



BULGARIAN SOCIETY FOR THE PROTECTION OF BIRDS

Bulgaria, Sofia 1111, Yavorov complex, block 71,
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tel/fax: + 359 2 979 95 00, 979 95 01, www.bspb.org



Help us protect the birds and nature of Bulgaria!

CAPACITY BUILDING TO SUPPORT THE CONSERVATION OF MIGRATORY EGYPTIAN VULTURES (*NEOPHRON PERCNOPTERUS*) FROM THE WESTERN PALEARCTIC ON THEIR WINTERING GROUNDS IN ETHIOPIA, SUDAN AND CHAD

TRAINING SEMINAR, 9-19.01.2013, ETHIOPIA

PROGRAMME

DAY (DATE)	SCHEDULE
I. Theoretical part (in Addis Ababa)	
Day 1 (09.01.2013)	<p>16:00-16:45 / <i>Registration and welcome cocktail</i></p> <p>16:45-17:00 / Introduction of the participants. (<i>moderated by Stoyan Nikolov</i>)</p> <p>17:00 – 17:20 / Life for the Egyptian vulture: two projects with one aim (<i>Presentation by Stoyan Nikolov</i>)</p> <p>17:20 – 17:45 / What we did and what we learned in the last year? (<i>Presentation by Vladimir Dobrev</i>)</p> <p>17:45 – 18:00 / <i>Break</i></p> <p>18:00-19:00 / Conservation of the Egyptian vulture in Eastern Europe and along the flyway (<i>Presentation by Volen Arkumarev</i>)</p> <p>19:00-20:00 / <i>Dinner</i></p>
Day 2 (10.01.2013)	<p>8:00 – 09:30 / Methodologies for surveying wintering Egyptian vultures: Roost counts; Road counts; Rubbish dump counts (<i>Presentation by Vladimir Dobrev</i>)</p> <p>09:30 – 10:00 / Discussion</p> <p>10:00 – 10:30 / <i>Coffee break</i></p> <p>10:30 – 12:00 / Egyptian vulture monitoring techniques and how to search for nests? (<i>Presentation by Vladimir Dobrev/ Volen Arkumarev</i>)</p> <p>12:00 - 12:30 / Discussion</p> <p>12:30 – 14:00 / <i>Lunch break</i></p> <p>14:00 – 16:00 / Limiting factors and collection information on the issue (<i>Presentation by Vladimir Dobrev</i>)</p> <p>16:00 – 16:30 / <i>Coffee break</i></p> <p>16:30 – 19:00 / Discussion</p> <p>19:00 – 19:15 / Closing the Seminar</p> <p>19:15 – 20:15 / <i>Dinner</i></p>
II. Field practice and trips	
Day 3 – Day 7 (11-15.01.2013)	Observation of the wintering Egyptian vulture population in the Afar region
Day 8 – Day 10 (16-18.01.2013)	Visit of Egyptian vultures breeding grounds in Central Ethiopia and Northern Ethiopia
Day 11(19.01.2013)	DEPARTURE



Project „Urgent measures to secure the survival of the Egyptian vulture (*Neophron percnopterus*) in Bulgaria and Greece”
LIFE10 NAT/BG/000152, funded by the LIFE+ program, EC
Address for correspondence: BSPB, P.O. box 50, Yavorov complex, bl. 8, entr. 1, ap. 1, 1111 Sofia, Bulgaria; stoyan.nikolov@bspb.org



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List with participants invited for the Training Seminar /Jan 2013, Ethiopia/; version 23.01.13

Country	No	Person to be invited	Organization & Position	Contacts	Status
SUDAN	1	Ibrahim Hashim	Sudanese Wildlife Society	sudanwild@yahoo.com +249 912165374	Participated
SOUTH SUDAN	2	Peter Minasona	Ministry of Wildlife Conservation and Tourism, Director	minasonalero@yahoo.com +211956188652	Invited but couldn't come
CHAD	3	Mahamat Idriss	Ministry of Environment and Water Resources	mhi1962@yahoo.fr +235 66219340 +235 22522947 (fax)	Invited but couldn't come
	4	Hassan Djazouli	Ministry of Environment and Water Resources	djazouly@gmail.com +235 66288012	Participated
ETHIOPIA	5	Yilma Dellelegn	Project coordinator in EWNHS	ydabebe@yahoo.co.uk +251911400636	Participated
	6	Bruktawit Abdu	Associated expert in EWNHS	tawit_abdu@yahoo.com	Invited but couldn't come



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SOMALIA	7	Ziad Barkhadle	Director of Research & Development; Focal Point for the Ministry of National Resources, Somalia	ziadbarkhadle@live.com +252 616346683	Participated
DJIBOUTI	8	Eleyeh Omar Abdillahi	Junior volunteer Djibouti Nature/BirdLife in Djibouti	eleyehomar1@gmail.com	Participated
BULGARIA	9	Vladimir Dobrev	BSPB; Conservation Officer of the project LIFE10 NAT/BG/000152;	vladimir.dobrev@bspb.org +359878599381	Participated
	10	Volen Arkumarev	BSPB; Field assistant of the project LIFE10 NAT/BG/000152	volen.arkumarev@gmail.com +359887093547	Participated
	11	Stoyan Nikolov	BSPB; Project Manager of the project LIFE10 NAT/BG/000152	stoyan.nikolov@bspb.org +359878599372	Participated



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Life for the Egyptian vulture: two projects with one aim

9th of January 2013, Addis Ababa, Ethiopia
Presenting author: Dr. Stoyan Nikolov



www.LifeNeophon.eu

Photo: F. Robiller



adult




juvenile



The Egyptian vulture



A flagship species: cultural values



It is unique: uses tools



What is happening with the species?

IUCN Red listed species (Endangered)
Global population: 21,900 – 30,000 mature ind.

- In Europe has decreased by 50% in the last 50 yrs
- Disappeared from:
 - Austria
 - Slovenia
 - Bosnia
 - Herzegovina
 - Croatia
 - Romania
 - Moldova
 - Ukraine
 - Serbia



Functions

Natural sanitary officer



Umbrella species



Indicator for environmental (and ours) 'health status'

What we do to SAVE him?



New LIFE+ project on the Egyptian Vulture Urgent measures to secure survival of the Egyptian vulture (*Neophron percnopterus*) in Bulgaria and Greece

HOME THE PROJECT ACTIONS SITES THE EGYPTIAN VULTURE MEDIA INFO NEWS CONTACT US

THE RETURN OF THE NEOPHRON
The species is returning to the Balkans with some help from us.

URGENT MEASURES TO SECURE THE SURVIVAL OF THE EGYPTIAN VULTURE IN BULGARIA AND GREECE

BSPB participated in a meeting about bird crime

UPDATED LOCATION OF TAGGED VULTURES

Logos: European Union, BirdLife International, Conservation, WWF, RSPB

Aim:

Prevent extinction of the species from the Balkans



Photo: K. Hristov

Research activities



Monitoring



Toxicological and DNA analysis



Study on the diet



Telemetry

Direct conservation actions



Nest guarding

Niche improvement



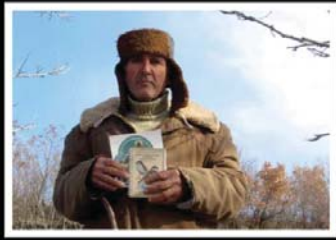
Insulation



Supplementary feeding



Indirect conservation: education and communication



Implementing AE measures



Bird crime



Network against poisoning



Rising public awareness

Research and conservation of the Egyptian Vulture : challenges at trans-continental level

- What we need?
 - Urgent measures to secure the species
- How we can achieve that?
 - More research – scientifically based evidences about the problems
 - Close communication and collaboration between all involved organizations, institutions and authorities at trans-continental level
 - Good will in decision makers to build and implement such measures
 - Human and financial capacity to apply the measures

Egyptian vulture along the Eastern Mediterranean migration flyway

1. Research – gaps in our knowledge:

- Migration flyway
- Habitat use
- Numbers and dynamics of migrating and wintering birds
- Physiological condition
- Threats analysis along the flyway and in wintering grounds



Photo: I. Damyanov

2. Opportunities for decision making on species conservation:

- Egyptian vulture experts e-mail group (*already launched*)
- International Egyptian vulture conference (*August 2013, Bulgaria*)
- Species Flyway Action Plan (*will be initiated in 2013*)

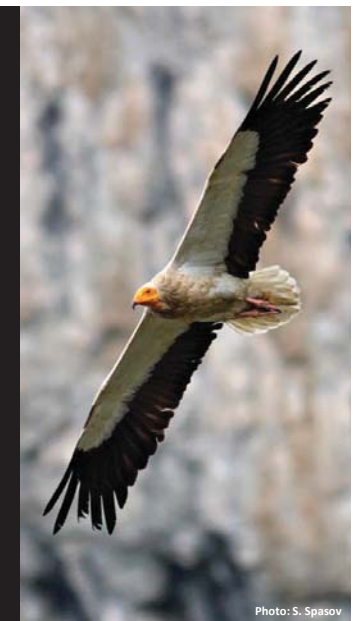


Photo: S. Spasov

3. Collaboration and capacity building:

- **Collaboration at regional level**
 - *Common research and conservation projects between countries*
- **Collaboration at continental level**
 - *e.g. EU programmes (LIFE+)*
- **Collaboration at trans-continental level**
 - *Europe*
 - *Middle East*
 - *Africa /Egypt, Ethiopia, Chad, Sudan/*



Photo: V. Konstantinova

Training seminar in Ethiopia

- **Theoretical part**
(Addis Ababa, 9-10.01.2013)
- **Field practices**
(C and N Ethiopia, 11-19.01.2013):
 - Observation of wintering and breeding Egyptian vultures



Photo: V. Dobrev

UNEP funded SSFA



Capacity building in Chad, Sudan and Ethiopia for research and conservation of the wintering Balkan population

Period: September 2012 – August 2013

Action steps:

1. Training seminar in Ethiopia (09.01.2013 – 19.01.2013)
2. Small granted research projects
3. Training seminar in Bulgaria (August 2013)



Photo: V. Dobrev

Supporting post-training surveys

- **Period:** Feb-Aug 2013
- **Priority:** Balkan population wintering areas
- Small project grants



Photo: BSPB



Photo: BSPB

Training seminar in Bulgaria

- **Period:** July - August 2013
- **Place:** Madzharovo, Bulgaria
- **Participants to be invited:** Conservationists from Sudan, Chad, Ethiopia, Somalia and Djibouti.

As a satellite event of international Egyptian vulture conference (to be announced: August 2013, Bulgaria)



Thank you for your attention!



Photo: T. Prohl

Acknowledgements



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What we did and what we learned in the last year?



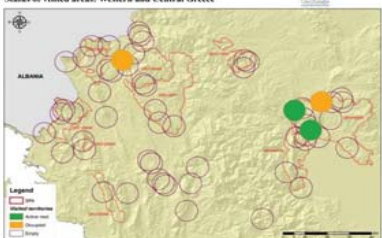

Vladimir Dobrev
BSPB/BirdLife Bulgaria
9th of January, Addis Ababa, Ethiopia

www.LifeNeophron.eu



Monitoring of active and recently abandoned nesting territories

States of visited areas: Western and Central Greece



The start of the Life+ project on the conservation of the Egyptian vulture in Bulgaria and Greece...

