

Strasbourg, 17 September 2003  
[Inf17e\_2003.doc]

**T-PVS/Inf (2003) 17**

CONVENTION ON THE CONSERVATION OF EUROPEAN WILDLIFE  
AND NATURAL HABITATS

Standing Committee

23<sup>rd</sup> meeting  
Strasbourg, 1-4 December 2003

---

**International Action Plan  
for the Cinereous Bunting  
(*Emberiza cineracea*)**



*Document  
prepared by BirdLife International on behalf of the European Commission*



## **International Species Action Plan for the Cinereous Bunting *Emberiza cineracea***

**Compilers:** Tamer ALBAYRAK, Arzu GURSOY (Turkey) and Guy M. KIRWAN (OSME, UK)

**Contributors:**

Triantaphyllos AKRIOTIS (Greece)  
Haralambos ALIVIZATOS (HOS/BirdLife Greece, Greece)  
Alan MILLER (UK)  
Stratis BOURDAKIS (HOS/BirdLife Greece, Greece)  
Bahtiyar KURT (DHKD, Turkey)  
Christine ALDER (UK)  
Colin RICHARDSON (United Arab Emirates)  
Costas PAPACONSTANTINOU (HOS/BirdLife Greece, Greece)  
Dany MONTAG (Israel)  
Dawn BALMER (UK)  
Derek A. SCOTT (UK)  
Des CALLAGHAN (BirdLife International, Netherlands)  
Geoff WELCH (RSPB, UK)  
Güven EKEN (The Netherlands, BirdLife International)  
Hilary WELCH (UK)  
José TAVARES (RSPB, UK)  
Kerem A. BOYLA (Turkey)  
Melis CHARALAMBIDES (Cyprus Ornithological Society, Cyprus)  
Metehan ÖZEN (Turkey)  
Nir SAPIR (Israel)  
Peter de KNIJFF (The Netherlands)  
Simon ASPINALL (United Arab Emirates)  
Sunay DEMIRCAN (Turkey)  
Uygar ÖZESMI (Turkey)

**Co-ordinator:**

Dr. Umberto GALLO-ORSI (BirdLife International)

**TIMETABLE**

First draft: November 2001  
Second draft: February 2002  
Third draft: May 2002  
Fourth draft: June 2002  
Final draft: August 2002

Cover photo by Alan Miller (UK)

**Reviews:**

This Action Plan should be reviewed and updated every five years. An emergency review will be undertaken if sudden major environmental changes occur within the species' range, liable to affect the population.

**Geographical scope:**

The Action Plan requires implementation in Turkey, Greece, Iran, and possibly Syria and Iraq, which all support breeding populations, and Bahrain, Cyprus, Ethiopia, Eritrea, Egypt, Israel, Jordan, Kuwait, Lebanon, Saudi Arabia, Sudan, Qatar, United Arab Emirates and Yemen where the species occurs either on migration or in winter.

This Action Plan was produced with the financial support of the Departure of Nature management of the Dutch Ministry of Agriculture, Nature Management and Fisheries

## CONTENTS

<b>SUMMARY .....</b>	<b>4</b>
THREATS AND LIMITING FACTORS .....	4
CONSERVATION PRIORITIES .....	4
<b>INTRODUCTION.....</b>	<b>5</b>
<b>BACKGROUND INFORMATION.....</b>	<b>5</b>
DISTRIBUTION AND POPULATION .....	5
LIFE HISTORY .....	6
<i>Breeding</i> .....	6
<i>Feeding</i> .....	6
<i>Migration and movements</i> .....	6
<i>Habitat requirements</i> .....	6
<b>THREATS AND LIMITING FACTORS .....</b>	<b>7</b>
<b>CONSERVATION STATUS AND RECENT CONSERVATION MEASURES .....</b>	<b>8</b>
TURKEY .....	8
GREECE.....	8
IRAN.....	9
SYRIA.....	9
IRAQ.....	9
<b>AIMS AND OBJECTIVES .....</b>	<b>9</b>
AIMS .....	9
OBJECTIVES .....	9
1. POLICY AND LEGISLATION .....	9
2. SPECIES AND HABITAT CONSERVATION .....	11
3. MONITORING AND RESEARCH .....	11
4. PUBLIC AWARENESS .....	12
<b>REFERENCES.....</b>	<b>13</b>
<b>ANNEX 1. RECOMMENDED CONSERVATION ACTIONS BY COUNTRY .....</b>	<b>15</b>
TURKEY .....	15
GREECE.....	15
IRAN.....	15
<b>ANNEX 2. CRITERIA FOR IDENTIFICATION OF IBAS FOR THE CINEREOUS BUNTING.....</b>	<b>15</b>
<b>ANNEX 3. BREEDING DISTRIBUTION OF CINEREOUS BUNTING .....</b>	<b>16</b>
<b>ANNEX 4. STATUS OF THE CINEREOUS BUNTING IN OTHER COUNTRIES.....</b>	<b>16</b>

## SUMMARY

*Emberiza cineracea* consists of two well-recognised subspecies which differ in underparts coloration; the western, white or grey-bellied race, *cineracea*, and the eastern yellowish-bellied race, *semenowi*. Its biology and population size are not well studied. The total world population has most recently been estimated at 700–5350 pairs (BirdLife International 2000) but the Turkish population alone may perhaps be greater than the upper limit quoted therein (G. Eken, pers. comm.).

