RECENT LITERATURE

P.J. Mundy

BAMFORD, A.J., MONADJEM, A. & HARDY, I.C.W. (2009). Nesting habitat preference of the African White-backed Vulture *Gyps africanus* and the effects of anthropogenic disturbance. *Ibis* 151: 51-62.

Nest-site data for the species in Swaziland, 2001 to 2007, were used to develop statistical models. Readily available GIS data combined with the simple model provided a prediction of habitat availability.

(email: ara@uniswacc.uniswa.sz)

BAMFORD, AJ., MONADJEM, A. & HARDY, I.C.W. (2010). Associations of avian facial flushing and skin colouration with agonistic interaction outcomes. *Ethology* 116: 1-8.

In early 2005 in northern Namibia, 243 interactions between Lappet-faced Vultures were documented, birds with flushed (= red) heads winning the majority of interactions against those with pale heads. A dimorphism was noted between adults, some having red throats and others blue. Hooray, at last social behaviour is being observed.

(email: ian.hardy@nottingham.co.uk)

BELLAN, S.E.., TURNBULL, P.C.B., BEYER, W. & GETZ, W.M. (2013). Effects of experimental exclusion of scavengers from carcasses of anthrax-infected herbivores on *Bacillus anthracis* sporulation, survival, and distribution. *Applied and Environmental Microbiology* 79: 3756-3761.

Vertebrate scavengers were excluded by placing zebras freshly dead from anthrax inside electrified cages. Study area was Etosha National Park. Spore counts in the soil were the same for experimental and 'unmanipulated' carcasses; anthrax does not need scavengers for sporulation.

(email: steve.bellan@gmail.com)

BILDSTEIN, K.L., SMITH, J.P., RUELAS INZUNZA, E. & VEIT, R.R. (eds). (2008). *State of North America's birds of prey.* Series in Ornithology no. 3, Nuttall Ornithological Club and American Ornithologists' Union, Cambridge (Mass.) and Washington D.C. ISBN 978-0-943610-82-5.

Contains lots of information on numbers of migratory Black and Turkey Vultures, in three regions of North America, viz. Northeastern, Western, and Gulf of Mexico. Culminates in the "conservation status" of the birds; these two species "increasing", and the TV is the "most widely distributed vulture in the world".

BOSHOFF, A.F., MINNIE, J. C., TAMBLING, C.J. & MICHAEL, M.D. (2011). The impact of power line-related mortality on the Cape Vulture *Gyps coprotheres* in a part of its range, with an emphasis on electrocution. *Bird Conservation International* 21: 311-327.

A very detailed and fascinating analysis of the threat of electrocution from 'unsafe' towers on the species, in the Eastern Cape Province of South Africa. A minimum of 80 griffons per year were estimated to be killed. In the high threat area, the population is predicted to crash to extinction within 35 years. Several management recommendations are made.

(email: andre.boshoff@nmmu.ac.za)

BOWDEN, C. (2014). Asian Vulture crisis - have we reached a turning point? *BirdingASIA* 22: 30-31.

Neat summary of worries and advances - diclofenac, ketoprofen, aceclofenac, meloxicam, Vulture Safe Zones (around important breeding colonies), captive breeding successes (phenomenal!), and funding gaps.

(email: Chris.Bowden@rspb.org.uk)

CAMPBELL, M. (2009). Factors for the presence of avian scavengers in Accra and Kumasi, Ghana. *Area* 41: 341-349.

The presence of Hooded Vultures and Pied Crows was correlated with human numbers. Birds were most common in meat and waste production areas. Both species were feared as spiritual agents, women and older people having stronger beliefs.

(email: ecol55@hotmail.com)

CARRETE, M., GRANDE, J.M.., TELLA, J.L., SANCHEZ-ZAPATA, J.A., DONÁZAR, J.A., DÍAZ-DELGADO, R. & ROMO, A. (2007). Habitat, human pressure, and social behavior: partialling out factors affecting large-scale territory extinction in an endangered vulture. *Biological Conservation* 136: 143-154.

All known Egyptian Vulture breeding territories in peninsular Spain were used, being 1279 occupied and 433 extinct (400 lost in the last 12 years). Deviance partitioning tried to separate out the significant variables, and several were found.

(email: martina@ebd.csic.es)

COCKER, M. & TIPLING, D. (2013). *Birds and people.* Jonathan Cape, London. 592 pp. ISBN 9780224081740. £40.

Among 18 pages on the Birds of Prey, are stories on the Yawar Fiesta in Peru (tying a [juvenile] Andean Condor to a bull); vultures on rubbish dumps in the Americas, Africa and India; the California Condor in modern-day USA; people eating vultures (e.g. the Bandas in India); and of course vultures eating dead people, in neolithic Turkey (?), among the Parsees in Mumbai, and sky-burials in Tibet. About 8-pages' worth, and seven photos.