Aim:

Prevent extinction of the species from the Balkans



Photo: K. Hristov



Monitoring results:

1. Bulgaria:
 - more than 50 territories were checked and monitored
 - 29 of them occupied;
 - 26 active nests (1 failed);
 - 25 chicks were raised;
 - Population decline with 9% in comparison with 2011 (32 occupied territories) and with 51% in comparison with 2003 (57 occupied territories)



Monitoring results:

1. *Greece:*
- more than 60 territories were checked and monitored
 - 15 of them occupied;
 - 8 active nests;
 - 6 chicks were raised;
 - Number of pairs is 50% less than expected;

Toxicological and DNA analysis



Every year we took samples from at least 70% of the Egyptian vultures chicks in Bulgaria and Greece

- 2012:
- 19 chicks (76%) in Bulgaria were sampled
 - 4 chicks (67%) in Greece were sampled



Study of the diet



- Food remnants are collected from all accessible nests out of the breeding season;
- 4 trail cameras were installed in nests (2 in Bulgaria and 2 in Greece);
- 2 trail cameras were used on the feeding stations;
- 1 HD camera was installed in a nest;

Satellite tagging



- 9 birds were tagged with AGRUS transmitters in 2012
- It is foreseen that 30 more birds will be tagged in 2013

Satellite tagging



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Nest guarding



- 10 nests in Bulgaria and 2 nests in Greece are guarded yearly;

- > 13 men with more than 900 men days for 2012 spent on the field

Results:

- All guarded nests were successful except one;
- Two juveniles felt down from the nests were saved (1 in Bulgaria and 1 in Greece);
- we collect a very useful information about threats and biology of the specie;

Supplementary feeding

- Wooden platforms (without success)



- Vulture restaurants



- Individual supplementary feeding

Results of the Supplementary feeding

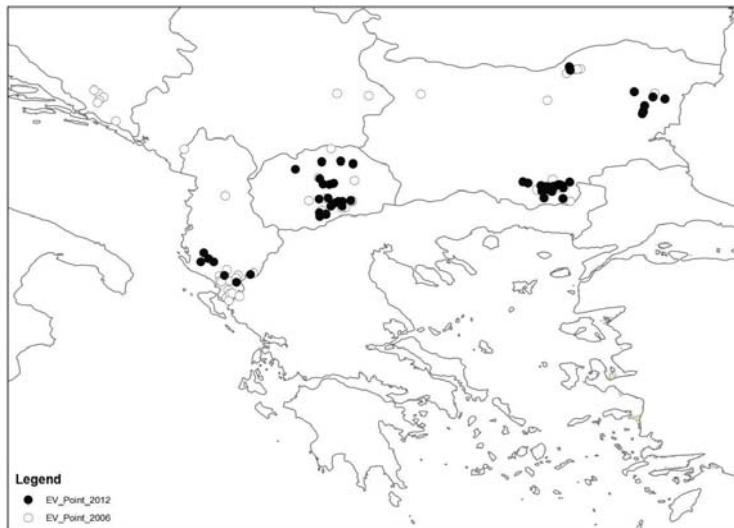
- 10 pairs benefit from the supplementary feeding;
- a scheme for individual supplementary feeding was developed;
- 1 adult was found dead near a place for artificial feeding;



Expeditions in Turkey, Albania, West Greece



The Egyptian vulture on the Balkans < 80 occupied territories



The main conclusion :
We need **URGENT**
measures!!!

3 main steps

1. Research – gaps in our knowledge:

- Migration flyway
- Habitat use
- Numbers and dynamics of migrating and wintering birds
- Physiological condition
- Threats analysis at local level



Photo: I. Damyanov

2. Opportunities for decision making on species conservation:

- Egyptian vulture experts e-mail group (*will be launched till the end of 2012*)
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- Species Flyway Action Plan



Thank you for your attention!!!



3. Collaboration and capacity building:

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 - Middle East
 - Africa /Egypt, Ethiopia, Chad, Sudan/



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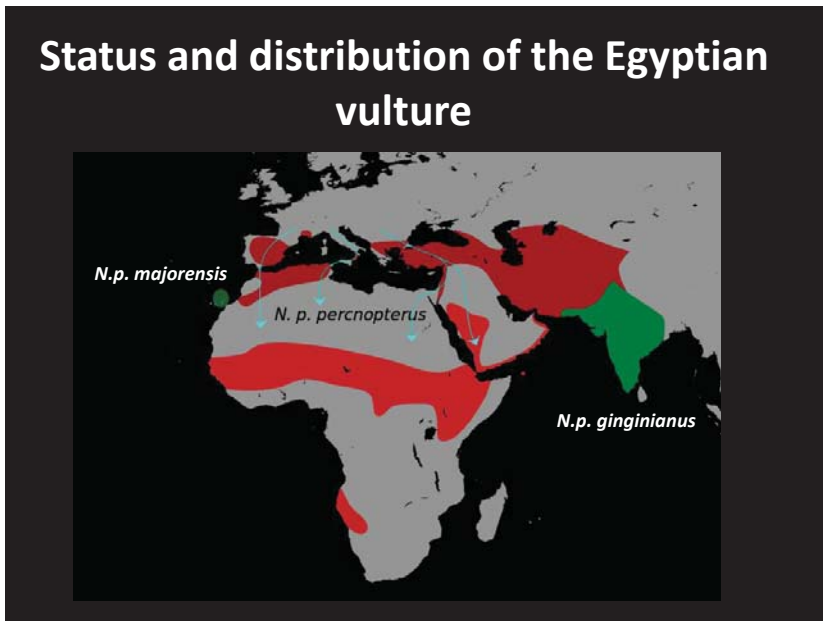
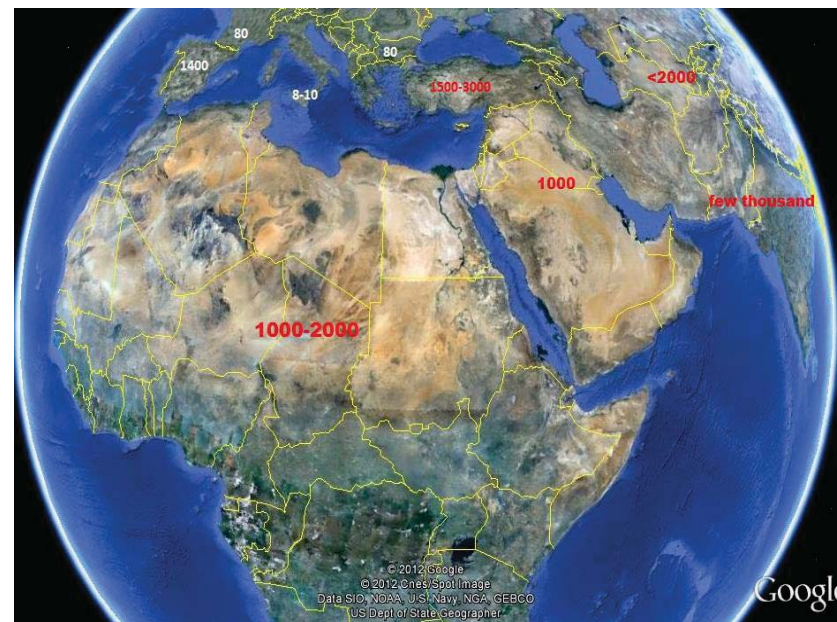


Egyptian vulture conservation in Eastern Europe and along the flyway

9th of January 2013,
Addis Ababa, Ethiopia



Volen Arkumarev
Bulgarian Society for the
Protection of Birds/Birdlife
Bulgaria
www.LifeNeophron.eu

Status of the Egyptian vulture on the Balkans

- In the XIX-th century at Bosphorus, Turkey, Egyptian Vultures were described as migrating in flocks of thousands (Alleon & Vian 1869, 1870)
- Probably at least several thousand Egyptian Vulture pairs were breeding on the Balkans at that time!




- 80 pairs in 5 countries (Bulgaria, Greece, Macedonia, Albania and Turkey)
- 50% decline for the last 10 years
- Extinction expected in 30-50 years



South Africa

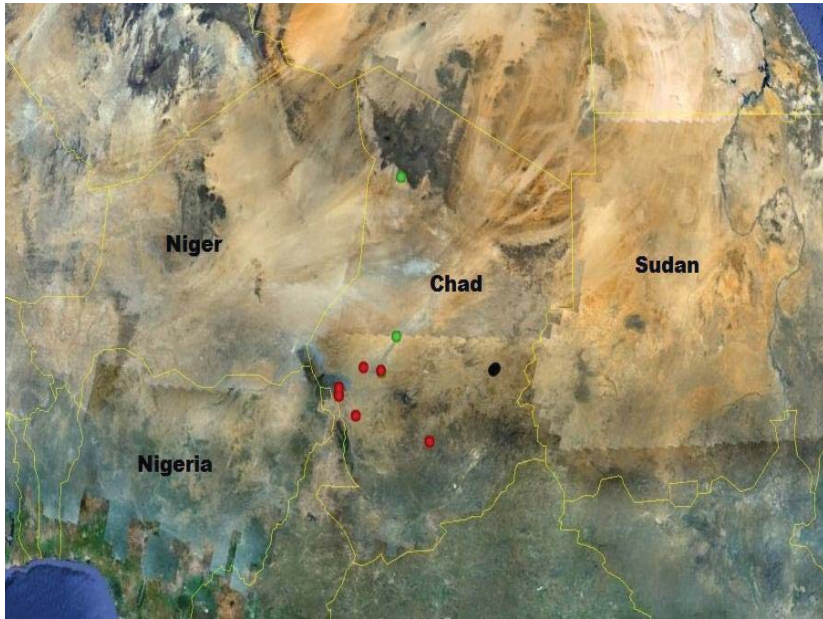


Status in Africa



West Africa





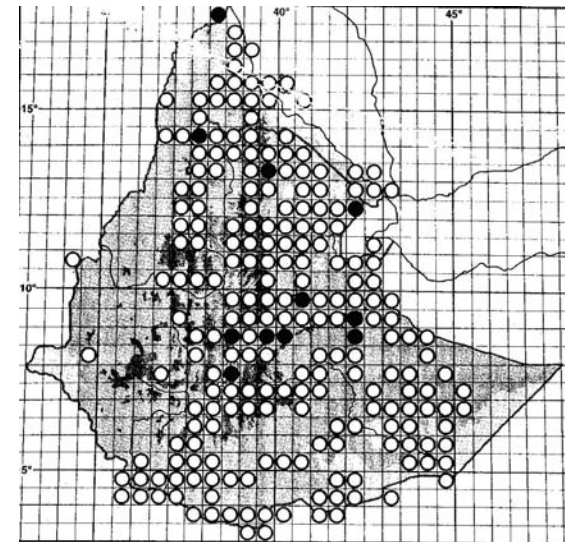
East Africa

The last strongholds of the EV in Africa are probably in Sudan, Ethiopia and Somalia

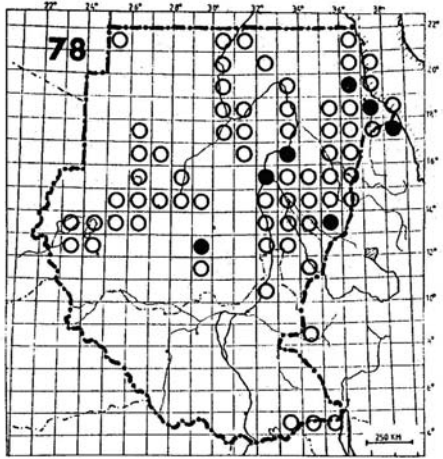
© 2012 Google
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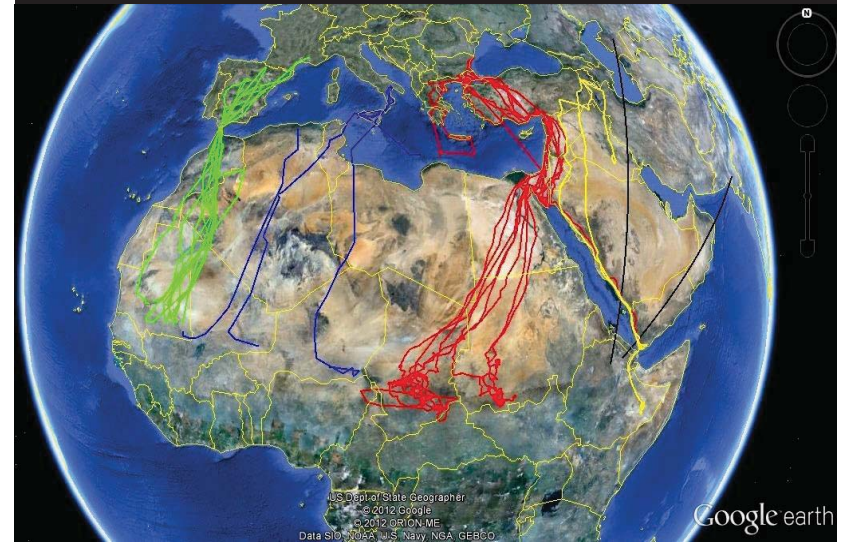
Distribution in Ethiopia and Eritrea



Distribution in Sudan



Migration



Sudan



Threats along the flyway

Rubbish dumps



Water barriers



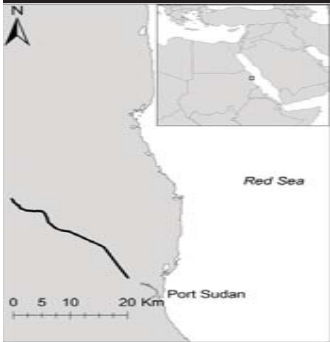
Poisoning



Poaching



Electrocution



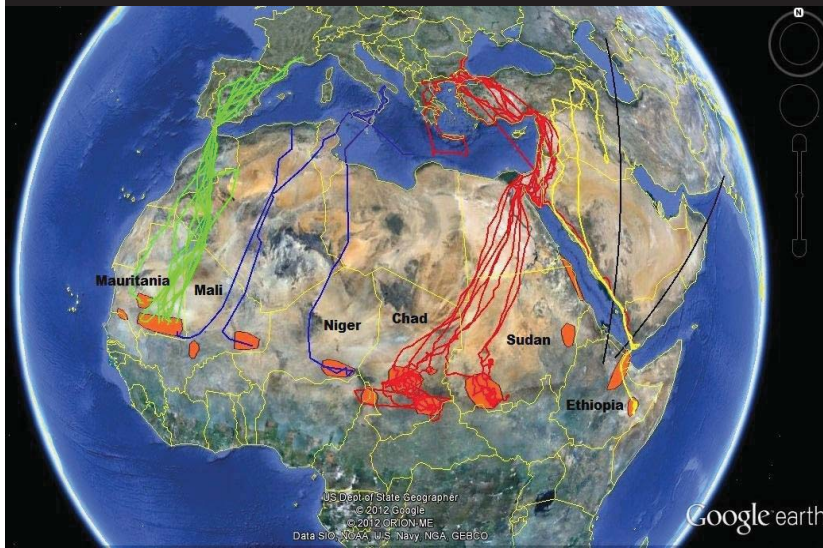
This powerline has caused the death of hundreds, perhaps thousands EV over the last 50 years (Angelov & Hashim 2012)



The sad story of Spartacus...