The species is classified as 'Near Threatened' at the global level and '(Vulnerable)' SPEC 2 in Europe by BirdLife International. It is included in Annex I of the European Union's Birds Directive (79/409) and in Appendix II of the Bern Convention.

It breeds on the ground, on slopes with sparse vegetation, sometimes with scattered conifers, though not usually in arid areas, with the nest positioned against a rock and partially hidden by overhanging grass, etc. Both races have also been found breeding on slopes with lush vegetation at lower altitudes.

### *Threats and limiting factors*

Overgrazing: *Critical/high*  
 Undergrazing: *Unknown but possibly Medium/locally high*  
 Agriculture Intensification: *Medium?*  
 Land Abandonment: *Unknown*  
 Afforestation: *Low*  
 Dam construction and drainage: *Medium/locally high*  
 Oil Extraction and transport and oil spills: *Unknown*  
 Hunting: *Low*  
 Illegal Hunting: *Low*  
 Predation: *Unknown*  
 Loss of Eggs and Nestlings: *Medium*  
 Human disturbance: *High*  
 Use of pesticides and/or herbicides: *Unknown or low*  
 Climate changes: *Medium*  
 Tourism, urbanisation, industry, roads and railways: *Medium*

### *Conservation priorities*

- To promote international co-operation on research and monitoring—*High*
- To promote national legislation which includes provisions for the species and key sites—*Essential/high*
- To promote international and national policies and practices which are compatible with the conservation of the Cinereous Bunting—*Essential*

## INTRODUCTION

The Cinereous Bunting *Emberiza cineracea* is classified as 'Near Threatened' at global level (BirdLife International 2000) and as SPEC 2 (Vulnerable) at European level by Tucker and Heath (1994). It is included in Annex I of the European Union's Birds Directive (79/409) and in Appendix II of the Bern Convention.

Knowledge of the present size and trend of the population wintering in the Afrotropical region is incomplete. Definite records are from Sudan, Ethiopia, Eritrea, south-west Saudi Arabia and Yemen, with passage migrants noted in Bahrain, Cyprus, Egypt, Israel, Jordan, Kuwait, Lebanon, Oman, Saudi Arabia and the United Arab Emirates (de Knijff 1991, Dowsett and Dowsett-Lemaire 1993, Cramp and Perrins 1994). The breeding range is also very poorly known but includes Turkey, insular Greece and Iran, and possibly Syria and Iraq.

## BACKGROUND INFORMATION

### Distribution and population

An uncommon inhabitant of barren relatively low-altitude montane regions in Asia Minor, the species is one of the least known Western Palearctic buntings. Cinereous Bunting is very poorly known but appears to be scarce, perhaps even threatened, because of its very limited range and relatively small population. The species was first described in 1836, having been discovered that year in the vicinity of Izmir in western Turkey (Strickland 1836 in Hölzinger 1995).

Two subspecies are recognised: the western, white or grey-bellied race, *cineracea*, and the eastern yellowish-bellied race, *semenowi* (de Knijff 1991). Nominate *cineracea* breeds in western Turkey approximately from Assos (G. Kirwan *pers. obs.* 2002) south-east towards the eastern-central Taurus Mountains and the fringes of the Central Plateau/Inner Anatolia (Martins 1989, Kirwan and Martins 1994) as east as Gaziantep, where the two subspecies seem overlap. The range extends onto the Greek islands of Lesbos, which holds the largest population of 100–250 pairs, Chios, with probably 5–50 pairs and Skyros (fewer than five pairs). It is possible that this subspecies also occurs on other Greek islands, especially in the central-eastern Aegean, e.g. Ikaria and Samos (BirdLife International 2000). It has also been recorded in the south-eastern Aegean, on Kos (Handrinos and Akriotis 1997) and in the northern Ionian, on Corfu (Snow and Perrins 1997). In south-east Turkey, the race *semenowi* is found from the Gaziantep area in the west, north to Dogubayazit (G. Kirwan *in litt.* 2002), east into Iran, where an apparently isolated population occurs in the Zagros Mountains in the south-west of the country. This population consists of fewer than 100 pairs. Statements in the literature that this form breeds in northern Iraq (Cramp & Perrins 1994, Byers *et al.* 1995) are of uncertain provenance and apparently unsubstantiated. Oft-repeated statements in the same literature that *semenowi* might also breed in northern Syria are solely based on the observation of a single male by MacFarlane (1978) in late July 1976; such tenuous evidence of the species' presence in the country during the breeding season render these suppositions meaningless. Despite a relative upsurge in ornithological activity in Syria during recent years (principally in winter and migration periods) there have been no subsequent records there.

**Table 1.** Estimated breeding population of the Cinereous Bunting. B = confirmed breeding

Country	No. of pairs	Status*	REFERENCES
Turkey	2500–7500	B	G. Eken, pers comm
Greece	115–305	B	T. Akriotis, pers. comm.
Iran	<100	B	Ticehurst <i>et al.</i> 1921–22
<b>TOTAL</b>	<b>c. 2700–7900</b>		

## Life history

### Breeding

The races *semenowi* and *cineracea* arrive in their breeding ranges in early April (de Knijff 1991) and breeding usually commences during the second half of April but is perhaps later in some areas. Eggs are recorded from the second half of April to late May in western Turkey (Hüe and Etchécopar 1970, Cramp and Perrins 1994) with the main hatching period being at the end of May. In eastern Turkey fresh complete clutches and young have been noted from late May. The vanguard of the Zagros population may exceptionally arrive as early as late February (de Knijff 1991), and the laying period starts at the end of April (Paludan 1938, Cramp and Perrins 1994). Trees, rocks, powerlines and poles are regularly used as song-posts. The nest is placed on the ground, and concealed by a rock or vegetation, on dry rocky slopes and uplands with shrubby vegetation, occasionally as high as the conifer belt, within scattered trees (Byers *et al.* 1995). It is constructed of stalks, stems, leaves and grass-heads, and lined with rootlets and hair. The nest wall is very thin where adjacent to rock but dense and well woven on the opposite side (Chappuis *et al.* 1973).

