 cm. Male easily distinguished by black cap face and throat, with white line separating them, grey back and white outer tail-feathers. Female lacks black throat but dark grey cap and face also clearly bordered by white line. Bright red eye and legs in both male and female.

Habitat - thorny bushes in mainly rocky areas, in some parts of range being rather local and sparse.

In the Mediterranean region breeds in Greece, Turkey and other east coast countries, including Crete and many other islands.

Conservation and management: This species should be protected by establishing nature reserves in representative habitats both in mainland localities and islands where the species breeds.

Sylvia melanocephala: Sardinian warbler

13,5 cm. Solid black cap of male and very visible red eye-ring of both male and female are diagnostic. White chin and outer tail-feathers.

Habitat - bushes, open woodland, parks and gardens.

Breeds in all Mediterranean countries.

Conservation and management: inclusion of representative samples of habitats and populations in nature reserves of each country in which the species breeds.

Sylvia cantillans: Subalpine warbler

12 cm. Grey above separated by white moustachial stripe from orange throat, breast and flanks, all these colours being much paler and browner in the female. Skulking and usually keeping well hidden in the low bushes of the scrubland or woodland glades which are its principal habitat.

In the Mediterranean region breeds in all countries to the north, also Morocco, Algeria and Tunisia. In winter also found in eastern Mediterranean countries, Egypt and Libya.

Conservation and management: as suggested for Sylvia melanocephala

Sylvia conspicillata: Spectacled warbler

12,5 cm. Head of the male is dark-grey to black, back and tail brown, latter white bordered, wings red-brown, throat and chin white and rest of underparts pinkish-brown. Female is duller and browner, with underparts paler.

Inhabits dry, open areas with low bushes but no tall-bush or trees.

In the Mediterranean region breeds in Spain, France, Italy, countries bordering the eastern coast, Egypt, Tunisia, Algeria and Morocco.

Conservation and management: as suggested for Sylvia melanocephala.

Sylvia melanothorax: Cyprus warbler

13,5 cm. Resembles S. melanocephala, but with a scaly-looking pattern of black and white barring on throat, breast and flanks, reddish legs and no red eye-ring.

Confined to Cyprus.

Conservation and management: The species and its habitat should be protected and carefully managed.

Sylvia undata: Dartford warbler

12,5 cm. Long and often cocked and flirited tail, and combination of dark grey-brown upperparts and reddish-brown below are characteristic of both sexes, but the tints are richer in the male. Both have red eye-rings, and white spots on throat.

Being largely non-migratory the species suffers great losses in hard winters, especially in the north of its range.

In the Mediterranean region inhabits dry, bushy areas, breeding in Spain, France, Italy, Morocco, Algeria and Tunisia.

Conservation and management: as suggested for Sylvia melanocephala.

Sylvia sarda: Marmora's warbler

12 cm. Resembles S. undata but is grey not reddish-brown below, the female somewhat browner and paler.

Habitat - open bushland and maquis.

In the Mediterranean region breeds in Spain (limited area), Sardinia and Corsica. In winter also found in Algeria and Tunisia.

Conservation and management: The main populations of this species and their characteristic habitats should be protected and carefully managed in the three breeding localities.

Sylvia deserticola: Tristram's warbler

12 cm. Male resembles a small, paler S. undata with a noticeably red-brown wing-patch, the much paler female more like a female S. conspicillata.

Habitat - open woodlands and bushes on hills, in winter mostly migrating to the desert country to the south.

In the Mediterranean region breeds in Morocco and Algeria.

Conservation and management: Representative populations of this warbler should be given special attention for conservation in its characteristic habitats. A number of breeding areas should be nature reserves or included in nature reserves.

Phylloscopus sibilatrix: Wood warbler

12,5 cm. Bright yellow brow, throat, breast and centre of closed wing, otherwise greenish above and below.

Inhabits woods, especially of beeches.