Winter quarters

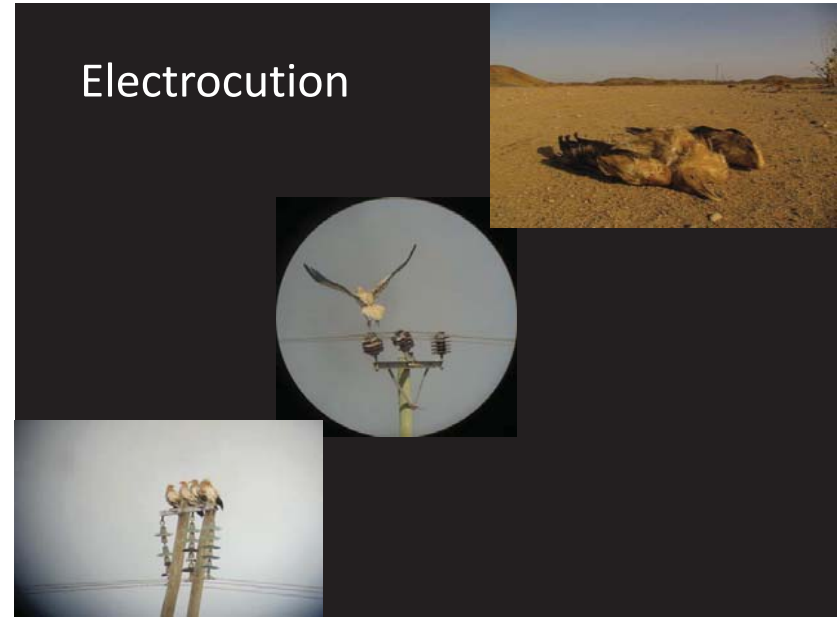


Threats

- Various types of poisoning
- Electrocution
- Direct persecution by humans
- Collision with vehicles
- Habitat loss and degradation
- Collision with wind turbines



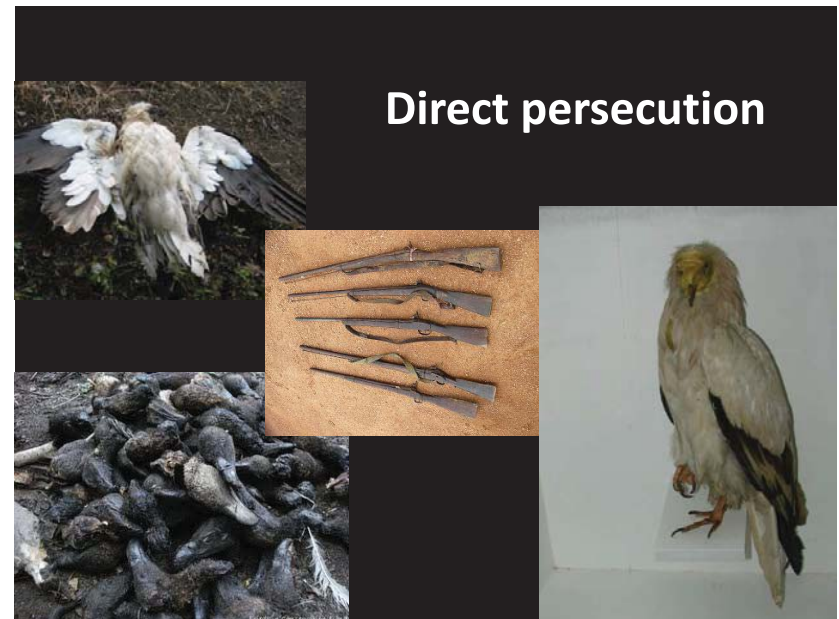
Electrocution



Poisoning



Direct persecution



Collision with vehicles



Collision with wind turbines



Our work



Monitoring



Our work



Toxicology and DNA study



Our work



Diet study



Supplementary feeding



Nest guarding



Satellite tracking



Insulation of pylons



Work with local communities



Education



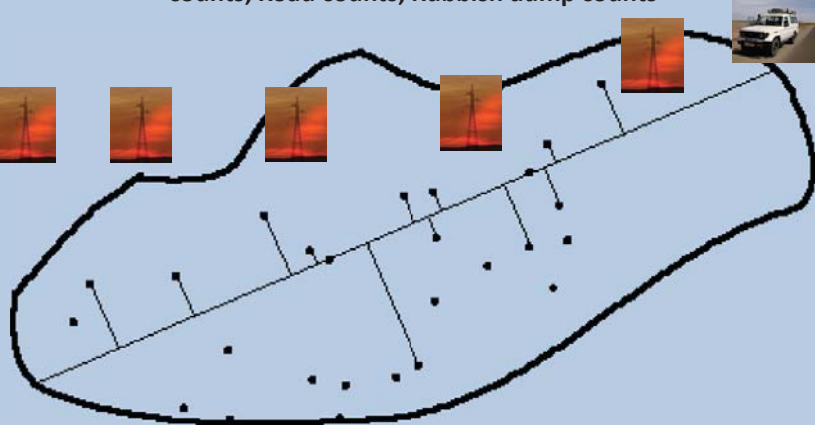
Expeditions in Ethiopia, Sudan, Oman, Turkey and Albania




Conservation actions proposed by IUCN

- Start and maintain intensive cooperation with local key stake-holders to ensure poison- and poaching-free zones at sites with high densities or congregations of the species throughout the breeding, migration and wintering range.
- Build capacity in countries along the migration flyways and in the wintering areas
- Insulate dangerous electricity pylons in areas where high mortality is recorded. Coordinate monitoring to assess trends throughout the range.
- Establish supplementary feeding sites where appropriate, especially at sites where congregations of non-breeders can be supported.
- Effectively reduce risks of poisoning through strict enforcement of poison-bait ban and education.
- Confiscate illegally kept live birds and use them for the purposes of captive breeding and future restocking and reintroduction programs.
- In key areas of the species range, implement long term and large-scale education and community involvement program.

Methodologies for surveying wintering Egyptian vultures: Roost counts; Road counts; Rubbish dump counts




Vladimir Dobrev
BSPB/BirdLife Bulgaria
10th of January, Addis Ababa, Ethiopia






1. COUNTING OF ROOSTING EGYPTIAN VULTURES

Steps:
Defining the study area

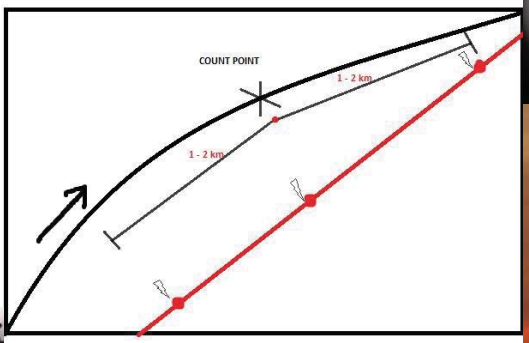




Steps:
Study period and timing:

- November – February
- Time – from 15:30 till dark

Steps:
Census techniques:

- Transects
- Weather conditions
- Coordinates
- Team
- Birds count
- Pylons and habitat description

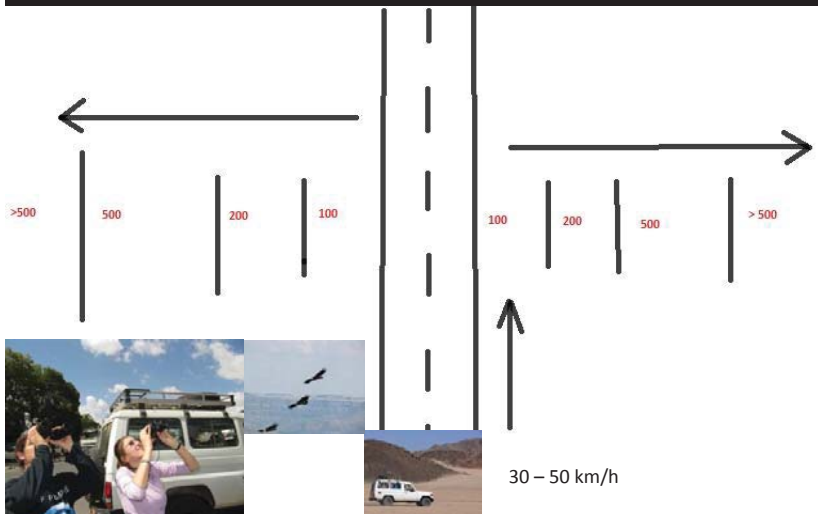
Field Protocol

Date	Start time	End time	Weather	Counters					Track name	Track length	Comments	
Counting point	Number of pylon	Type of pylon	Habitat	Distance to point	juveniles	2nd plumage	3rd plumage	4th plumage	5th plumage	adults	Unidentified	Comments

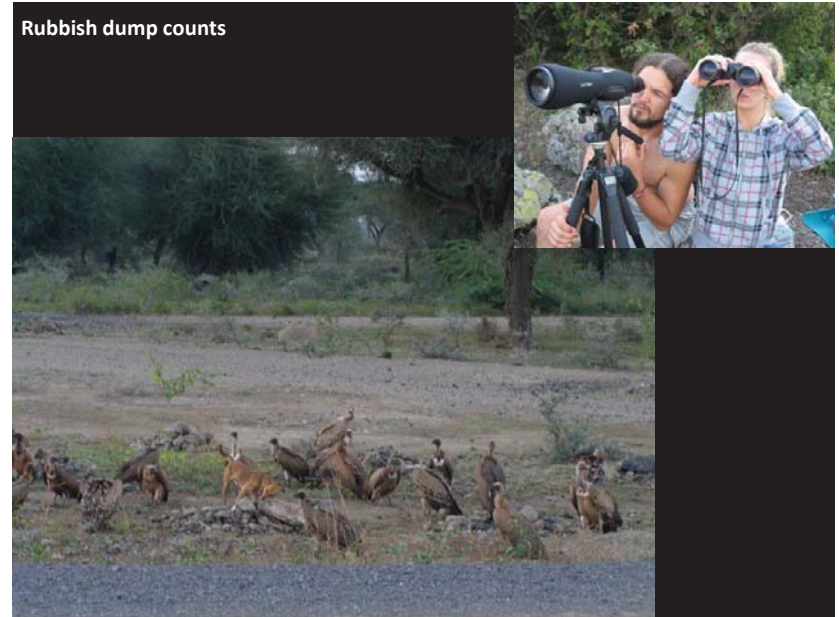
Field Protocol

Date	Start time	End time	Weather	Counters			Track name	Track length
Time Observation	Observation point	Species	Number	distance band(100/200/500/>500)	Age	Flying/Perching	Habitat	Comments

ROAD COUNTING



Rubbish dump counts



Field Protocol

Date	Start time	End time	Weather	Counters	
Observation point coordinates	Carcass/rubbish dump coordinates	Species	Number	Age	Comments

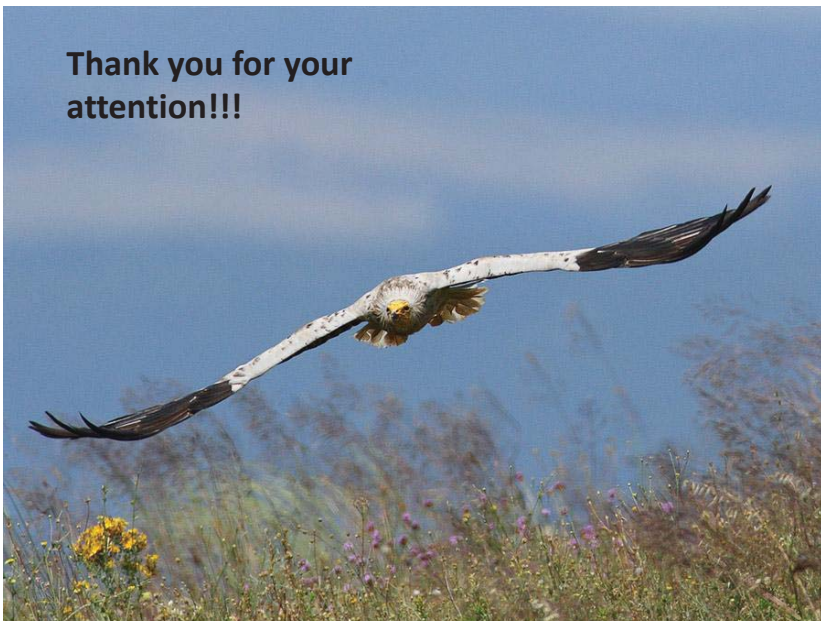
Acknowledgements



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Thank you for your
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Limiting factors and collecting information on the issue



Volen Arkumarev
BSPB/Birdlife Bulgaria

10th of January 2013, Addis Ababa, Ethiopia

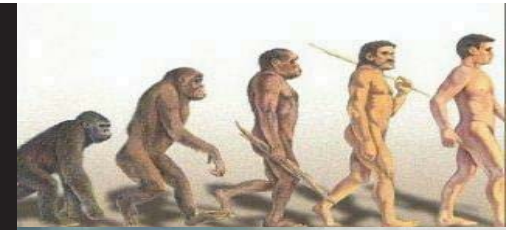
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“In the beginning there were vultures...”