(www.vintage-books.co.uk)

FINKELSTEIN, M.E., DOAK, D.F., GEORGE, D., BURNETT, J., BRANDT, J., CHURCH, M., GRANTHAM, J. & SMITH, D.R. (2012). Lead poisoning and the deceptive recovery of the critically endangered California condor. *Proceedings National Academy of Sciences* 109: 11449-11454.

Condors in California remain chronically exposed to harmful levels of lead. Thirty per cent of the annual blood samples indicated subclinical effects, and about 20% of flying birds need clinical interventions. Lead-based ammunition was the principal source of lead poisoning.

(email: myraf@ucsc.edu)

GEYER, C.J., RYDER, O.A., CHEMNICK, L.G. & THOMPSON, E.A. (1993). Analysis of relatedness in the California Condors, from DNA finger-prints. *Molecular Biology Evolution* 10: 571-589.

DNA fingerprints were done on 32 condors, and a statistical model applied. Three population sub-groups were indicated. The authors suggest that museum specimens and Andean Condors should also be fingerprinted.

HANCOCK, P. (2009). Vulture massacre. *Birds and People* [Botswana] 23: 6-7.

In the Xudum Concession, 50 White-backed and 4 Hooded Vultures were found dead at poached and poisoned giraffe carcasses. Another 31 vultures had been poisoned in the Kwedi Concession.

HANCOCK, P. (2012). Changing values. *Birds and People* 34: 6.

Documents a poached elephant in northern Botswana and "close to 200 vultures" (170?) dying at it.

HANCOCK, P. (2013). Vulture deaths. *African Birdlife* 2(1): 14-16.

A brief review of the recent poisoning incidents in southern Africa. Countries need to work together, and there must be a systematic and multi-faceted strategy to combat the problem.

HOLDEN, P. & PORTER, R. (2000). *Spotter's guide to birds of prey.* Usborne Publishing, London. 64 pp. ISBN 0 7460 4070 9.

Actually European, and the maps have omitted Crete and Cyprus. A neat little book that fits into a shirt pocket. Four species of vulture are covered on three pages, with many good illustrations and one map each. The Bearded Vulture or Lammergeier is correctly drawn on p.17 (and missed from Corsica), but photos of it on p. 11 and p. 59 are from Africa (and even Giant's Castle!).

JENKINS, A. & ALLAN, D. (2013). Location, location, location. An ill wind blows over the roof of Africa. *African Birdlife* 1(4): 52-56.

Two developments of wind farms are proposed for the Maluti mountains in Lesotho, close to the Drakensberg escarpment. Both Bearded Vultures and Cape Griffons are threatened. Authors propose a 12-month period of survey and monitoring before any work begins.

KANE, A., JACKSON, A.L., OGADA, D.L., MONADJEM, A. & McNALLY, L. (2014). Vultures acquire information on carcass location from scavenging eagles. *Proceedings Royal Society B* 281 (1793): 1072.

Data were used from arrival times at 46 carcasses in the Laikipia District of Kenya. Raptors (here, Tawny and Steppe Eagles) produced information on the location of carcasses, while vultures (here, *Gyps* species) scrounged it, and then were dominant over the eagles.

(email: kanead@tcd.ie)

KENDALL, C.J. (2013). Alternative strategies in avian scavengers: how subordinate species foil the despotic distribution. *Behavioral Ecology and Sociobiology* 67: 383-393.

Observations on five species of vulture plus Bateleur and Tawny Eagles, in and around the Masai Mara National Reserve. Species with high search efficiency or social dominance used habitats of high quality (= wildlife density). Species with low search efficiency and competitive ability used low quality habitats.

(email: cjk2113@columbia.edu)

KHAN, M.M.H. (2013). Population, breeding and threats to the White-rumped Vulture *Gyps bengalensis* in Bangladesh. *Forktail* 29: 52-56.

Over the period 2008-2012, the species declined in six 'hotspot' areas from an estimated 1972 to 816 birds. Breeding success was very low (21%). Himalayan and Cinereous Vultures were rarely sighted. Diclofenac was still available illegally in some pharmacies.

(email: mmhkhan@hotmail.com)

KUSHWAHA, S. & KANAUJIA, A. (2009). Study on present status of vulture (*Gyps* spp.) fauna in some regions of Bundelkhand, India. *Research in Environment and Life Sciences* 2(1): 7-10.

Over 7 districts and 38 000km^2 in southern Uttar Pradesh and northern Madhya Pradesh, in a 2-year period. Vultures were limited to national parks and sanctuaries. Said to be declining, but Table 2 does not indicate that.