In the Mediterranean region breeds in all countries to the north, except Portugal, though the localities in Spain and Turkey are small and isolated. Occurs on migration in all countries bordering eastern and southern coasts of the Mediterranean.

Conservation and management: measures to preserve a fair number of the known breeding habitats of this warbler, in all Mediterranean countries where they occur, are recommended.

Panurus biarmicus: Bearded tit

16,5 cm. Only the adult male has the distinctive black moustachial stripe and undertail coverts; but both sexes have long tails, are mainly rufous with grey heads and have yellow bills and black legs.

Habitat confined to extensive reed-beds bordering streams, lakes or swamps.

In the Mediterranean region breeds in all countries to the north but colonies tend to be small and very localised.

Conservation and management: The most important breeding areas of the Bearded tit should if possible be protected within nature reserves in all the Mediterranean countries where they occur.

Turdoides fulvus: Fulvous babbler

25 cm. Big, plain yellowish-brown with pale underparts, resembling sand-coloured blackbird, but with a long tail and slightly decurved bill.

Habitat - bushes especially of acacia in desert and semi-desert.

In the Mediterranean region breeds in Morocco, Algeria, Tunisia, Libya and Egypt.

Conservation and management: Sanctuaries or reserves should be established in the countries concerned to ensure that representative populations of this babbler are maintained.

Turdoides squamiceps: Arabian babbler

26,5 cm. Plain earth-brown babbler (replacing T. caudatus and T. altirostris which extend from Iraq eastwards), the crown feathers with black tips, forehead-feathers stiff and scaly, throat and belly white.

Found mainly in acacia bush, through which it moves in groups.

In the Mediterranean region breeds in Egypt and Israel.

Conservation and management: As for T. fulvus.

Nectarinia osea: Orange-tufted sunbird

10-11,5 cm. Breeding male has metallic green head, neck and upperparts with forehead more violet, chin and throat more blue; otherwise purplish black with orange and yellow tufts at side of breast; long decurved bill. Non-breeding males and females are olive-grey, whitish below, with a whitish streak under the eye and a dark green tail.

Inhabits low-lying country with gardens, orchards, flowers and flowering-shrubs, and tangled bushes or creepers along riverbanks and lanes; nest is usually built in thorn-bushes.

In the Mediterranean region breeds in Israel, Lebanon and Syria.

Conservation and management: In each country measures should be taken to safeguard representative populations in characteristic habitats.

Anthreptes platura: Pygmy sunbird

10-15 cm. Breeding male mainly green, yellow and violet with very long tail; non-breeding males and females olive-green with short tail, not unlike a Wood warbler Phylloscopus sibilatrix with a heavier slightly decurved beak.

Habitat - dry bushy areas, grasslands and gardens of the Nile delta.

In the Mediterranean region only breeds in Egypt.

Conservation and management: special measures, including the establishment of nature reserves, to ensure the survival of this beautiful bird in the Mediterranean region, are recommended.

Remiz pendulinus: Penduline tit.

11 cm. Small but with quite a long tail; pale grey head and throat, black cheeks, chestnut-brown mantle.

Inhabits swamps and shores of freshwater lakes, canals etc., where there are bushes or willows.

In the Mediterranean region breeds in all countries to the north.

Conservation and management: Despite its wide range, the conservation of characteristic habitats of this species always merits special attention.

Parus lugubris: Sombre tit

14 cm. Resembles a pale-brown willow-tit Parus montana, but has a larger black throat patch, browner black crown and whiter cheeks.

Habitat - wooded and rocky terrain at all altitudes.

In the Mediterranean region breeds in Greece, Albania, Yugoslavia and countries bordering the east coast including Turkey.

Conservation and management: It is important for this species to preserve some of its typical habitats in the countries in which it occurs, if necessary by establishing nature reserves.

Sitta krüperi: Krüper's nuthatch

12,5 cm. Similar to Corsican nuthatch but with broad reddish-brown breast-band.

Habitat - pinewoods. Very active as it searches for food in the outer branches.