Our human story began some 3-5 million years ago when a simian beast tumbled out of a tree and cautiously slouched off across the great open plains of Africa.



Long before our beginnings there were vultures: for over 20 million years vultures lived in the Old World. For all this time there was neither sight nor sound of man and his less aggressive mate and the vultures were free and untroubled. But now there are few vultures and man and his mate come to dominate Mother Earth.

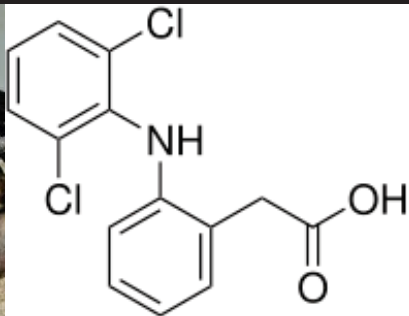


For millions of years vultures sallied forth every day into Africa's blue skies without fear. But today Homo sapiens has erected an invisible "Great wall of China" across Africa and daily the vultures smash into it!" (Mundy 1992)

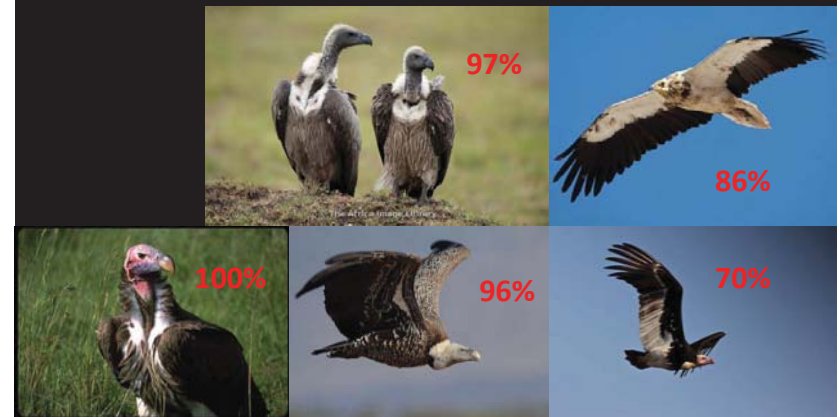


Vulture decline

Vultures in India have declined dramatically by 98% due to the use of the veterinary drug Diclofenac



In West Africa vultures outside protected areas have declined significantly in the last 30 years (Thiollay 2006)



Vultures in and around Masai Mara, Kenya have the same fate... (Virani et al 2010)



Main threats

- Poisoning
- Direct persecution
- Use in traditional medicine
- Electrocutation
- Habitat loss and degradation
- Collision with vehicles
- Disturbance
- Collision with wind turbines

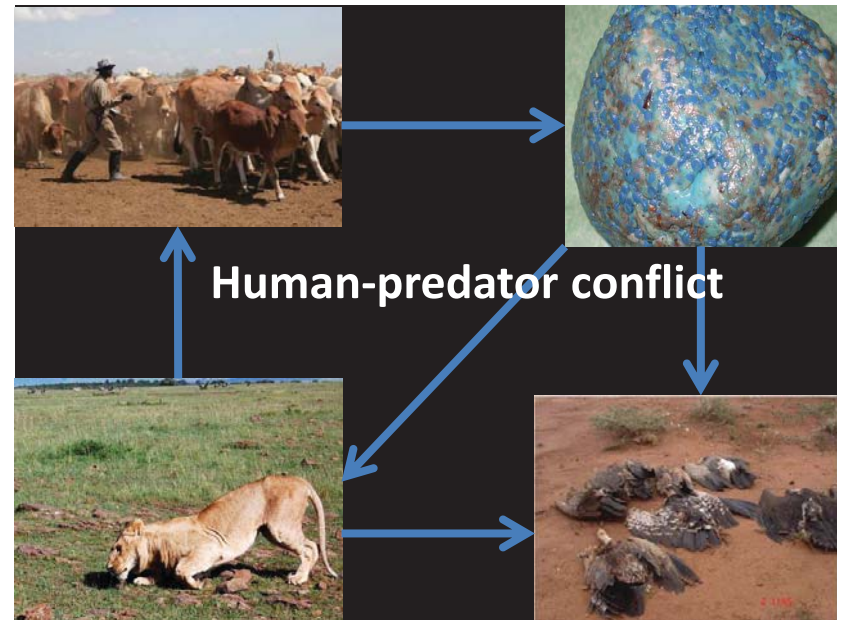


Poisoning is known to be the main cause for vulture decline in a list of countries across Africa and Europe

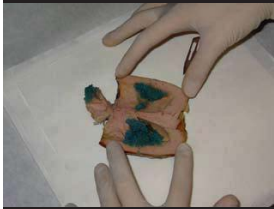


Poisoning

- Poisoning after consuming poison baits for carnivores or feral dogs
- Poisoning with pesticides and insecticides
- Poisoning on rubbish dumps
- Lead poisoning
- Mortality due to high concentration of antibiotics and proliferation of diseases
- Poisoning after consumption of food with high concentration of veterinary drug



sausage filled with metaldehyde



chicken necks filled with strychnine



Poison baits

Baits prepared with discarded or out-of-date food (Giorgi et al 2011)



chicken head soaked with organophosphorus and carbamate pesticides



lard cubes drenched with strychnine

Cocktlails



block of ham filled with anticoagulant rodenticides and metaldehyde



sausage filled with anticoagulant rodenticides and organophosphorus and carbamate pesticides

Baits containing non-toxic material



Pieces of sausage concealing razor blades



chunks of meat combined with glass slivers

Baits prepared with non-food material



plastic toy filled with strychnine



tennis ball filled with organophosphorus and carbamate pesticides

Mortality due to high concentration of antibiotics and proliferation of diseases



Direct persecution



Egg collection

Taxidermy



Traditional medicine



Poisoning after consumption of food with high concentration of veterinary drug – Diclofenac and other NSAIDs



NDC 11673-604-59

n
0 mg
r reducer (NSAID)
ve ingredient in
n Tablets**
arnings information

Use of vultures in traditional medicine or for magic



- 2251 ind of 199 species were recorded in Nigeria in 1999. Ninety three vultures of 6 species – Egyptian (1), Hooded (18), White-backed (5), Ruppells (15), White-headed (1), Palm-nut Vulture (23). (Nikolaus 2001)



- Vultures are scarce now In Nigeria and they are imported from Chad, Cameroon and Niger to fulfill the growing demand

What are vultures used for?

- Whole vultures are used for protection against evil influences or for women's fertility
- Hooded vultures are buried in the ground before a new house is built
- White-backed vulture's plumage is used for contacts with ancestors



- Some tribes use parts of vultures to cure malaria
- Vulture's bones are used to cure headache and insomnia

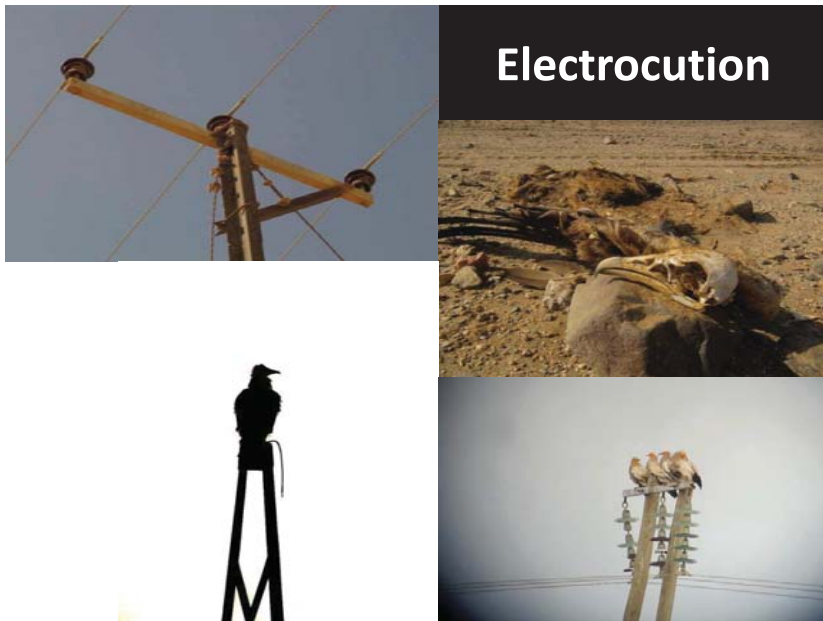


- Vulture's brain is used for clairvoyance

Collecting information on the issue

If fetish and "juju" markets are visited to be collected information about the vulture use in magic rituals or medicine, the demand, trade, who and how kills the vultures, costs





Collecting information

- This issue is not well studied in Africa. Further research is needed especially in areas with big congregation of wintering Egyptian vultures. In such places ground surveys under dangerous power lines to be conducted.
- Take GPS coordinates of each pylon
- Take picture of each different type of pylons
- Birds found in a radius of about 5-7m around the pylon to be considered as died from electrocution. Birds found farer under the wires to be considered as died from collision