### Feeding

The feeding behaviour is little known. Data demonstrate the species to be omnivorous. During the breeding season the main food is seeds and small invertebrates such as beetles, spiders, caterpillars, flies, grasshoppers, pupae and snails, taken on the ground. During the rest of the year the diet is probably largely seeds but the species has been observed to take invertebrates during migration (Cramp and Perrins 1994, Byers *et al.* 1995).

In Israel, it occurs on rocky slopes and in desertic uplands with low vegetation and scrub (Cramp and Perrins 1994, de Knijff 1991, Shirihai 1996). Recorded in grassy fields with hedgerows in the Kizilirmak delta (the northernmost record in Turkey; Hustings and van Dijk 1994). In winter in Eritrea, small parties forage on rocky ground with short grass (Cramp and Perrins 1994).

### Migration and movements

The Cinereous Bunting is a nocturnal migrant (Shirihai 1996). Southbound migration commences in July, although juveniles sometimes remain as late as September (de Knijff 1991). Generally, the species leaves its wintering grounds in February and March but *semenowi* has been recorded in the Zagros (Iran) as early as the end of February (de Knijff 1991).

According to BirdLife International's World Bird Database, the species has been recorded on migration in 18 countries in the Middle East. The species has two, well-separated migration routes. The western route passes through southern Turkey and thence via Syria, Lebanon, Jordan, Israel and Egypt south along the western coast of the Red Sea to the species' wintering grounds in coastal north-eastern Sudan and Eritrea (Byers *et al.* 1995). This route is used predominantly by nominate *cineracea*, but also by small numbers of *semenowi*. The eastern route, used exclusively by *semenowi*, follows a more easterly route around the Arabian Gulf to south-western Saudi Arabia and Yemen (Byers *et al.* 1995). The supposed wintering area of these birds is at the south-western tip of Arabia, but this is based on very few actual records (Brooks *et al.* 1987) and there are no such occurrences in south-central Arabia (de Knijff 1991). The winter range is very poorly known and it is uncertain whether populations using the eastern and western migration routes remain separate or combine (de Knijff 1991).

### Habitat requirements

The species' requirements are imperfectly known, owing to the scarcity of data from its restricted and, until recently, largely inaccessible areas of occurrence in the south-east West Palearctic, and very poorly surveyed winter quarters. It is a summer visitor to warm temperate or Mediterranean climate scrub-covered uplands in Turkey (Martins 1989, Kirwan and Martins 1994).

It breeds on dry rocky slopes, open hillsides and uplands with shrubby vegetation and sometimes as high as the conifer belt (Byers *et al.* 1995). Although initially described as a breeding bird of rocky sparsely vegetated slopes at high altitude, both races have also been found breeding on slopes with lush vegetation at lower altitudes (de Knijff 1991). The race *semenowi* has also been recorded

breeding in sheltered valleys with orchards and small fields around Gaziantep in Turkey (de Knijff 1991).

In Turkey the breeding habitat ranges from c. 100–500 m (and perhaps to near sea level) in the west of the country, to c. 800–1500 m in central Turkey and to at least c. 1800 m in the east (Roselaar 1995).

In the Greek islands the common breeding habitat for nominate *cineracea* is described as open rocky hillsides down to sea level with a low, rather sparse cover of low shrubs (on Lesbos predominantly *Sarcopoterium spinosum*) but it may also use areas with isolated trees, such as *Pinus brutia*, or taller bushes (T. Akriotis *in litt.* 2002).

On passage, it occurs on stony and rocky slopes/hillsides with low annual grasses and bushes, chiefly in desert uplands, with a few cultivated patches (Shirihai 1996). It appears also to occur on passage in lowland deserts (Cramp and Perrins 1994).

In winter the Cinereous Bunting occurs in dry open country with short grass, semi-desert, low rocky hills, bare cultivated land, or shrubby areas, often in dry coastal areas (Byers *et al.* 1995).

## THREATS AND LIMITING FACTORS

Due to the lack of specific studies on the habitat preferences and the impact of changing land uses, the following threats have been considered as the most likely to affect the species.

**Overgrazing:** Grazing, and especially overgrazing causes changes in the natural plant community, both in respect of species composition and vegetation structure. Sheep farming could affect population size through overgrazing.

Importance: *Critical/high*

**Undergrazing:** There is also the possibility of loss of the species' preferred habitat through undergrazing, again resulting in changes in vegetation structure. However, it is possible that in some situations, e.g. where there has been heavy grazing in the past, such changes could be beneficial. In Greece the preferred habitat is maintained by hill grazing. More field data are required.

Importance: *Unknown but possibly Medium/locally high*

**Agriculture intensification:** Because of habitat selection preferences, such as high, dry and rocky slopes with sparse shrubby vegetation (Cramp and Perrins 1994), in many areas the species is unlikely to be affected by conversion of its habitat to farmland.