In the Mediterranean region found only in Turkey.

Conservation and management: As suggested for Sitta whiteheadi.

Sitta whiteheadi: Corsican nuthatch

12 cm. Small nuthatch, blue-grey above whitish below, with black crown (female with blue-grey crown) and white and black, or white and blue-grey, stripes above and through the eye, respectively.

Confined to Corsican pinewoods.

Conservation and management: This species and its habitat call for full attention if they are to survive; the creation of one or more nature reserves will probably be necessary.

Sitta neumayer: Rock nuthatch

14 cm. Resembles common nuthatch S. europaea, but somewhat paler, especially underparts which have a browner less rufous tint; and with no white on the tail.

Inhabit cliffs, ravines, hillsides and other rocky places, nest being built in crevices and enclosed with mud.

In the Mediterranean region breeds in Greece, Albania, Yugoslavia, Turkey and in the eastern Mediterranean coastal states.

Conservation and management: In each country representative breeding localities should be preserved for representative populations.

Sitta ledanti: Algerian or Kabylia nuthatch

About 13 cm. Similar to and somewhat intermediate between S. whiteheadi and S. krüperi, but sexes are alike, black ear-coverts are speckled with white, underside is buffy and there are quite large white spots near the tip of the tail-feathers.

Habitat - mixed oak, fir and cedar forest at about 1400-2000 m altitude.

Only known from Algeria (about 20 km inland from most northerly part of the coast).

Conservation and management: as suggested for Sitta whiteheadi, but the small total population, estimated at only about 20 pairs (making this one of the rarest birds of the world), suggests that the creation of a really effective reserve in the habitat of the species is essential for its survival.

Tichodroma muraria: Wallcreeper

16,5 cm. Long, decurved bill, greyish upperparts, underparts black in summer, whitish in winter. Most striking are the wide, rounded wings with large red areas and white spots.

Usually seen hunting insects on rock-faces but occasionally perching on trees. Uncommon and local in high mountains to snow limit, moving down in winter, often to stone buildings.

In the Mediterranean region breeds in mountains of all the countries bordering the sea to the north and east.

Conservation and management: establishment of nature reserves in its typical habitats.

Genus Emberiza: buntings

Most of the Emberiza species listed here are not really in need of special protection being more or less common and often adapted to farmland. The only exception is E. cineracea. All the others do, however, need protection against unlimited trapping and hunting.

Emberiza striolata: House bunting

13,5 cm. Small with grey head, neck and upper-breast, rest of plumage reddish-brown, paler in female which also lacks grey head and whitish eyebrow.

Habitat includes cities and villages as well as farms.

In the Mediterranean region breeds in all North African countries.

Conservation and management: see introductory paragraph above.

Emberiza cia: Rock bunting

16 cm. Male has grey, white and black pattern on head, female much duller; a flicking of the tail often displays the white outer tail-feathers.

Inhabits mountain country with bushes, scattered trees, orchards and vineyards, moving to lower altitudes in winter.

Breeds in all Mediterranean countries except Libya and Egypt.

Conservation and management: see introductory paragraph.

Emberiza caesia: Cretzchmar's bunting

16 cm. Male with grey head and rather orange throat, females more streaky head and rusty throat, rest of plumage brown to chestnut, with blackish tail and streaks on back.

Habitat - dry rocky hillsides with scattered bushes, but also found in gardens and lowland, the bird usually keeping on the ground.

In the Mediterranean region breeds in Greece, Albania, Yugoslavia and countries bordering the east coast including Turkey. Occurs also in Egypt during the winter.

Conservation and management: see introductory paragraph.

Emberiza cineracea: Cinereous bunting

16,5 cm. Greyish, male with much plain yellow on face, female and juvenile with less yellow and extensive streaking on head and throat.

Apparently rare and local but subject to extensive migratory movements; habitat is barren, rocky country.

In the Mediterranean region breeds in Turkey and on Mytilene island in the Aegean.