(email: sonika_33@rediffmail.com)

LE GOUAR, P., ROBERT, A., CHOISY, J.-P., HENRIQUET, S., LECUYER, P., TESSIER, C. & SARRAZIN, F. (2008). Roles of survival and dispersal in reintroduction success of Griffon Vulture (*Gyps fulvus*). *Ecological Applications* 18: 859-872.

A set of 272 individuals, released in five programmes/sites, were examined by multi-strata capture-recapture models. Survival of released adults was reduced in the first year, but did not differ between sexes or among sites. Differential and asymmetric dispersal patterns among sites was the more important factor determining success or failure.

(email: legouar@mnhn.fr)

MARKANDYA, A., TAYLOR, T., LONGO, A., MURTY, M.N., MURTY, S. & DHAVALA, K. (2008). Counting the cost of vulture decline - an appraisal of the human health and other benefits of vultures in India. *Ecological Economics* 67: 194-204.

Populations of dogs have increased substantially as vultures have declined. Rabies from the dogs is now a significant impact. An estimate of $34 billion is the health cost over 14 years (1993-2006).

(email: anil,markandya@feem.it)

MONADJEM, A. & GARCELON, D.K. (2005). Nesting distribution of vultures in relation to land use in Swaziland. *Biodiversity and Conservation* 14: 2079-2093.

Altogether 240 nests of White-backed Vultures, five of White-headed and three of Lappet-faced, were counted by fixed-wing aircraft. Three areas were used by the vultures, all in the eastern lowveld. One area, Nzotho section in Hlane National Park, hosted 109 nests (= pairs) in 41km^2, for the "highest known density… on the continent."

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MONADJEM, A., WOLTER, K., NESER, W. & KANE, A. (2014). Effect of rehabilitation on survival rates of endangered Cape vultures. *Animal Conservation* 17: 52-60.

In total 163 rehabilitated birds were patagial-tagged and released, and 242 wild birds were caught, tagged and released; of all age classes. From 952 re-sightings in a six-year period, wild birds had an estimated survival of 91.3% and rehab. birds of 74.8%.

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MURN, C. & ANDERSON, M.D. (2008). Activity patterns of African White-backed Vultures *Gyps africanus* in relation to different land-use practices and food availability. *Ostrich* 79: 191-198.

Farm surveys were done around Kimberley in South Africa, in May-July 2001. Game farming had greatly increased, and food availability (livestock mortalities and animals wounded by hunters) produced more vulture activity. Game farming incorporated into a commercial cattle operation appears to be the land-use type most favourable to vultures.

(email: campbell@hawkconservancy.org)

MURN, C. (2014). Observations of predatory behavior by White-headed Vultures. *Journal of Raptor Research* 48: 297-299.

Four incidents are described, which include three eye-witness accounts of predation itself - of a slender mongoose, a monitor lizard, and a tree squirrel.

(email: campbell@hawkconservancy.org)

MURN, C. & HOLLOWAY, G.J. (2014). Breeding biology of the White-headed Vulture *Trigonoceps occipitalis* in Kruger National Park, South Africa. *Ostrich* 85: 125-130.

Twenty-two pairs were monitored in the years 2008-2012. Eggs were laid in northern nests about one month later than in southern nests. Mean productivity was 0.69 chicks per pair.

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NAIDOO, V., WOLTER, K., CROMARTY, A.D., BARTELS, P., BEKKER, L., McGAW, L., TAGGART, M.A., CUTHBERT, R. & SWAN, G.E. (2008). The pharmacokinetics of meloxicam in vultures. *Journal Veterinary Pharmacology and Therapeutics* 31: 128-134.

Four African species were used (mostly Cape Griffons), with meloxicam administered orally or intramuscularly, at the University of Pretoria. The drug had a short half-life of elimination, and no cumulative effects were seen.

(email: vinny.naidoo@up.ac.za)

NATHAN, R., SPIEGEL, O., FORTMANN-ROE, S., HAREL, R., WIKELSKI, M. & GETZ, W.M. (2012). Using tri-axial acceleration data to identify behavioral modes of free-ranging animals: general concepts and tools illustrated for griffon vultures. *Journal Experimental Biology* 215: 986-996.

Forty-three Eurasian Griffons were captured in Israel, 2008-2010, and fitted with GPS-ACC tags, patagial tags and colour rings. They were followed for up to 533 days for travel distances and flapping/soaring flight. Six long-range forays, up to 1600km, were seen. The authors suggest that timing of breeding is selected against thermal activity. Lots of discussion and algorithms here.

(email: rnathan@cc.huji.ac.il)

NEGRO, J.J., SARASOLA, J.H., FARIÑAS, F. & ZORRILLA, I. (2006). Function and occurrence of facial flushing in birds. *Comparative Biochemistry and Physiology* A 143: 78-84.