Importance: *Medium/low?*

**Fire:** Repeated and extensive fires can have a negative effect on suitable habitats. On the other side Fire seems to play a role in maintaining the habitat used in the Greek islands.

Importance: *Unknown but possibly Medium/locally high*

**Land abandonment:** More field data are required but the effects could be similar to those of undergrazing.

Importance: *Unknown*

**Afforestation:** There is the possibility of loss of the species' preferred habitat through inappropriate attempts at afforestation.

Importance: *Low*

**Dam construction and drainage:** Suitable habitats have been flooded by dam construction in south-east Turkey. Alongside habitat loss, dam construction may cause the relocation of displaced villages to new areas, which are currently unpopulated and/or ungrazed or farmed, causing further habitat loss for the species.

Importance: *Medium/locally high*

**Oil extraction and transport and oil spills:** There is no direct evidence of the impact of oil extraction, transport and oil spills on the species in Turkey. More field data are required.

Importance: *Unknown*

**Hunting:** Cinereous Bunting is legally protected under Turkish Law 3167/2/II. The species is included in Annex I of the Ministry of Forestry—National Parks and Hunting—Wildlife's 1999–2000 and 2001–2002 catalogues, which are prepared annually for hunters. In Greece the species is also protected, being included in Annex I of the EU Birds Directive.

Importance: *Low*

**Illegal hunting:** In Turkey, local people, especially children, could hunt the species for 'fun' using catapults/slings but this is likely to be opportunistic and indiscriminate.

Importance: *Low*

**Loss of eggs and nestlings:** High grazing pressure could result in the trampling of nests and eggs (Tucker and Heath 1994).

Importance: *Medium or low*

**Habitat loss/degradation:** Human activities have resulted in a broad range of habitat changes, and most habitat loss is probably the result of human activities and development, e.g. tourism, urbanisation, industry, wind farms, roads and railways.

Importance: *High*

**Use of pesticides and/or herbicides:** The use of pesticides and herbicides could reduce the availability of both invertebrates and seeds (= food supply for chicks and adults) and lead to reduced breeding success.

Importance: *Unknown or low*

**Climate changes:** Habitat losses or changes resulting from the natural occurrence of excessively wet or dry years may have affected habitat availability. In the coming years, large dam constructions in south-east Turkey may result in habitat loss or changes due to localised climate change.

Importance: *Medium but more data required*

## CONSERVATION STATUS AND RECENT CONSERVATION MEASURES

### *Turkey*

There is no national Red Data Book. Although Cinereous Bunting is not included in the Draft Red List of Threatened Animals prepared by the Ministry of Environment, the species is classified as Vulnerable in the Red List of Turkey's Birds (Eken and Callaghan in prep.). The species is legally protected under Turkish Law 3167/2/II and is included in Annex I of the Ministry of Forestry—National Parks and Hunting—Wildlife's 1999–2000 and 2001–2002 catalogues, which are prepared annually for hunters.

### *Greece*

As a passerine the Cinereous Bunting is legally protected (from hunting, intentional disturbance, destruction of its nest, capture, possession and trade of birds, chicks, eggs, dead or alive, or part of them) under Ministerial Decision 414985/1985 and the EU Birds Directive (EC/79/409). The species is listed as Rare in the Greek Red Data Book (Handrinos 1992). Among the breeding sites, only one (South-west peninsula-petrified forest on Lesbos) is partially protected as a Natural Monument and Wildlife Refuge, and a part of it is proposed as Site of Community Importance, according to the Habitats Directive. None of the species' breeding areas in Greece are Specially Protected Areas (SPA), but the following breeding sites are Important Bird Areas (IBA): Mount Kohilas on Skyros, the South-west peninsula-petrified forest on Lesbos, Mount Lepetimos on Lesbos, North Chios and the island of Ikaria.



## ***Iran***

The following breeding sites are IBAs: Lake Zaribar, Western Zagras north of Nowsud, Ilam Area and Lake Uromiyeh.

## ***Syria***

The species is a passage migrant (BirdLife International 2000) that may plausibly breed.

## ***Iraq***

Has been reported to possibly breed in the north of the country (Cramp and Perrins 1994, Byers *et al.* 1995) but the provenance of such statements is unclear.

## **AIMS AND OBJECTIVES**

### **Aims**

1. In the short term to improve knowledge of the breeding distribution and population size of the species and prevent habitat loss at breeding sites.
2. In the medium term to determine the species' complete range and migration routes and legally protect the species across that range.
3. In the medium to long term to conserve suitable habitats in order to promote an increase in the species' numbers and to broaden its distribution.

### **Objectives**

#### **1. Policy and legislation**

1.1. To promote national and international policies and legislation which favour the long-term conservation of all populations of the Cinereous Bunting and its habitat.

The threats of habitat loss and food depletion are similar for a number of threatened species. Conservation measures for the Cinereous Bunting are likely to also have a positive effect for Vulnerable species such as *Alectoris chukar* and *Emberiza cia* as well as other declining species such as *Monticola saxatilis* and *Caprimulgus europaeus* (Tucker and Heath 1994).

Priority: high

Time-scale: medium

1.1.1 To promote conservation in the wider environment for the benefit of the Cinereous Bunting and its habitat.

Policy and legislation that affect the wider environment should be adjusted to the benefit of the species and its habitat. Environmental impact assessments should be made prior to afforestation / deforestation, dam construction, or any other infrastructure projects that may impact Cinereous Bunting habitat.