Conservation and management: This species is on the fringe of its range in the region and needs special protection, including establishment of reserves in the few areas where it is known to breed.

Emberiza schoeniclus: Reed bunting

15 cm. Male in summer plumage unmistakable with white collar, black hood and bib. Female also has strongly patterned head, the white throat being off-set by dark streaks. White outer tail-feathers show as bird flicks tail.

Lives in and near reed-beds, in winter also resorting to cultivated areas, sometimes in the company of other buntings and finches.

In the Mediterranean region breeds in all countries bordering the northern coasts, ranging in winter also to those of the Near East as well as to Morocco, Algeria and Tunisia.

Conservation and management: see introductory paragraph to Genus Emberiza.

Emberiza citrinella: Yellowhammer

16,5 cm. Streaked yellow head, chestnut-brown rump and white outer tail-feathers. Females and immatures less boldly coloured and generally more heavily streaked.

Inhabits rather open country with bushes, often on edges or in clearings of woodland; in winter also in farmland.

In the Mediterranean region breeds in all countries bordering northern coasts except Turkey.

Conservation and management: see introductory paragraph.

Emberiza cirlus: Cirl bunting

16,5 cm. Distinguished from E. citrinella by olive-brown not chestnut rump and in adult male by dark grey crown, black eye-stripe and throat, and greyish-green band on yellow breast.

Habitat - open country with good scattering of bushes, trees and hedges, tending in winter to visit areas with less tree cover such as fallow fields.

In the Mediterranean region breeds in countries of northern coasts and also Morocco, Algeria and Tunisia.

Conservation and management: see introductory paragraph.

Emberiza melanocephala: Black-headed bunting.

16,5 cm. Male unmistakable with solid black hood and unmarked yellow to whitish underside. Female lacks black hood, has yellow below confined to undertail coverts and upperside grey-brown, with only a pale chestnut wash on rump.

Habitat - rather open country with scattered bushes and trees.

In the Mediterranean region breeds in Italy, Greece, Albania, Yugoslavia and countries bordering the east coast including Turkey.

Conservation and management: see introductory paragraph.

Fringilla coelebs: Chaffinch

15 cm. Male mainly slate-blue and chestnut, female greenish-grey, both with white wing bars and outer tail-feathers. Outside breeding season often seen in flocks of a dozen to thousands.

Habitat - deciduous and coniferous woodland, gardens and parks.

In the Mediterranean region breeds in all countries and islands except Egypt, where it is a winter visitor. Mediterranean subspecies are F. c. maderensis: of Madeira and F. c. spodiogenys of North Africa.

Conservation and management: Although not yet rare, very large numbers of this species are killed each year and its status deserves attention including any necessary measures to maintain populations of some of the subspecies.

Coccothraustes coccothraustes: Hawfinch

18 cm. Mainly chestnut-brown with black throat and flight-feathers and white wing-bar and outer tail-feathers. Thick bill, blue-grey in summer, yellow in winter.

Inhabits deciduous and mixed woods, large gardens, orchards and other areas with scattered trees.

In Mediterranean region breeds in all countries bordering northern shores, also Morocco, Algeria and Tunisia. Breeding areas are rather small and isolated in Spain, Turkey and the three North African countries.

Conservation and management: Although the species is quite common, populations are small and measures to conserve it in its breeding habitats are recommended, including strict regulation of hunting and shooting in countries where this is allowed.

Serinus (Carduelis) citrinella: Citril finch

12 cm. Sexes alike, grey above with unstreaked greenish-yellow underside and rump and yellow wing-bars. Usually seen in flocks.

Habitat - open coniferous woodland on mountains, moving to lower altitudes in winter.

In the Mediterranean region breeds in a few small, isolated localities in Spain, France and Italy and on Sardinia and Corsica.

Conservation and management: This bird should be given special protection, not only in its breeding habitats but also in its whole range.

Serinus serinus: Serin

11,5 cm. Black-streaked greenish-grey with yellow face, neck, underside and rump and sexes fairly similar.