Habitat loss and degradation

Desertification

Overgrazing

Collision with vehicles



Thank you for your attention



Photo: Kaloyan Hristov

Collision with wind turbines



Acknowledgements



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neophron percnopterus

Field Guide

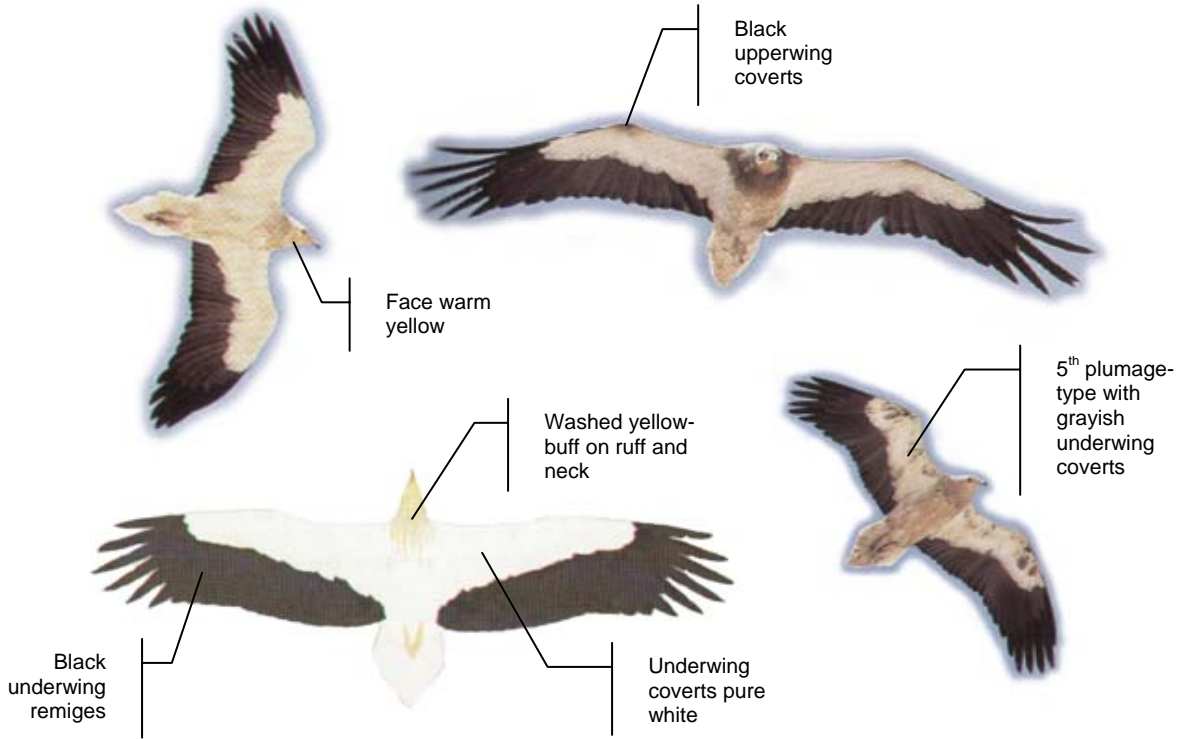


edited by Tuisku Lehtiniemi 2003

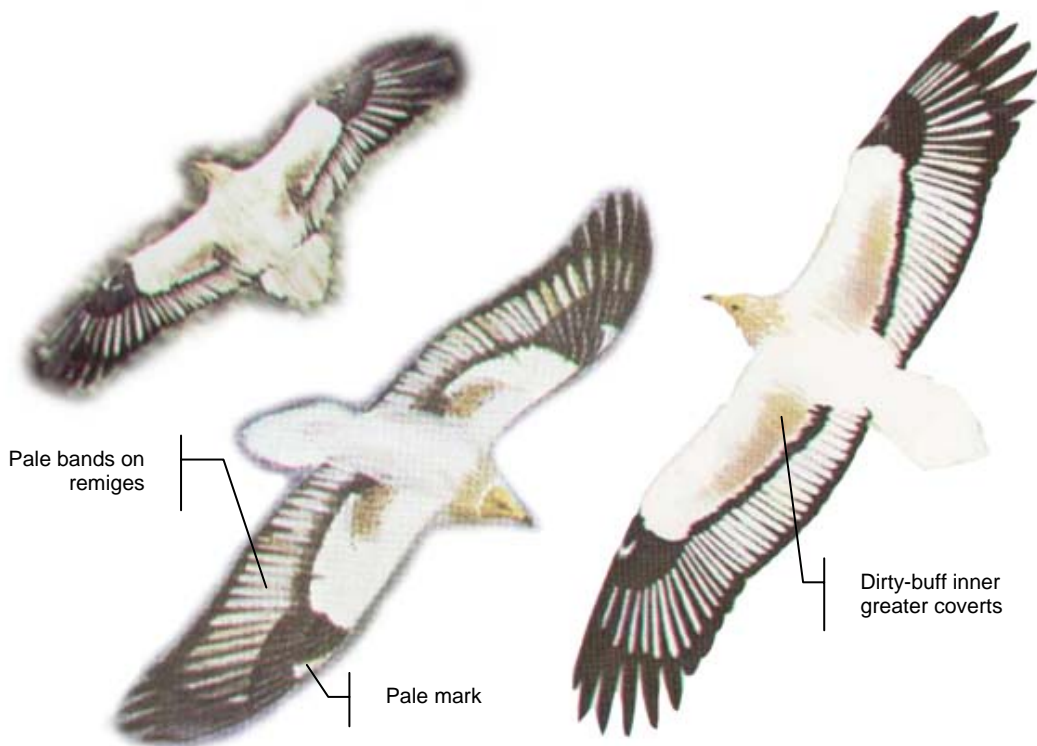


ADULT / 5th PLUMAGE

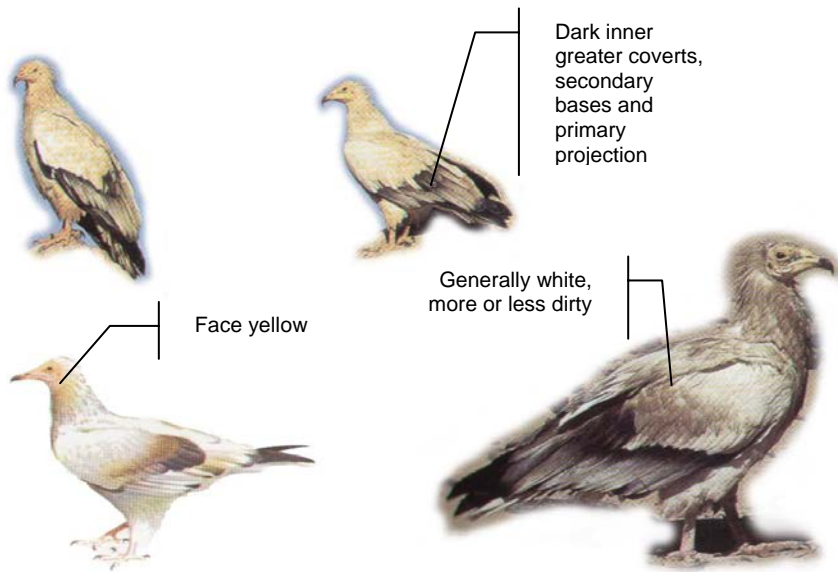
Flying - below



Flying - above



Perching



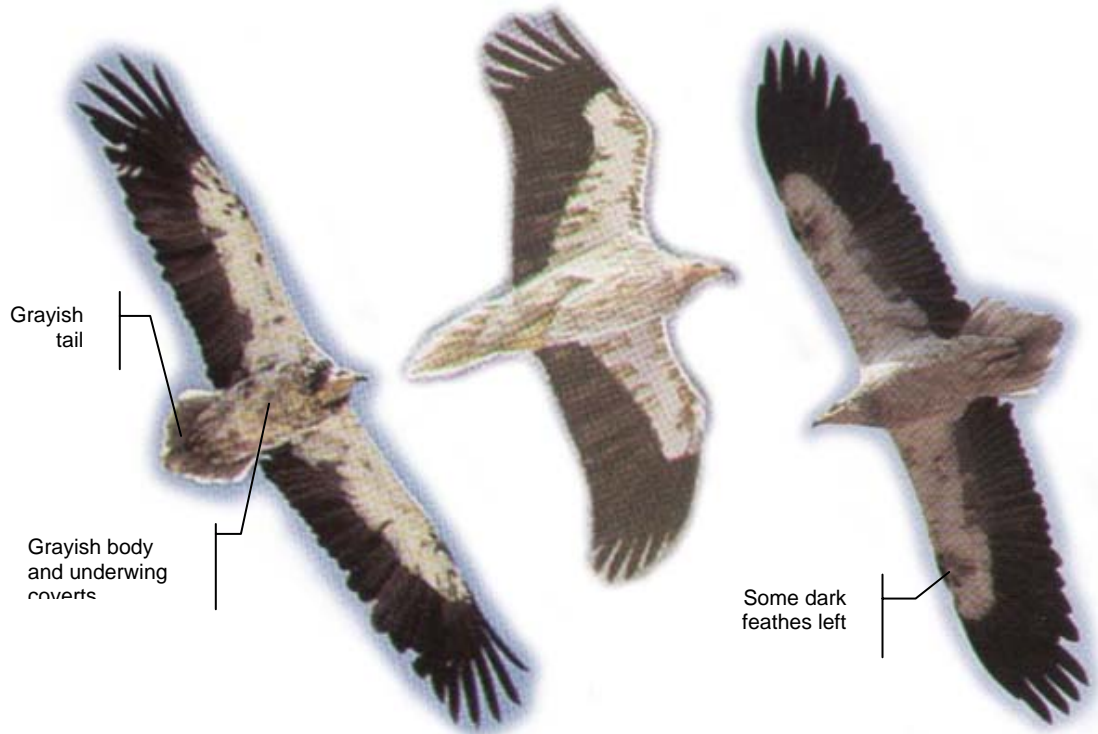
FIFTH/ADULT Main colours white and black. Fifth plumage with some retained grayish underwing coverts, dirty-look. The adult plumage is black and white from below with no dark feathers among the underwing coverts. (a fifth plumage-type probably precedes the adult plumage, differing from full adult by a few retained dark feathers to the underwing coverts).

Bill: tip black
Head: dirty white
Face: orange-yellow
Legs, feet: pinkish, warm yellow
Body: white
Underwing coverts: pure white
Underwing remiges: dark/black
Upperwing coverts: primary coverts black, inner greater coverts dirty white
Upperwing remiges: black with pale centers on secondaries or pale shafts on primaries above
Tail: white

Notes

4th PLUMAGE

Flying - below



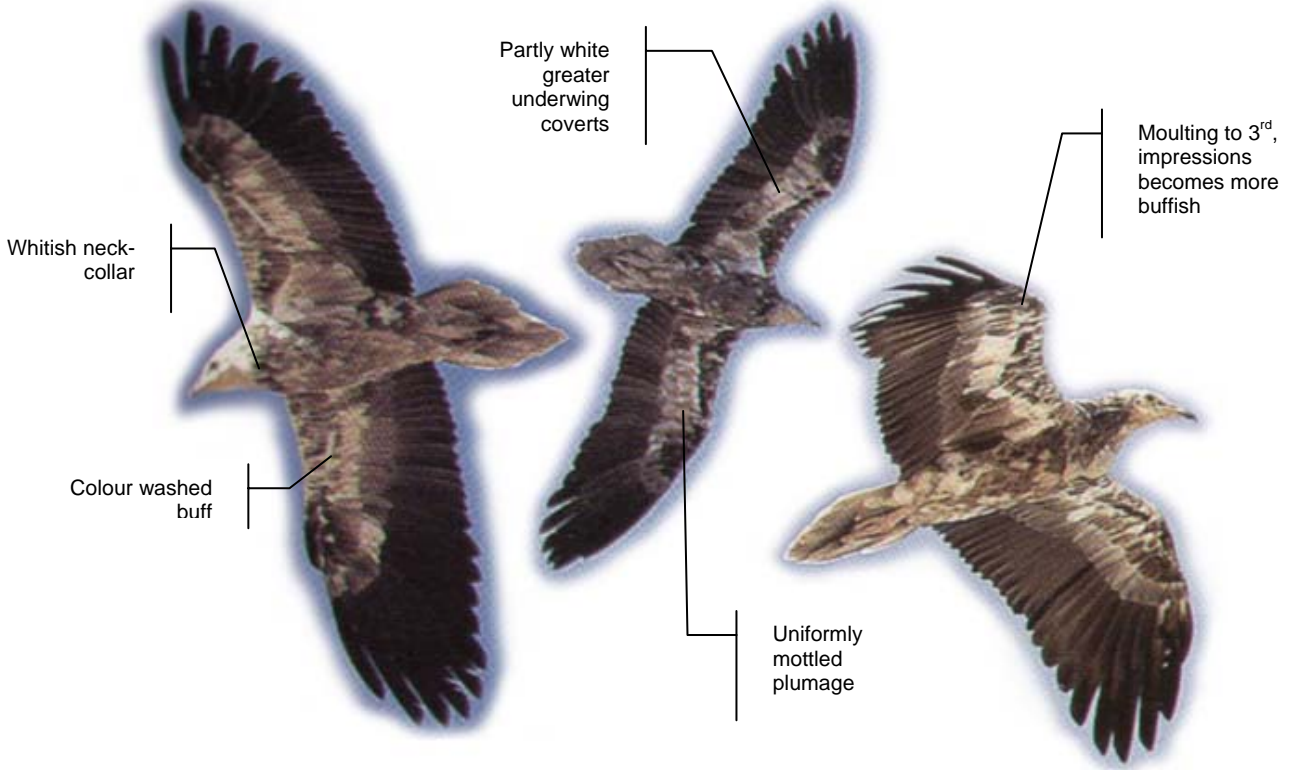
FOURTH Like dirty adult. The fourth plumage is predominantly white, but still shows lots of brown feathers among the underwing coverts whereas the collar is predominantly pale.