Priority: high

Time-scale: medium

1.2 To regulate agricultural, forestry and water policies

Agricultural, forestry and water policies may conflict with conservation in range states. Governments should review their agricultural, forestry and water policies to ensure that they are compatible with the conservation of the Cinereous Bunting.

Priority: medium /locally high

Time-scale: long

1.2.1 Forestry

Afforestation may result in the loss of the species' preferred habitat and have a negative impact on population size. In the most important areas for the Cinereous Bunting, afforestation should be prevented.

Priority: medium

Time-scale: long

#### 1.2.2 Farming and agricultural policies

Agricultural activities in the Cinereous Bunting's preferred habitat may cause food depletion, low breeding success or loss of breeding habitat. Future policies should incorporate the following elements:

- To prevent any further loss of all kinds of grasslands.
- To prevent all types of intensive farming methods in breeding areas.
- National laws to include protection of feeding and breeding habitats.

Priority: medium/low

Time-scale: medium

#### 1.2.3. Water policy

With the construction of large dams some important grasslands have been flooded or agricultural activities increased in south-east Turkey, and many grassland ecosystems have been changed. The impacts of water policy on habitats should be evaluated during development and implementation.

Priority: medium /locally high

Time-scale: long

#### 1.3 For certain range states a detailed national action plan may need to be prepared for the species.

*Using this international action plan as a basis, each country should be encouraged to prepare a national action plan. This should use the best available information on Cinereous Bunting populations, habitat requirements and ecology to determine measurable national population targets for the species and to define the conservation actions necessary to achieve these targets within an agreed time-scale. The compilers of each action plan should work in close co-operation with representatives of farming, agriculture and other organisations whose activities are likely to influence Cinereous Bunting habitat or survival.*

Priority: low

Time-scale: long

#### 1.4. Protected areas policy

Protected areas policies and regulations should promote the conservation management of IBAs where the Cinereous Bunting breeds, migrates and winters. The Cinereous Bunting population is very small but conservation of these areas should prove a useful tool in the effective protection of the species.

Priority: low

Time-scale: medium

#### 1.5 Strategic Environmental Assessment

Strategic Environmental Assessments (SEA) should be undertaken to assess the full range of development policies, plans and programmes, and to produce detailed Environmental Impact Assessments (EIA) of individual schemes in key areas for the Cinereous Bunting. These assessments should include all forms of major constructions (roads, wind farms, etc.).

Priority: high

Time-scale: short

## **2. Species and habitat conservation**

### **2.1 To encourage adequate protection of key Cinereous Bunting sites**

Identify key Cinereous Bunting sites that qualify as Important Bird Areas

It is essential to identify all key sites for breeding and wintering Cinereous Buntings and ensure that they are listed as Important Bird Areas (IBAs) according to agreed BirdLife International criteria (Heath and Evans 2000, see also Annex 2 of this Plan).

Priority: high

Time-scale: medium

#### **2.1.1. Protect all IBAs supporting Cinereous Bunting through the most appropriate national and international legal instruments.**

All key sites for breeding and wintering Cinereous Bunting should be protected. Ensure that all IBAs that meet the BirdLife International criteria (see Appendix 2b in Heath and Evans 2000) are declared as Specially Protected Areas (SPAs).

Priority: high

Time-scale: short?

### **2.2. Prevent habitat loss through industrial or tourism development**

Breeding areas especially in the west of Turkey should be given the fullest possible protection from industrial development or tourism. Similar protection should be given to sites on the Greek islands if tourism is likely to increase.

Priority: high

Time-scale: medium

## **3. Monitoring and research**

### **3.1.1. To determine the size of the population**

#### **3.1.2. To determine the breeding population**

Accurately determine the species' breeding distribution and numbers, and investigate the causes of mortality, survival rates, age structure and dispersal patterns to determine population trends.

Priority: high

Time-scale: short

#### **3.1.2 Improve knowledge of the migration routes and wintering areas of both subspecies**

The migration movements are very poorly known since ringing studies are few. Migration routes of the different subspecies, their population trends, breeding and wintering areas and survival rates may be determined by ringing studies.

Priority: medium

Time-scale: long

#### **3.1.3 To determine habitat distribution**

The distribution of suitable habitats can, potentially, be determined from satellite imagery. Visits to suitable areas can then be made to assess the presence of the species and population size. Accurate data on distribution, population size and status are presently unavailable.

Priority: high

Time-scale: short

### 3.2. To develop and implement a survey and monitoring strategy for the Cinereous Bunting

The main objectives of a Cinereous Bunting survey and monitoring strategy should be to identify the key areas for the species within each country, provide a better estimate of total population size, and monitor trends in numbers across the species' range to detect significant changes.

Priority: high

Time-scale: medium

### 3.2. To encourage studies on the biology of the species

Establish a research project for both subspecies of Cinereous Bunting to study their ecology, behaviour, breeding biology and causes of mortality and mortality rates. Also to determine the effects of habitat choice on each subspecies' breeding success. These results should be used to assist the conservation of both subspecies.

Priority: medium

Time-scale: ongoing

#### 3.3.1. To specifically study the importance of limiting factors and threats

Any research on the biology of the species should include the collection of specific data on threats to the habitat and to the species.