Inhabits open woodland, parks, gardens and orchards. Sociable, usually seen in small flocks.

In the Mediterranean region breeds in all countries and islands except Egypt and those bordering the extreme eastern coast (fairly common in Turkey).

Conservation and management: Protection when breeding and of characteristic breeding habitats, attention being paid to possibility that special measures may be needed to safeguard it in parts of its range.

Serinus syriacus: Syrian serin

12,5 cm. Slightly bigger, paler and less streaked than S. serinus, with pure golden-yellow forehead, pale yellow throat, plain yellow underparts and long tail. Sexes similar.

Habitat - cedars and other trees in the mountains of Syria and Lebanon, to which its Mediterranean breeding range is restricted.

Conservation and management: This species should be strictly protected and nature reserves established in all its major breeding sites.

Carduelis chloris: Greenfinch

14,5 cm. Greenish or brownish with yellow patches on tail and wings, females and juveniles differing from other similar finches in their heavier build and wing and tail pattern.

Common in fairly open, arable and grazing land, gardens and parks.

In the Mediterranean region breeds in all countries and islands except Egypt, Libya and Cyprus.

Conservation and management: Although the species needs no special protection, it is recommended that its status and the numbers caught and shot each year should be kept under review.

Carduelis spinus: Siskin

12 cm. Streaked dusky green, with yellow face, neck, sides of the tail and wing-bars. Outside breeding season seen in flocks.

Habitat - coniferous or mixed woodlands, in winter often alder or birch.

In the Mediterranean region breeds in small, isolated areas in Spain, Italy and Yugoslavia, visiting all countries of the northern and eastern coasts during winter.

Conservation and management: The breeding populations in the Mediterranean should be given special protection and numbers caught and killed kept under review.

Carduelis carduelis: Goldfinch

12 cm. Red face, yellow wing patches, whitish rump and black and white pattern on the head make this finch unmistakable. Sexes very similar but female has less red on face.

Common in all kinds of open country with scattered trees and bushes, including city parks, gardens and especially orchards.

In the Mediterranean region breeds in all countries and on all islands.

Conservation and management: This species is hardly in need of special protection, but numbers caught and shot each year should be monitored and exploitation (food, cage-bird trade etc.) strictly regulated.

Loxia curvirostra: Crossbill

16,5 cm. Male red or orange-red, female green and juvenile grey-green, all without wing-bars. Crossed bill not always noticeable. Nests irregularly, but mostly January-April. Tends to form small flocks.

Inhabits coniferous forest, its numbers mainly depending on local crop of cones. Sometimes makes large-scale invasions, often settling down to nest for one or more seasons if conditions favourable.

In the Mediterranean region breeds in all countries on the north, also Morocco (one small area), Algeria and Tunisia.

Conservation and management: Breeding places of the species should have special protection, especially those of some restricted subspecies.

Carpodacus synoicus: Sinai rosefinch

14,5 cm. Resembles trumpeter finch Rhodopechys githaginea (see below) but larger, and the male redder on head, breast and rump but lacking red on wings and bill. Female brown with rosy tint.

Very local in sandy and rocky deserts.

In the Mediterranean region only breeds in Egypt.

Conservation and management: This species needs special attention including reservation of some of its habitat.

Rhodopechys obsoleta: Desert finch

14,5 cm. Pale pinkish brown with black chin, rosy patch on hind-wing and black and white pattern on fore-wing, forked tail whitish tipped black and black bill and legs.

Inhabits open country with scattered trees and bushes near fresh water, often along roads and in gardens.

In the Mediterranean region breeds in rather small, isolated stretches of the extreme east coast.

Conservation and management: This species deserves special attention. Nature reserves or sanctuaries should be established for it.

Rhodopechys githaginea: Trumpeter finch

12,5 cm. Male in breeding plumage pale rose-tinted brown, grey crown and wings, dark brown tail, pale legs, bright red bill. Male in winter plumage and female duller, slightly pinkish grey (making the contrast of dark primaries and tail more conspicuous), with orange or yellowish-brown bill.