Tail: grayish
Underwing coverts: greater grayish
Body: grayish

Notes

3rd PLUMAGE

Flying - below



Flying above / perching



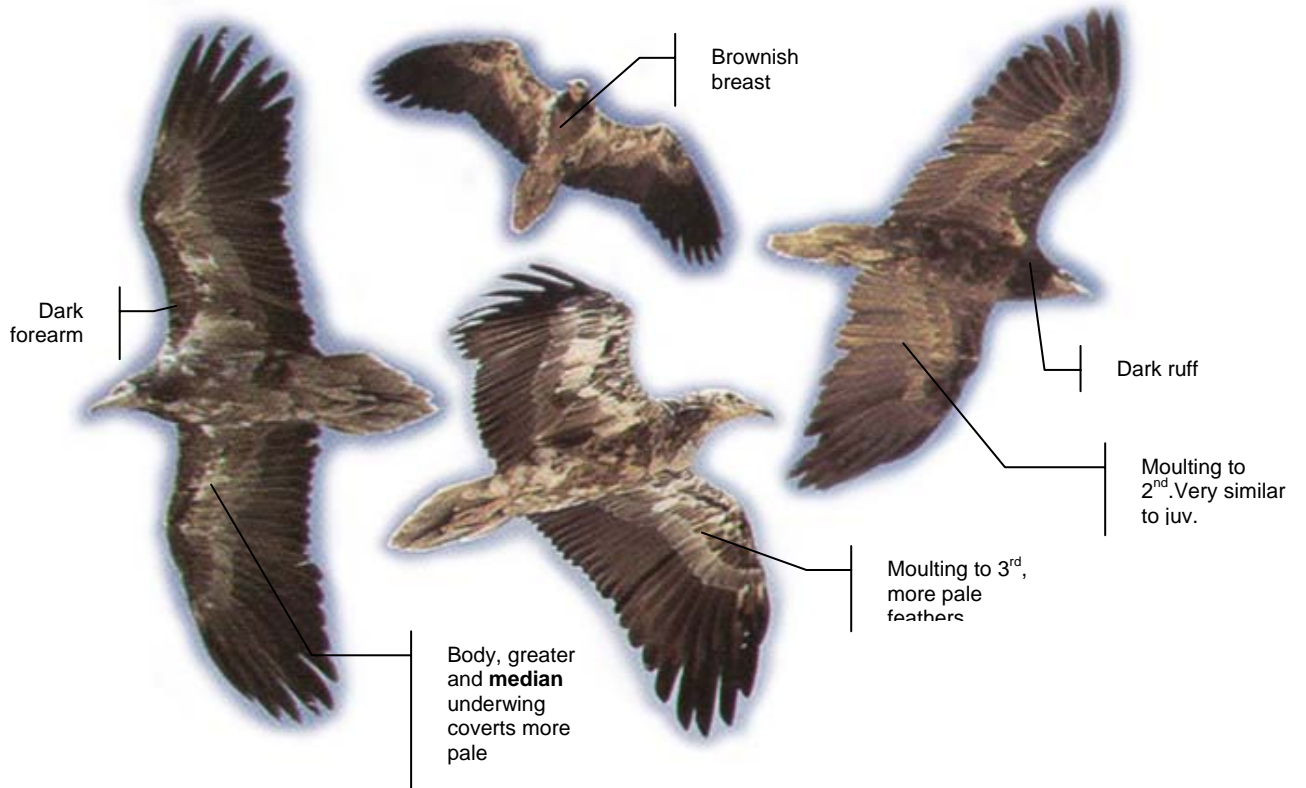
THIRD Partly white (greater) underwing coverts. Some pale feathers in underwing coverts and body. Often appearing biscuit-coloured from a distance. The third plumage shows increasing numbers of pale feathers in

underwing coverts and underbody, often appearing biscuit-coloured from a distance but mottled from close up with a darker collar. Neck collar whitish. Uniformly mottled plumage.

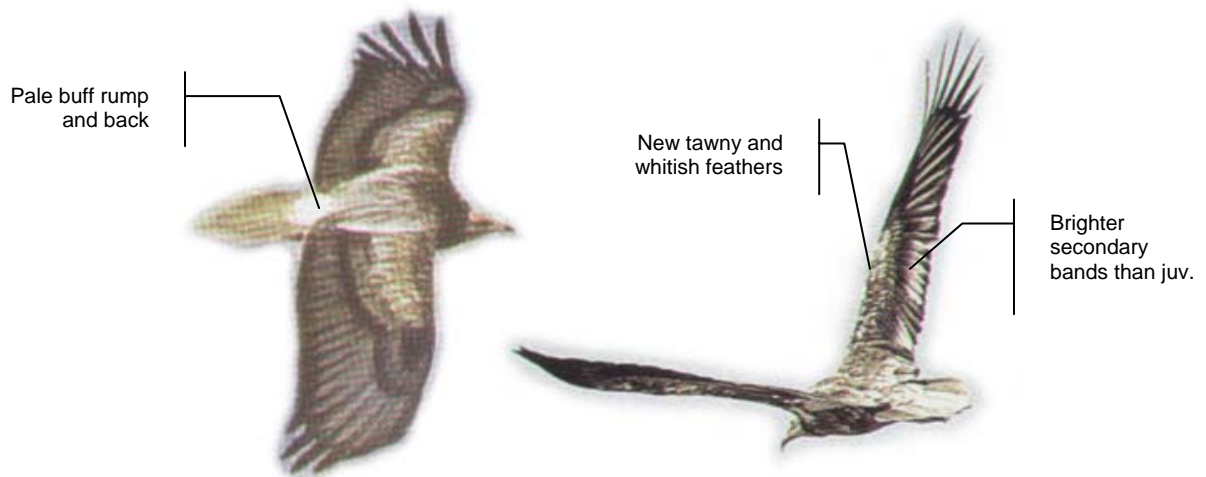
Notes

2nd PLUMAGE

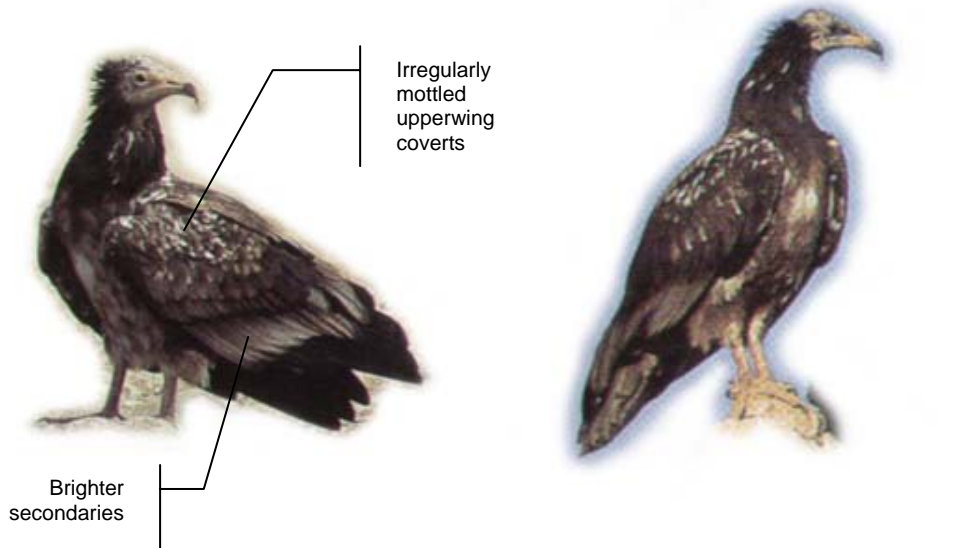
Flying below



Flying above



Perching



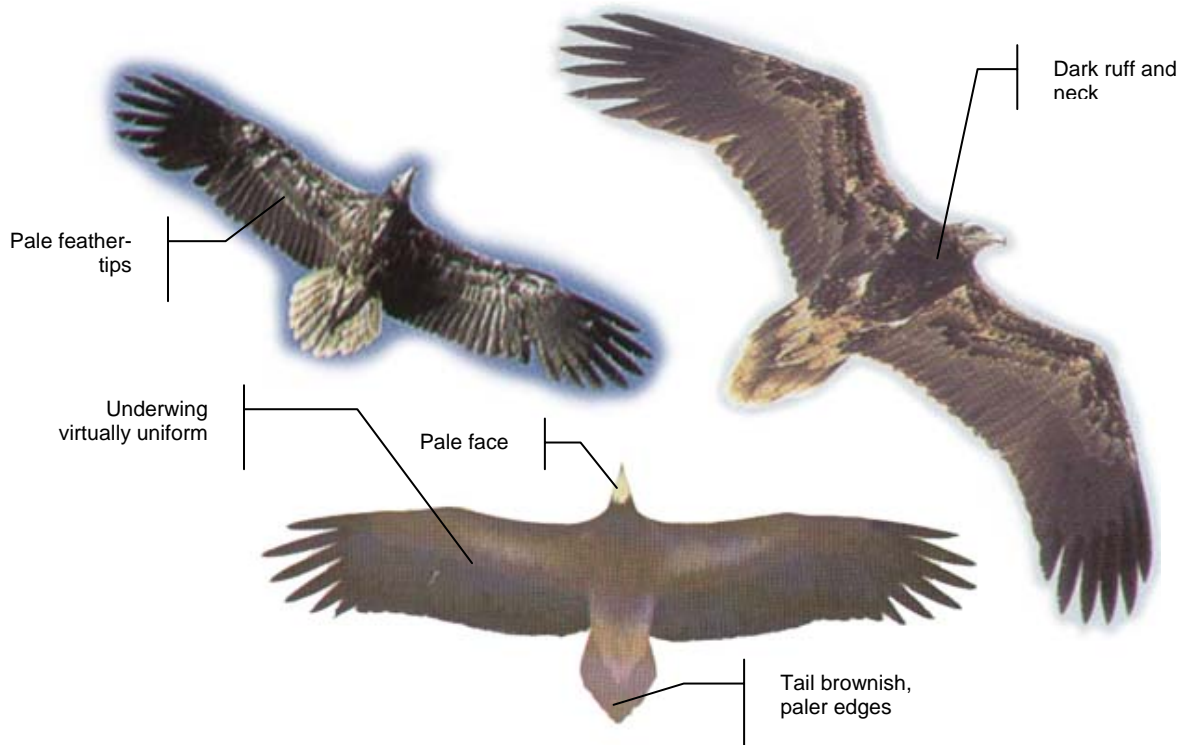
SECOND Like juvenile, possible to separate only at close, if moulting details are seen. Dark neck collar and head. Some pale median

underwing coverts. Body and greater and median underwing coverts more pale. Partly whitish. Tail: more pale

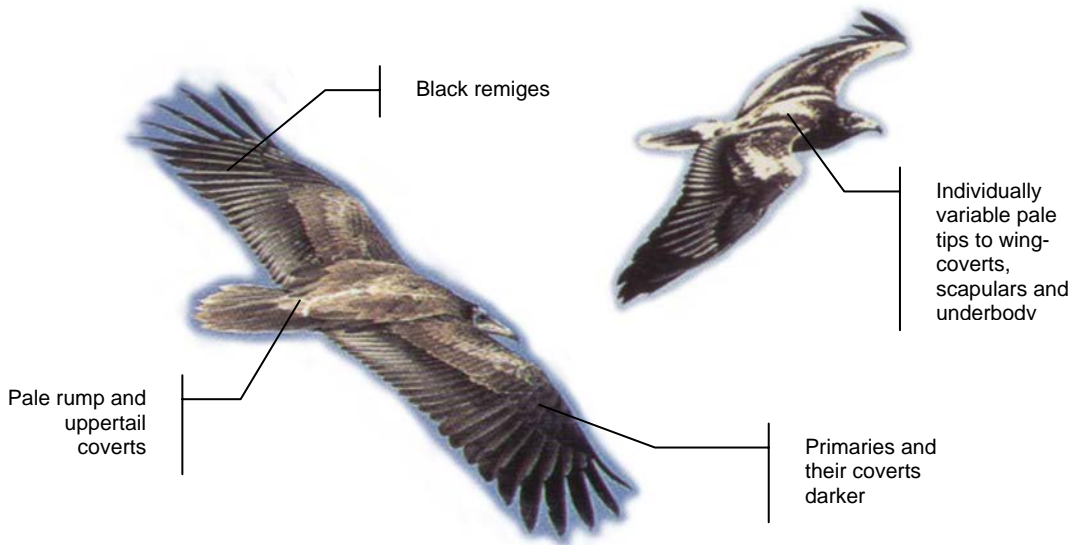
Notes

JUVENILE

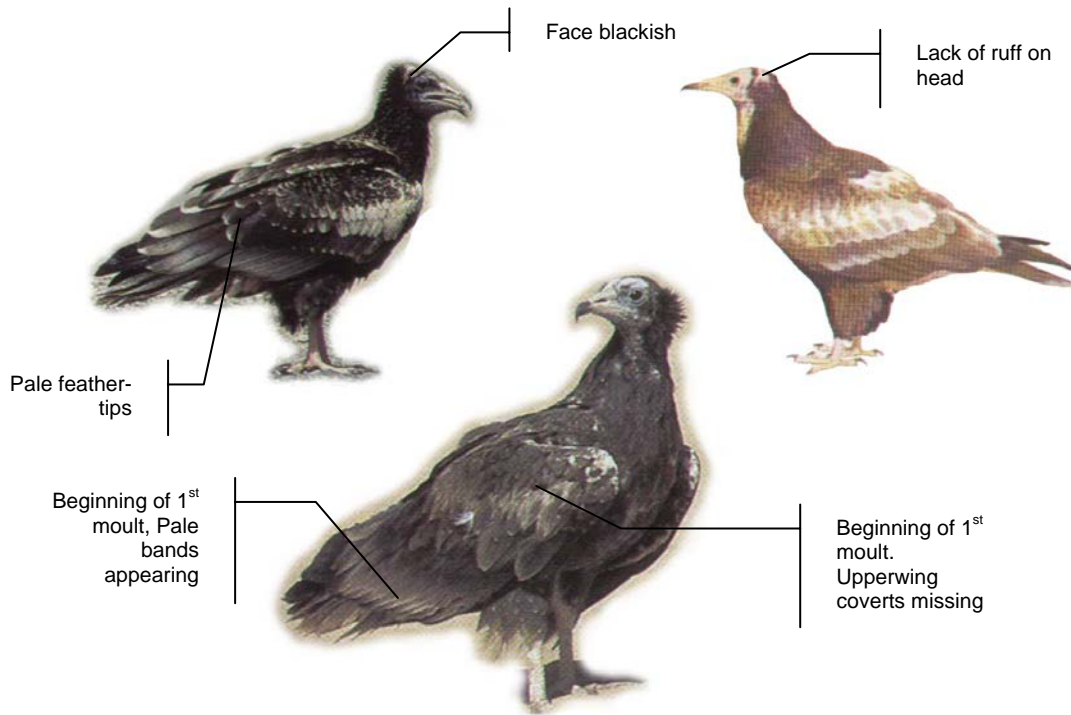
Flying - below



Flying - above



Perching



JUVENILE Main colours brown. Mostly brown juvenile and second plumage possible to separate only at close range, if moulting details are seen.