Priority: high

Time-scale: short

### 3.4. Establish a database

A database should be established to include all information relating to the species (subspecies, habitat definitions, threats, etc.) in order to facilitate analysis of population trends and status.

Priority: low

Time-scale: medium

## 4. Public awareness

### 4.1. To raise awareness and support for the Cinereous Bunting

The Cinereous Bunting could be used as a flagship species to promote the conservation of its habitat, which is valuable to several threatened species including *Alectoris chukar*, *Monticola solitarius*, *Emberiza caesia*, *Emberiza caesia*, *Monticola saxatilis* and *Caprimulgus europaeus*.

Priority: medium

Time-scale: ongoing

### 4.2. To improve international communication

#### 4.2.1. To organise a network between range states

Establishing regular contact between range states to improve interactive communication. An e-mail group and web site should be established, which should be updated regularly.

Priority: high

Time-scale: ongoing

## REFERENCES

- Andrews, I. J. (1995) The Birds of the Hashemite Kingdom of Jordan. Andrews, Musselburgh.
- Balmer, D. and Betton, K. (2002) Around the region. *Sandgrouse* 24: 156–160.
- BirdLife International (2000) Threatened Birds of the World. BirdLife International & Lynx Edicions, Barcelona & Cambridge.
- Brooks, D. J., Evans, M. I., Martins, R. P. and Porter, R.F. (1987) The status of birds in North Yemen and the records of the OSME expedition in autumn 1985. *Sandgrouse* 9: 4–66.
- Byers, C., Olsson, U. and Curson, J. (1995) Buntings and Sparrows: A Guide to the Buntings and North American Sparrows. Pica Press, Mountfield.
- Chappius, C., Heim de Balsac, H. and Viellard, J. (1973) Distribution, reproduction, manifestations vocales et affinités du Bruant cendre, *Emberiza cineracea*. *Bonn. zool. Beitr.* 24: 302–316.
- Cramp, S. and Perrins, C. M. (1994) The Birds of the Western Palearctic. Vol. 9. Oxford University Press, Oxford.
- de Knijff, P. (1991) Little-known West Palearctic birds: Cinereous Bunting. *Birding World* 4: 384–391.
- Dowsett, R. J. and Dowsett-Lemaire, F. (1993) A contribution to the distribution and taxonomy of Afrotropical and Malagasy birds. Tauraco Research Report No. 5. Tauraco Press, Liège.
- Eriksen, J. and Sargeant, D. E. (2000) Oman Bird List. The Official List of the Birds of the Sultanate of Oman. Fifth edition. Oman Bird Records Committee, Muscat.
- Eken, G. and Callaghan, D. (in prep.) Red Data List of Turkey's Birds.
- Flint, P. R. and Stewart, P. F. (1992) The Birds of Cyprus: An Annotated Check-list. BOU Check-list No. 6. Tring, British Ornithologists' Union.
- Goodman, S. M. and Meininger, P. L. (eds.) (1989) The Birds of Egypt. Oxford University Press, Oxford.
- Handrinos, G. (1992) Birds. Pp 123–243 in: Karandeinos, M. and Legakis, T. (eds.) The Red Data Book of threatened Vertebrates in Greece. Hellenic Zoological Society & Hellenic Ornithological Society, Athens. (In Greek.)
- Handrinos, G. and Akriotis, T. (1997) The Birds of Greece. Helm, London.
- Bundy, G., Connor, R. J. and Harrison, C. J. O. (1989) Birds of the Eastern Province of Saudi Arabia. H. F. & G. Witherby, London.
- Heath, M. F. and Evans, M. I. (2000) Important Bird Areas in Europe: Priority Sites for Conservation. 2 vols. BirdLife International, Cambridge, UK (BirdLife Conservation Series No. 8).
- Hirschfeld, E. (1995) Birds in Bahrain: A Study of Their Migration Patterns 1990–1992. Hobby Publications, Dubai.
- Hollom, P. A. D., Porter, R. F., Christensen, S. and Willis, I. (1988) Birds of the Middle East and North Africa. T. & A. D. Poyser, Calton.
- Hölzinger, J. (1995) The Cinereous Bunting *Emberiza cineracea* breeding on Skyros (Greece). *Zool. Middle East* 11: 31–36.
- Hüe, F. and Etchécopar, R. D. (1970) Les oiseaux du proche et moyen orient. Boubée Editions, Paris.
- Hustings, F. and van Dijk, K. (eds.) (1994) Bird census in the Kizilirmak Delta, Turkey, in spring 1992. WIWO report 45, Zeist.
- Kirwan, G. M and Martins, R. P. (1994) Turkey Bird Report 1987–91. *Sandgrouse* 16: 76–117.
- MacFarlane, A. M. (1978) Field notes on the birds of Syria 1974–77. *Army Birdwatching Soc. Per. Publ.* 3: 47–94.
- Martins, R. P. (1989) Turkey Bird Report 1982–6. *Sandgrouse* 11: 1–41.
- Martins, R. P., Bradshaw, C. G., Brown, A., Kirwan, G. M. And Porter, R. F. (1996) The status of passerines in southern Yemen and the records of the OSME survey in spring 1993. *Sandgrouse* 16: 54–72.
- Möller, E. and Richardson, C. (1994) First record of Cinereous Bunting *Emberiza cineracea* in Oman. *Sandgrouse* 16: 63–64.