Habitat - stony deserts and rocky hills.

In the Mediterranean region breeds in all the countries to the south, and also in Israel.

Conservation and management: Representative areas should be established as sanctuaries for the species.

Rhodopechys sanguinea: Crimson-winged finch

15 cm. Larger than R. githaginea, pink confined to wings and, in male, to cheeks, rump and tail; blackish-brown crown, speckled in female.

Inhabits rocky mountains where there are some bushes, usually at altitudes not less than 1200 m. In winter searches for food on farmland at lower levels.

In the Mediterranean region breeds in Morocco and Algeria in very small and isolated localities, also in countries bordering the east coast in similarly restricted areas.

Conservation and management: This species needs very special attention. Nature reserves should be established in its most important breeding habitats.

Passer hispaniolensis: Spanish sparrow

14,5 cm. Male easily distinguished from male P. domesticus by larger black bib, black stripes on flanks and back and chestnut crown. Females and juveniles told with difficulty by paler throat, darker back and faint dark stripes on the flanks.

Common but local in fields, bushes, especially near river-beds, whether wet or dry, olive-groves and scattered tree woodland.

In the Mediterranean region breeds in all countries except Egypt, Italy and some islands (but visits Egypt in winter).

Conservation and management: The Spanish sparrow is unlikely as yet to need any special protection but its status in each country should be kept under review.

Passer domesticus italiae: Italian house sparrow

14 cm. Male has chestnut crown, clear white cheeks, black bib. Female and juvenile much more uniformly coloured, with unmarked breast, streaked back and buffish stripe over the eye.

Abundant on farms, in towns and villages; closely associated with man.

Restricted to Italian peninsula, Corsica and Crete.

Conservation and management: This species only needs attention because of its limited area of distribution. Measures for protection of specific local populations could occasionally become necessary.

Passer moabiticus: Dead Sea sparrow

12 cm. Smaller than P. domesticus, with yellow spots on either side of black throat in male and faint yellow also bordering the whitish throat of much paler female.

Inhabits bushy terrain near water; very local (small isolated breeding areas).

In the Mediterranean region has only been found in Egypt, Israel and Turkey.

Conservation and management: This species deserves special attention throughout its extensive but extremely patchy breeding range.

Passer simplex: Desert sparrow

13,5 cm. Usually very pale yellowish brown to grey though the male has black throat, lores, wing-bar and centres to tail-feathers and acquires a black bill in breeding season.

Habitat - wadis and sandy short-grass areas in deserts.

In the Mediterranean region to be found in Morocco, Algeria and Libya.

Conservation and management: It is important to make sure that some representative breeding populations are safeguarded in characteristic habitats.

Petronia petronia: Rock sparrow

14 cm. Resembles pale P. domesticus, but with whitish stripes on centre of black crown and above eye, a yellow spot on the breast (except in juveniles), black ear-coverts and whitish spots at tip of tail.

Inhabits rocky or stony areas bordering desert or rough cultivation, often near hollow trees or villages with ruined buildings.

In the Mediterranean region breeds in all countries except Egypt, but only in extreme north-west of Libya.

Conservation and management: Some typical habitats should be selected for conservation in the countries where this sparrow is found.

Petronia brachydactyla: Pale rock sparrow

14 cm. Plain dull brown, with darker brown primaries, red-brown patch at base of tail and white spots at end of tail, and whitish throat and undertail-coverts.

Habitat - desert and semi-desert, where there are some bushes, sometimes also visiting cultivation in large flocks to feed.

In the Mediterranean region breeds in countries bordering the eastern coasts, including Turkey and Egypt.

Conservation and management: The status of this species should be kept under review to ensure typical habitats are still supporting sufficient representative populations.