Bill: tip black
Head: dark/brown
Face: grey/dark/blackish
Legs, feet: grey
Body: dark/brown
Upper- and Underwing coverts: paler
Upper- and Underwing remiges: dark/brown
Tail: more pale

Notes

AGES



Juvenile



2nd plumage



3rd plumage



4th plumage



5th plumage



Adult

GENERAL

Length 60-70 cm/56-65 cm/63-75 cm
tail 18-22 cm
Wing-span 158-163/cm 155-180 cm/164-168 cm/163-171 cm

Flight actions include less gliding and more active flight than large vultures.
Takes off much faster and generally more adept in restricted space.
Soar and glides with wings flat or slightly bowed.
Has extended searching flight, and will scan ground with perseverance.

Sometimes traveling long distances to find food. Hunting area of pair often less than 12 km². Food always carried in bill. Comparatively weak bill can tear only soft tissues, and when feeding with other vultures mainly picks up scraps and pecks over bones. Also eats all kind of organic litter.

Commonly seen close to human settlements, on rubbish dumps and around villages.

Little information on size of total home-range of pair but well-defined foraging area said not to exceed 12 km².

Birds rarely moving more than 4-5 km from nest. Nest sites often traditional. Nests on sheltered ledge or in cave on cliff. Usually where in shade most of day.

Nests: slight to bulky pile of branches; 70-150 cm diameter, 20-70 cm high. Branches up to 50 cm long. Lined, or covered, with thick layer of rubbish, including paper, rags, bones, droppings.

Incubation 42 days by both sexes. Young cared for and fed by both parents.

IDENTIFICATION

Identification summary

Diagnostic silhouette, with rather long and rectangular wings, a rather sharply wedged tail and a narrow and pointed head.

Older birds show diagnostic plumage in black and white. Older immatures and sub-adults resemble adults but retain brownish feathers to underbody, and wing coverts. Juveniles and young immatures are predominantly brown, but tail is paler brown with a pale and translucent margin and with individually variable pale markings to rear body as well as to upper- and underwing coverts, often forming pale wing-bands.

When perched, unmistakable if seen well, bare face and slender bill diagnostic. Rather long-winged and short-tailed with wing-tips reaching tail-tip.

Active flight relaxed and rowing with rather stiff wings and high wing-beats, somewhat reminiscent of Honey Buzzard or Booted Eagle. Soars on nearly horizontal and flattish yet smoothly arched wings.

Mostly rather easy to identify by characteristic plumage and silhouette. Largely brown juveniles and immatures can be superficially similar to *Aquila*-eagles, but show more narrower hand than arm, pointed tail and different flapping flight.

Mistakes

Adults with other black-and-white birds

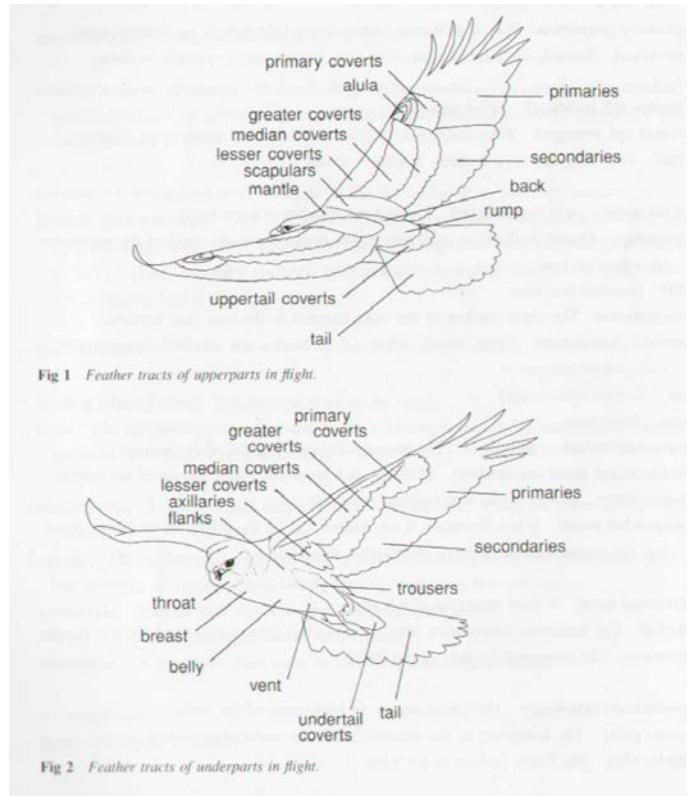
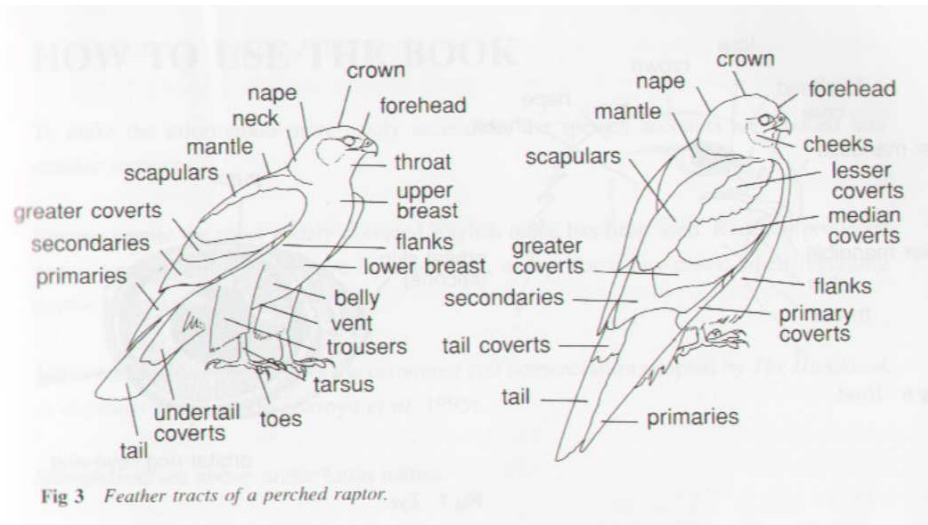
- White Stork *Ciconia ciconia*
- Booted Eagle –pale morph *Hieraaetus pennatus*
- Bonelli's Eagle *Hieraaetus fasciatus*
- Osprey *Pandion haliaetus*
- Short-toed Eagle *Circaetus gallicus*
- Common Buzzard–pale morph *Buteo buteo*
- Honey Buzzard–pale morph *Pernis apivorus*

Juveniles with other same size dark birds of prey

- Lesser-spotted Eagle *Aquila pomarina*



TERMINOLOGY



Notes

- Buff -yellow-brown
- Tawny -yellow-brown
- Remiges -wing-feathers; secondaries and primaries together
- Ruff -hairy collar

NOTES

Pictures and texts from books:

Cramp & Perrins: Handbook of the Birds of Europe, the Middle East and North Africa – The Birds of Palearctic – Volume II Hawks to Bustards

Jonsson, Lars: Birds of Europe

Forsman, Dick: The Raptors of Europe and The Middle East

Edited by Tuisku Lehtiniemi 2003

SHORT METHODOLOGICAL GUIDELINES
FOR SURVEYING EGYPTIAN VULTURES
(*NEOPHRON PERCNOPTERUS*)



By Vladimir Dobrev, Volen Arkumarev & Stoyan C.
Nikolov



2013

AIM:

Build capacity to support the conservation of migratory Egyptian Vultures (Neophron percnopterus) from the Western Palearctic on their wintering grounds in Africa.

ACKNOWLEDGEMENTS:

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and

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1. METHODOLOGIES FOR SURVEYING WINTERING EGYPTIAN VULTURES

1.1. COUNTING OF ROOSTING EGYPTIAN VULTURES

Steps:

- A. Defining the study area
- B. Study period and timing
- C. Census techniques

A. Defining the study area:

The very first thing before the real counting is to determine the study area. The ideal situation is to use data from tagged birds wintering in a certain region. All available data on the area should be collected and should be considered as well. Generally because the lack of vegetation and appropriate cliffs in the main wintering areas of Egyptian vultures (in Ethiopia and Sudan) they prefer to roost on an artificial infrastructure made by people like the electricity pylons. Electricity pylons ensure the Egyptian vultures with a perfect substrate for roosting and of course many roosting places on each single pylon needed for the high number of birds using it. Excluding the different size of the pylons, they are usually situated along the main roads which connect different villages and states. Considering this, most of the pylons with potentially roosting Egyptian vultures should be searched along the main roads.

B. Study period and timing:

Period: November – February.

Timing: Counting of roosting Egyptian vultures has to start in the afternoon but not before 15:30 because during the day birds are dispersed searching for food in the open lands and along the settlements. Counting should continue till dark.

C. Census techniques:

Transects: Transects along roads is the most appropriate method to be applied (Bibby et al., 2000). The survey has to be implemented by a vehicle. Vehicle will drive on the road and counters have to choose the counting points. Counting points are selected subjectively. They should be consecutively, they should provide a good visibility to the counter towards the pylons and they are selected by the counter. Usually because of the terrain and the specifics of counting, the distance between counting points can't be greater than 4 km which means that one counting point includes pylons in radius of 1-2 km. Vehicle stops at each counting point. One counting point should be used for counting as many pylons as possible from the point in order to count and define the age of the birds appropriately. When finishing with the first counting point the team is moving forward and stops on the next counting point. The second counting point is situated so that the counter can clearly see the last counted pylon from the first point and as many pylons as possible way ahead. Then it comes the third counting point and the team implements the same operation again. Also the distance to every single pylon from the counting point should be measured with the GPS options.

Counting will be finished when the light is too weak to distinguish the number and the age of the birds. In the end of the counting the length of transect should be written down.

Weather conditions: Study should be conducted only during appropriate weather conditions (with good visibility - without fog, heavy rain, etc.). Weather conditions should be good because all the roosting birds on the pylons should be counted and aged following Clark and Schmitt (1998). At the starting point, the weather conditions should be recorded. If the weather conditions change during the survey, this should be mentioned at the counting point where this was observed.

Coordinates: At all counting points coordinates should be recorded and the track of the transect should also be recorded by GPS devices. GPS devices have to be set in decimal coordinates and the track log has to be switched on.

Team: Two persons per team are needed for this survey. One person is counting the Egyptian vultures on the pylons, and the second one is writing the information in the field protocol

Bird counts: Total number of the Egyptian vultures in different age classes should be written per each pylon. If birds on a pylon are already counted but leave the pylon they are subtracted and those who are alighting are added.

Pylons and habitat description: The main type of habitat per each pylon has to be written down as well. Different types of electricity pylons have to be shot with camera. If the Egyptian vulture are roosting on a substrate different from a electricity pylon a description and coordinates of the substrate are needed.

Field protocol: All the data have to be filled in a field blank and after that in a Excel table (**see Annex 5.1**).

NB: Following the same methodology other vulture species can be counted as well especially Hooded vultures (*Necrosyrtes monachus*) which use to roost on a Communication towers in the settlements.

1.2. ROAD COUNTS OF EGYPTIAN VULTURES AND OTHER BIRDS OF PREY

Road counts should be conducted as follows, in order to standardize between countries:

- Counters will start at a set point, note down weather conditions, and zero the odometer.
- Vehicles will drive at a standard 30 km/hr, but up to 40 km/hr on public roads where there are fewer large raptors but more vehicles. Stops will be made for most raptor sightings, so the overall average will be 20-25 kph in parks, 30-35 outside; but of course nearby easily-identified birds can be counted on move. After stopping, common sense should be used to only include those birds you would have probably seen. If you get down from the vehicle to identify a flock of birds or an individual (although there is nothing wrong in having "Unidentified raptor"), then:

- Do not count raptors behind the vehicle, unless they are flying in that direction from the front of the vehicle;
- You may count the birds you see in FRONT of the vehicle or in the arc above 9 and 3 o'clock of the vehicle, but you MUST be aware of double counting;
- You MUST restrict your count time to only 3 minutes from when you stopped;
- For consistency, surveys should start at 8.30 AM and finish at either 4.30 or 5.00 PM depending on the season;
- The route will be recorded on GPS and counts will be done in sections of c. 50 km each (estimated on odometer);
- The field vehicle should have roof access;
- A minimum of two observers should be seated on vehicle roofs in protected areas, or observing through roof hatches / pop-up roofs on public highways;
- Observations of all raptors and vultures, should be made in width bands of 100 / 200 / 500 and >500 metres. Perched and flying birds should be recorded separately. Flying bird distances are recorded at the point when first observed;
- Raptor numbers will be expressed as birds per 100 km;
- The predominant land use/habitat within a circle of 100m radius of where the bird is seen will be recorded for each observation;

The data should be filled in field protocols and after that in a Excel Table. (*see Annex 5.2*).