- Nikolaus, G. (1987) Distribution Atlas of Sudan's Birds with Notes on Habitat and Status. Bonn. Zool. Monogr. 25.
- Paludan, K. (1938) Zur Ornithologie des Zagros-Gebietes. *J. Orn.* 86: 562–638.
- Porter, R. F., Christensen, S. and Schiormacker-Hansen, P. (1996) Field Guide to the Birds of the Middle East. T. & A. D. Poyser, London.
- Ramadan-Jaradi, G. and Ramadan-Jaradi, M. (1999) An updated checklist of the birds of Lebanon. *Sandgrouse* 21: 132–170.
- Richardson, C. and Aspinall, S. (1998) The Shell Birdwatching Guide to the United Arab Emirates. Hobby Publications, Liverpool & Dubai.
- Rietkerk, F. and Wachter, T. (1996) The birds of Thumanah, Central Province, Saudi Arabia. *Sandgrouse* 18: 24–52.
- Roselaar, C. S. (1995) Songbirds of Turkey: An Atlas of Biodiversity of Turkish Passerine Birds. Pica Press, Mountfield.
- Shirihai, H. (1996) The Birds of Israel. Academic Press, London.
- Smith, K. D. (1957) An annotated check list of the birds of Eritrea. *Ibis* 99: 1–26, 307–337.
- Snow, D. and Perrins, C. M. (eds.) (1998) The Birds of the Western Palearctic, Concise Edition. Vol. 2. Oxford University Press, Oxford.
- Ticehurst, C. B., Buxton, P. A., and Cheeseman, R. E. (1921–22) The birds of Mesopotamia. *J. Bombay Nat. Hist. Soc.* 28: 210–251, 381–427, 650–674, 937–956.
- Tucker, G. M. and Heath, M. F. (eds.) (1994) Birds in Europe: Their Conservation Status. BirdLife International, Cambridge (BirdLife Conservation Series No. 3).
- Urban, E. K. and Brown, L. H. (1971) A Checklist of the Birds of Ethiopia. Addis Ababa University Press, Addis Ababa.
- Zinner, D. (2001) Ornithological notes from a primate survey in Eritrea. *Bull. Afr. Bird Club* 8: 95–106.

### ***Annex 1. Recommended conservation actions by country***

#### ***Turkey***

- 1.2. Agricultural, forestry and water policies should be regulated in the short term.
- 2.1. Promote the conservation of those IBAs identified for the Cinereous Bunting by designating them as protected areas or by developing specific management activities.
- 2.2. *Tourism and urbanisation pressure should be decreased.*
- 3.1. Undertake a population survey and establish regular monitoring.
- 3.1.2. Establish a ringing project.
- 4.1. Raise public awareness and support for protection of the Cinereous Bunting and its breeding habitats.
- 4.2. Improve communication by establishing an e-mail group and web site.

#### ***Greece***

- 1.2.1. *Ensure maximum legal protection of the Cinereous Bunting and its habitat in national legislation. Public Law 1650/1986 should be enforced with new Ministerial Decisions, which are provided in article 20 of the Law.*
- 1.2.2. *Harmonize Greek Ministerial Decision (414985/1985) with the EU Birds Directive.*
- 1.3. A detailed national action plan should be prepared for the species.
- 2.1. Encourage adequate protection of key Cinereous Bunting sites, through the most appropriate national and international legal instruments. The species' conservation requirements should be taken into account during the development of management plans for these areas.
- 2.1.2. Designate as SPAs all IBAs that fulfil BirdLife International's criteria for Cinereous Bunting.
- 2.3. Protect Cinereous Bunting breeding areas against habitat degradation and human disturbance.
- 3.1. Accurately assess the national population and breeding range of Cinereous Bunting, by undertaking a national population survey at breeding (or possible breeding) sites.
- 3.2. Establish a regular monitoring system for the Cinereous Bunting in order to monitor population trends and detect significant changes. Also monitor threats to key breeding areas.
- 3.3. Establish a research project on Cinereous Bunting ecology, behaviour, breeding biology and causes of mortality and mortality rates.
- 3.3.1. Research the threats and limiting factors for the Cinereous Bunting throughout its breeding range, especially in connection to animal raising which is heavily influenced by EU agricultural subsidies.