Montifringilla nivalis: Snowfinch

18 cm. A sizable finch-like mountain sparrow, males with grey heads, black throats, upperparts dull chestnut-brown, underparts white and wings and tails a mixture of black and white; females and juveniles are similar but with duller colours and less white. The black bill becomes mostly yellow in winter.

Habitat - rocky or stony mountains, the birds moving to lower altitudes in winter.

In the Mediterranean region breeds in France, Spain, Italy, Yugoslavia and Turkey.

Conservation and management: Protection of breeding-places, possibly in some cases as nature reserves.

Sturnus roseus: Rose-coloured starling

21,5 cm. The crested adult has black head, neck, wings and tail, pink mantle, underparts and feet, and yellow bill; only the two latter features and paler brown plumage distinguish immatures from those of S. vulgaris.

Inhabits open grasslands.

In the Mediterranean region breeds in Turkey and other countries bordering the eastern coast, erupting occasionally westwards, particularly in late summer and in association with locust swarms.

Conservation and management: Breeding populations and their habitats call for protection in the same way as populations of other species which extend to one or more Mediterranean countries at the limit of their range.

Sturnus unicolor: Spotless starling

21 cm. Completely black, except during the winter when slightly pale-spotted.

Habitat, like that of S. vulgaris, includes woodland, farmland, parks and other areas with scattered trees in open country, villages and towns.

In the Mediterranean region breeds in Spain, Morocco, Algeria, Tunisia, Sicily, Sardinia and Corsica.

Conservation and management: Although it is not at risk, the status of the species needs to be kept under review because of its rather limited distribution and occasionally isolated populations.

Oriolus oriolus: Golden oriole

24 cm. Male yellow with black wings and centre of tail, females and immatures greenish with darker brownish wings and tail.

Habitat - woods, forests, parks and large gardens.

In the Mediterranean region breeds in Morocco, Algeria, Turkey, northern Greece, Albania, Yugoslavia, Italy, France, Spain and Portugal.

Conservation and management: Though widespread the Oriole is seldom very numerous and threatened by shooting in several countries, so needs to be protected both when breeding and migrating.

Cyanopica cyanus: Azure-winged magpie

34 cm. Pale greyish-brown with black hood, blue wings, white throat and long blue tail (except when immature).

Habitat - woods, orchards and gardens.

In the Mediterranean region breeds only in central and southern Spain and Portugal.

Conservation and management: This species needs special attention and protective measures in view of its very limited distribution.

Pyrhocorax pyrrhocorax: Chough

39,5 cm. Black with very rounded wings and square tail, long decurved red bill (orange-tinted in immatures) and red legs.

Habitat - high mountain and coastal cliffs.

In the Mediterranean region breeds in all countries bordering the sea to the north and also in Morocco and Algeria.

Conservation and management: This species is vulnerable and needs special attention, aimed principally at protecting breeding sites, for instance by establishing reserves.

Pyrhocorax graculus: Alpine chough

38 cm. Black with red legs (dusky in immatures) and yellow bill.

Inhabits high mountains to the snow line, descending into the valleys in winter.

In the Mediterranean region breeds in all countries bordering the northern and eastern coasts, also Morocco.

Conservation and management: Although the species is not under threat, attention should be given to safeguarding breeding areas, especially of the more southerly populations.

Corvus ruficollis: Brown-necked raven

50 cm. Black with browner neck (the latter only acquired by juveniles in the first autumn moult).

Habitat - semi-desert areas of steppe, especially those dominated by Artemisia and Ziziphus.

In the Mediterranean region breeds only in North Africa.

Conservation and management: As an African species at the northern limit of its range should be given special protection wherever possible.

Corvus rhipidurus: Fan-tailed raven

47 cm. Black (occasionally tinged brown) with a remarkably short tail and a thick bill with a tuft of bristles at its upper base.

Habitat - cliffs and rocky places, often near human settlements.

In the Mediterranean region breeds in Egypt, Israel, Lebanon and Syria.

Conservation and management: particular attention and if necessary protection should be given to nesting sites.