1.3. COUNTS AT RUBBISH DUMPS AND CARCASSES

Rubbish dumps and carcasses are the most common place where vultures gather. Finding such places is an occasional event especially for the carcasses. For counting vultures on a rubbish dumps or carcasses an observation point should be set on a distance avoiding disturbance of the birds. After that all the birds should be counted and their age has to be defined. In order to count total number of the vultures, arriving and leaving birds will be add or subtract. A GPS point and a picture should be taken both for the counting point and the rubbish dump or carcass. The date, start time and end time of counting also has to be noted. (*see Annex 5.3*)

2. METHODOLOGIES FOR SURVEYING NESTING EGYPTIAN VULTURES IN AFRICA

2.1. SEARCHING AND MONITORING EGYPTIAN VULTURE NEST SITES IN AFRICA

The first step is collecting of all the data available for the area that is planned to be surveyed in order to mark the appropriate nesting sites. For the Egyptian vulture these sites represent gorges, canyons, big single cliffs, etc. Searching for nests should be based on observation points close to big cliffs. The observer is setting an observation point and starts scanning the cliff with a scope. The cliff should be carefully checked for perching and roosting birds, birds flying around the cliff and white washes, which usually indicates roosting places and nests. The bigger is the cliff the longer observer should stay on the observation point but not less than 2 hours. Vultures are very social and the presence of other vulture species on the cliff is a good indicator for possible presence of Egyptian vultures. If the observer see Egyptian vulture/s he or she has to watch closely the birds as long as possible in order to see them if they alight in some niche, crack, hole, etc. If a nest is found the observer has to try to understand if the nest

is occupied. If it is, the observer has to try to identify the status of the pair – successful or not. If the pair is successful the observer has to count the chick/s. A GPS point should be taken for the observation point (OP). A picture of the nesting cliff and the part with the nest is needed also. The date, start time and end time of counting also has to be noted. Except for the Egyptian vulture the same data can be collected for other cliff nesting species while searching for Egyptian vulture nests. The data should be filled in an Excel table (*see Annex 5.4*).

2.2. COLLECTING DATA FOR OBSERVED VULTURES AND OTHER RAPTOR SPECIES

Vultures and raptors are an indicator for the ecosystem. That's why is very important to collect data for the distribution of the vultures and raptors. All observations of vulture and raptor species have to be written. The date, time and the coordinates are needed for every observation. If the observer finds a nest he/she has to take coordinates of the nest, to write type of the substrate and the number of chicks (if present).

3. SURVEYING MAIN THREATS TO EGYPTIAN VULTURES

3.1. POISONING

3.1.1. Background

Poisoning is known to be the main cause for vulture decline in a list of countries across Africa: South Africa, Namibia, Botswana, Kenya, Tanzania, Burkina Faso, Nigeria, Siera Leone, Algeria, Tunisia, Morocco (ARN 2010), Sudan (Wilson 1982), Niger (Dragesco-Joffe 1993).

Egyptian vultures can be poisoned unintentionally after:

- Poisoning against wild carnivores or stray dogs;
- Poisoning with pesticides in the agriculture;
- Food contaminated with lead and other heavy metals;
- Consuming food with antibiotics and veterinary drugs;
- Deratization or contamination at rubbish dumps;

OR intentionally for the use in:

- Traditional medicine;
- Magic rituals (e.g. ju-ju).

3.1.2. Poisoning after consumption of poison baits placed for wild carnivores or secondary poisoning after consuming poisoned wild carnivores.

Poisoning is usually practiced by livestock owners to defend their livestock from terrestrial predators such as lions, hyenas, stray dogs. This is achieved by scattering poison baits or even animal carcasses sprinkled with poison.

Different poisons are used but mainly:

- Carbofuran;
- Strychnine;
- Metaldehyde;
- Zinc phosphide;
- Organophosphates etc.

Usually vultures become incidental victims of campaigns against predators by finding and eating poisoned carcasses and baits (Mundy et al 1992) or eating the animals which have died of poisoning. Egyptian vultures are even more susceptible to this kind of poisoning because they scavenge on smaller items and can easily detect and consume even small poison baits scattered in the field. Following Whitfield et al. (2003) a poisoning incident involved evidence of the use (or intention of use) of a chemical as a poison in an attempt to kill a scavenging or predatory animal. Information on vulture poisoning cases can be obtained from authorities or local people by the means of questionnaires (*see Annex 5.5*), or this kind of study can be combined with an assessment study of protected areas.

When poisoned vultures are found information for the incident will be collected. In the protocol (*see Annex 5.6*) fill all the possible data which can be obtained:

- Date;
- Observers;
- GPS coordinates of the place where vultures are found;
- Poison nature;
- Type of poison baits (e.g. dead livestock, dead predator, dead wild animal, fat, pieces of meat);
- Reasons for poisoning;
- Target species;
- All the species that are found poisoned (vultures and other birds of prey, mammals) and their number.

3.1.4. Poisoning at rubbish dumps

- Roots of the problem: Big numbers of Egyptian vultures very often congregate and use rubbish dumps as predictable source of food. The attractiveness of the rubbish dump for scavengers depends on the amount of organic waste that is regularly dumped. They are very important stepping stones in vulture's migration and also visited in the wintering grounds. On the other hand they pose very high risks to vulture's health and life.

- Nature of the problem: Egyptian vultures and other scavenging birds may become victims of contaminated food or massive poison campaigns against stray dogs and rats at rubbish dumps in some African countries.
- Data collection: Collecting information on the issue can be combined with regular rubbish dump counts. The same information as in **Section 1.1** could be collected and filled in field protocols (*see Annex 5.6*) and later on in an Excel table.

3.2. DIRECT PERSECUTION FOR USING DEAD VULTURES IN TRADITIONAL MEDICINE OR FOR MAGIC

- Roots of the problem: There is a widely held belief in many African cultures that health, disease, success or misfortune are not chance events but the result of the active influence of individuals or ancestral spirits (Berglund 1976). Traditional medicines represent herbal, animal and mineral material used for physiological as well as symbolic/psychological purposes (Cunningham 1991). Vultures are believed to be important for traditional medicine and magic rituals in South and West Africa but there are still gaps in our knowledge on the issue and more studies have to be conducted in order to understand its significance for the vulture decline.
- Nature of the problem: Vultures are shot or poisoned and then whole birds or their parts are traded in fetish markets. To assess the importance of this issue a depth study is needed.
- Data collection: The first step is to gather all available information about the fetish markets in the study area. Then visits and inspections of every fetish market have to be done in order to collect information on the products that are on sale. All vultures or parts of them have to be counted and described. If possible, speak with the traders and ask about the price, the use and the origin of the birds (*see the Questionnaire II in Annex 5.7*). After every market visit fill summarized data for every interviewed trader separately in the protocol (*see Annex 5.8*).

3.3. ELECTROCUTION

- Roots of the problem: The Egyptian vultures quite often use electricity poles as resting or roosting sites – in their breeding territories, during migration and in the winter grounds.
- Nature of the problem: This behaviour can have fatal consequences as some poles of the low-voltage (20KW) network in particular are extremely hazardous for the birds – when perching, or taking off they can be electrocuted.
- Data collection: This issue is not well studied in Africa. Further research is needed especially in areas with big congregation of wintering Egyptian vultures. In such places ground surveys under dangerous power lines need to be conducted. First study area has to be chosen. With priority are areas where big numbers of Egyptian vultures are known to be wintering – from satellite telemetry or scientific papers. The survey is best to be conducted not earlier than the beginning of November and not later than the beginning of February in accordance with the migration of the species. The ground survey includes walking under the power line and checking for dead birds. Pylons inside villages and towns have to be excluded. For every transect use a separate field protocol. Surveyors

have to choose a start point, set their GPS devices in decimal coordinates and write down date, names of the surveyors and weather conditions. Every pylon requires GPS point. Pictures have to be taken of every new type of pylons. Every pylon is later identified by its GPS point and code which have to be related to the type of the pylon. Habitat for every pylon also has to be described. Birds found in a radius of about 5-7m around the pylon to be considered as died from electrocution. Birds found farer under the wires to be considered as died from collision. For every dead bird the following information will be filled in the field protocol – species, number, sex and age if possible, age of the carcass, reason for mortality (electrocution/collision) (**see Annex 5.9**).

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5. ANNEXES: follow

ANNEX 5.1. Field protocol for counting roosting Egyptian vultures

Date	Start time	End time	Weather			Counters			Track name		Track length	
Counting point	Number of pylon	Type of pylon	Habitat	Distance to point	juveniles	2nd plumage	3rd plumage	4th plumage	5th plumage	adults	Unidentified	Comments

ANNEX 5.2. Field protocol for road counts

Date	Start time	End time	Weather			Counters		Track name	Track length
Time Observation	Observation point	Specie	Number	distance band(100/200/500/>500)		Age	Flying/Perching	Habitat	Comments



ANNEX 5.3. Field protocol for rubbish dump/ carcass count

Date	Start time	End time	Weather		Counters	
Observation point coordinates	Carcass/rubbish dump coordinates	Species	Number	Age	Comments	

ANNEX 5.4. Field protocol for observation of vultures and nests

Date	Start time	End time	Weather			Observers	
Time	OP coordinates	Species	Number	Species_coordinates	nest(Y/N)	Chicks_munber	Comments

ANNEX 5.5. QUESTIONNAIRES WITH LOCAL STAKEHOLDERS

QUESTIONNAIRES WITH LOCAL PEOPLE FOR THE PRESENCE AND THREATS FOR THE EGYPTIAN VULTURE	
1	<p>Question: Do you know this bird?</p> <div style="display: flex; justify-content: space-around;">   </div>
2	<p>When did you see this bird for the last time?</p>
3	<p>Can you show us where usually do you see Egyptian vultures?</p>
4	<p>Have you observed decline or increase in the number of Egyptian vultures? What are the reasons?</p>
5	<p>Is there any problem with predators in your area?</p>
6	<p>Have you ever found dead Egyptian vulture or other vultures? Why it was dead?</p>
7	<p>Are you aware of any threats to this bird?</p>
8	<p>What is the attitude of the people here to the Egyptian vulture?</p>
9	<p>Have you ever seen birds with rings or satellite transmitters? What is the attitude of the locals for these birds?</p>
10	<p>Can you tell us any interesting story about the Egyptian vulture?</p>
<p><i>If the space is not enough, please continue to the back...</i></p>	

ANNEX 5.6. FIELD PROTOCOL FOR POISON EVENTS

Date:		Start time :	End time:	Weather:	Observers:				
					General comments:				
Event ID:	GPS Coordinates	Type of the poison bait	Poison used	Reason for poisoning	Target species	Poisoned species (vultures, other birds, mammals)	Number	Habitat description	Specific comments

ANNEX 5.7. QUESTIONNAIRE FOR FETISH TRADERS
(according to Mander et al. 2007)

I. General information

1. Date
2. Name of the interviewer
3. Location/market

II. Trader information

1. Gender
2. Ethnicity
3. Name (optional)

III. Demand trends

4. Why do customers want vultures for? What are they used for?
5. What part of vulture do you sell (entire body, parts of the skull only, head and neck, parts of the body only, wings only)
6. What vultures do you prefer to trade (show picture of the different species – Egyptian, Hooded, White-headed, Rueppells, White-backed, Lappet-faced vulture)
7. Have requests for vulture parts increased? Are there more frequent requests this year compared to previous years? – Yes, No, The same
8. What are the beliefs in regard to vultures

IV. Supply trends

1. How many vultures or vulture parts do you buy/get in a month

Entire body	Head	Feet	Wings	Other

2. What price do you pay for vultures

Entire body	Head	Feet	Wings	Other

3. What price do you sell vulture parts for
4. Who do you get the vultures from?
5. Is it getting easier or more difficult to find vultures? What are the reasons
6. If vultures are scarce what can be done about this problem?
7. Do you know how the vultures that you trade are killed? How?
8. Does it matter if the vultures are poisoned?
9. Are there other animals that you can use instead of vultures that do the same job?

ANNEX 5.8. PROTOCOL FOR SUMMARIZED DATA FOR EVERY INTERVIEWED TRADER

Date	Location				
Species	Trader 1				
	Entire body	Head	Feet	Wings	Other
Egyptian vulture					
Hooded vulture					
White-backed vulture					
Lapped-faced vulture					
White-headed vulture					
Rueppells Vulture					

ANNEX 5.9. FIELD PROTOCOL FOR MARKED ELECTRIC PYLONS AND FOUND ELECTROCUTED BIRDS

Date	Start time	End time	Weather	Participants					
GPS Coordinates	Type of the pylon	Habitat	Dead birds (Y/N)	Species	Age/sex of the bird	Age of the carcass	Reason for mortality	Name of the picture	Comments