#### ***Iran***

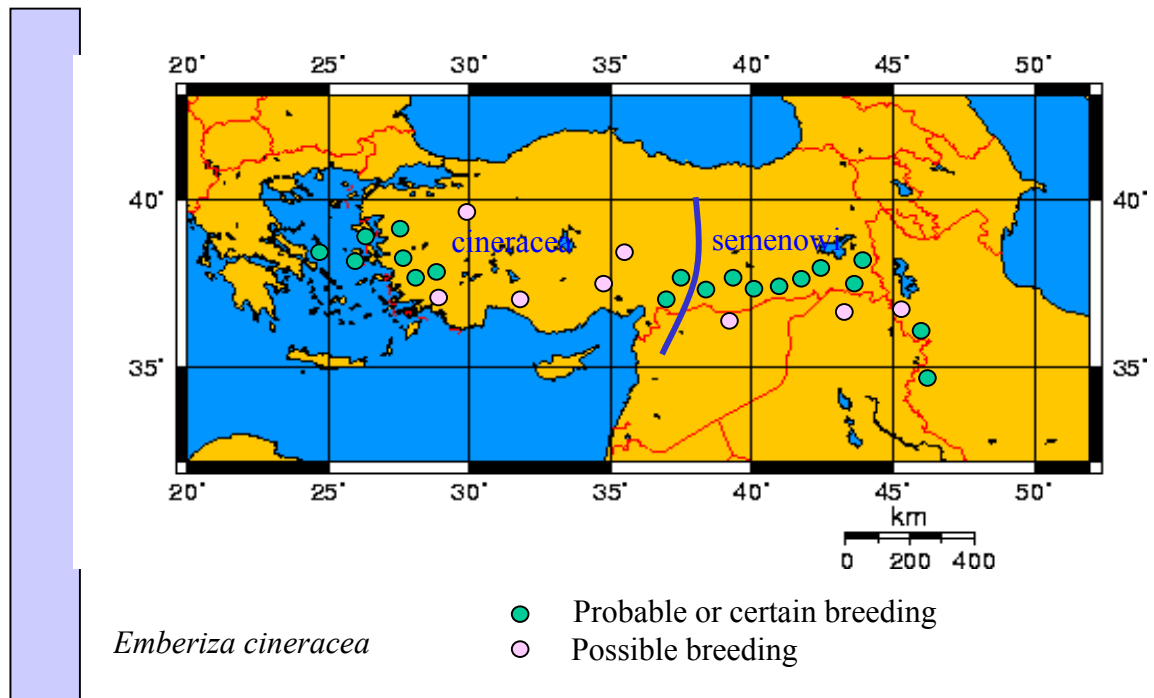
- 3.1. Undertake further fieldwork to determine the status and abundance of the species and establish regular monitoring.

### ***Annex 2. Criteria for identification of IBAs for the Cinereous Bunting.***

As the species is Globally threatened (Near Threatened) each site regularly supporting five pairs or 15 individuals meets Criteria A1 (Heath and Evans 2000).

Each site hosting 1% of the breeding population meets Criteria B2. In Turkey every site hosting 10 breeding pairs will meet this criteria, while in Greece and Iran each site hosting one breeding pair will meet this criteria.

**Annex 3. Breeding distribution of Cinereous Bunting. The demarcation line between the two subspecies is only indicative.**



**Annex 4. Status of the Cinereous Bunting in other countries**

**Bahrain**

The subspecies *semenowi* is a scarce migrant in March and April, with one record in mid-September (Hirschfeld 1995).

**Cyprus**

The subspecies *cineracea* is a very scarce (but perhaps regular) passage migrant in spring, between at least late March and mid-April (Flint and Stewart 1992).

**Egypt**

Goodman & Meininger (1989) consider the species an accidental visitor. Specimens of both forms have been collected in Egypt (although the only example of *semenowi* was taken by Meinertzhagen, and therefore subject to the now-usual caveat). The five records prior to 1995 span the periods late March to early May and late August.

**Eritrea**

Perhaps principally a passage migrant being very scarce in winter (Smith 1957) and recorded to 2200 m, the latter probably on migration (Zinner 2001). For discussion of the subspecies occurring in the country see Ethiopia.

**Ethiopia**

Considered principally a winter migrant (Dowsett and Dowsett-Lemaire 1993). Urban and Brown (1971) considered the subspecies *cineracea* to be principally restricted to western Ethiopia (including Eritrea), where it is rare, while *semenowi* is known from north-east Ethiopia where it occurs in semi-desert *Acacia-Chrysopogon* savanna (below 1200 m) and arid desertic areas below 600 m.



### ***Israel***

A regular migrant, common in spring and rare to uncommon in autumn. Both subspecies occur, with *cineracea* being the more common (Shirihai 1996).

### ***Jordan***

A rare passage migrant recorded in spring between late March and late April, with one record from early February (Andrews 1995).

### ***Kuwait***

Scarce passage migrant recorded in both spring and autumn.

### ***Lebanon***

Very scarce passage migrant, usually at mid to high altitudes, in mid-March to early May and even rarer in September (Ramadan-Jaradi & Ramadan-Jaradi 1999).

### ***Oman***

First recorded as recently as spring 1993 (Möller and Richardson 1994), there had been ten records of the subspecies *semenowi* by the end of 2000, in late March to mid-April (Eriksen and Sargeant 2000, Balmer and Betton 2002).

### ***Qatar***

Considered a vagrant in spring (Möller and Richardson 1994).

### ***Saudi Arabia***

Very scarce and irregular in spring, mid-March to April, with three autumn records in Eastern Province (Bundy *et al.* 1989), with single December and March records in the south-west and one April and three September records, of which one was *semenowi*, from Central Province (Rietkerk and Wachter 1996, Warr unpubl. ms.).

### ***Sudan***

The subspecies *semenowi* is an uncommon migrant (recorded in September–October and April–May) which may winter in the country (Nikolaus 1987).

### ***Tunisia***

Listed as a vagrant (Hollom *et al.* 1988).

### ***Turkmenistan***

Listed as a vagrant (Byers *et al.* 1995).

### ***United Arab Emirates***

The subspecies *semenowi* is a rare passage migrant, with fewer than 30 records (Richardson and Aspinall (1998), of which just two have been in autumn, in mid to late September. In spring it is recorded from late March to late April. It generally occurs in irrigated field edges, grass golf courses or in parks and gardens in cities along the coast or in planted gardens on islands in the Arabian Gulf (S. Aspinall *in litt.* 2001).

### ***Yemen***

A rare winter visitor (Brooks *et al.* 1987) not yet recorded from southern Yemen (Martins *et al.* 1996).