A captive Hooded Vulture (and a Crested Caracara) were studied: facial skin was dissected; reflectance spectra of the face were measured; and observations of flushing (= blushing) were made. The skin is highly vascularised, and a signalling system is suggested.

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PETERSEN, M. (2008). *Birds of prey: winged masters of the sky*. Chartwell Books, Edison (NJ). 160pp. ISBN 978-0-7858-2425-1.

Includes 5 species of vulture: Black, King, Turkey, California Condor, and Eurasian Griffon, and 18 photos of them. Quite a lot of mostly accurate text. Two photos (p. 77 and p. 79) are mis-identified.

RIDEOUT, B.A., STALIS, I., *et al.* (2012). Patterns of mortality in free-ranging California Condors (*Gymnogyps californianus). Journal of Wildlife Diseases* 48: 95-112.

From 352 Condors at risk in the re-introduction programme, 1992 to end-2009, 135 have died. A cause of death could be determined in 76 birds, of which 53 were anthropogenic. For nestlings, trash ingestion was most important, while lead toxicosis was the most important cause for free-flying birds. (There have been eight release sites in three regions).

(email: brideout@sandiegozoo.org)

SCHOFIELD, A. (2013). Fetish or fashion? Voodoo markets in Togo. *African Birdlife* 1(4): 10-11.

A visit to a market in March 2013 in Lomé, showed masses of animal parts, including “Hooded Vultures” (photograph shows a White-backed Vulture).

(email: andschofield@gmail.com)

SHIMELIS, A., SANDE, E., EVANS, S. & MUNDY, P. (eds)(2005). *International action plan for Lappet-faced Vulture* Torgos tracheliotus. BirdLife International and Royal Society for the Protection of Birds, Nairobi and Sandy. 45pp. ISBN 1 901930 61 0.

One of a series on threatened birds of Africa, which sets out to provide a framework for improving the vulture’s conservation status. There is a lot of background information on the species, followed by a detailed action programme which is largely in the form of tables. Also includes problem ‘trees’. Was any action taken on this plan?

(email: birdlife@birdlife.or.ke)

SOEWU, D.A. (2008). Wild animals in ethnozoological practices among the Yorubas of southwestern Nigeria and the implications for biodiversity conservation. *African Journal of Agricultural Research* 3: 421-427.

The Hooded Vulture was used in four conditions - protection against evil influences, fertility for women, appeasing witches, and seeking marital partner. Among many other species.

(email: durosoewu@hotmail.com)

SPIEGEL, O., GETZ, W.M. & NATHAN, R. (2013). Factors influencing foraging search efficiency: why do scarce Lappet-faced Vultures outperform ubiquitous White-backed Vultures? *American Naturalist* 181: E102-E115.

A few birds of each species were caught and tracked by GPS telemetry, in their search for zebra carcasses in the Etosha National Park, 2008-2009. In addition a simulation model was used. LfVs flew significantly lower and slower than did WbVs. LfVs were first-to-find the carcass and first-to-land at it significantly more often than the WbVs, and they have a larger corneal (eye) diameter.

(email: orr.spiegel@mail.huji.ac.il)

TYRBERG, T. (2008). The late Pleistocene continental avian extinction - an evaluation of the fossil evidence. *Oryctos* 7: 249-269.

Contemporaneous with the extinction of the mammal megafauna, several species of ‘vultures’ also went extinct in North America (5 species), South America (4 species) and West Palaearctic (2 species).

(email: tommy.tyrberg@norrkoping.mail.telia.com)

VERNON, C. (1999). The Cape Vulture at Colleywobbles: 1977-1977. *Ostrich* 70: 200-202.

Describes the fluctuations in this colony. For the decade of the 1980s there were about 300 pairs, but this ‘collapsed’ to 60 pairs by 1996. Up to ten cliffs at the site were used annually.

WILLIAMS, V.L., CUNNINGHAM, A.B., KEMP, A.C. & BRUYNS, R.K. (2014). Risks to birds traded for African traditional medicine: a quantitative assessment. *PLoS ONE* 9(8): e105397.

The Hooded Vulture was the 3rd most frequently recorded species in various of 25 African countries. Among 18 species of conservation concern were six species of vulture, headed by the Cape Griffon.

(email: vivwill@netdial.co.za)

ZUBEROGOITIA, I., ZABALA, J., MARTÍNEZ, J.E., GONZÁLEZ-OREJA, J.A. & LÓPEZ-LÓPEZ, P. (2014). Effective conservation measures to mitigate the impact of human disturbances on the endangered Egyptian vulture. *Animal Conservation* 17: 410-418.

An area in northern Spain (Biscay) had 22 territories. They averaged a breeding success of 42%. Management actions to prevent human disturbance allowed the vultures to normalise their breeding.

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