At Chhapariyali village, near Mahuva, a charitable asylum is run by a 'mahajan' of the Jain sect, for crippled, weak or 'useless' beasts, and shelters over 3,000 head of cattle. Dead animals are skinned and the carcass disposed in an open area. More than 500 White-backed Vultures were seen there. Large numbers of these birds were also seen at Nagla village in Mahuva taluk. This area is home to about 50 Asiatic lion *Panthera leo,* whose abandoned kills are another source of food for vultures.

We also found colonies of White-backed Vultures near Hanuman Gala and Banej-Jambudi near Gir. A Red-headed Vulture *Sarcogyps calvus* was seen here and the local people informed us that it nested in the region.

During a tour of Surat district, I spotted 175–200 vultures at the Surat Panjarapol Trust garbage dumps at Akhakhol and Tharoli. Most of these were White-backed Vultures but some were Long-billed Vultures *G. indicus*. Importantly, 15–20% of these were juveniles.

Prevalence of HPAI H5N1 virus in wild birds

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A major outbreak of highly pathogenic avian influenza (HPAI) strain H5N1 in Barheaded Geese *Anser indicus* and other nesting waterbird species in Qinghai Lake in China in May–July 2005 is reported to have killed over 6,500 birds. This outbreak marks only the second time in history that wild birds are being infected in any numbers by HPAI and marks a turning point in our understanding of the ability of HPAI to kill wild birds. This H5N1 virus was first reported in 1997 when it caused the deaths of six people in Hong Kong SAR and links to poultry led to wide-scale culling operations to contain the virus. In the subsequent years, singles or small numbers of mainly captive, peri-domestic birds and birds that feed in the vicinity of inhabitation or farmland in Hong Kong, elsewhere in southern East China and South East Asia were reported. Since the outbreak in mid 2005, over 45 species in Asia and Europe that have been found moribund or dead have tested positive to this virus.

A review of food and feeding habits of the birds reveals three main groups being infected: (a) flocking and colonial nesting species that feed or rest in wetlands or near farmland (e.g. Mute Swan *Cygnus olor,* Whooper Swan *Cygnus cygnus*, Mallard *Anas platyrhynchos,* Coot *Fulica atra,* Common Pochard *Aythya ferina,* Tufted Duck *Aythya fuligula,* Grey Heron *Ardea cinerea,* Great Crested Grebe *Podiceps cristatus,* Great Cormorant *Phalacrocorax carbo* , Bar-headed Goose, Greater Scaup *Aythya marila*, Barnacle goose *Branta leucopsis*, Goosander *Mergus merganser*, Ruddy Shelduck *Tadorna ferruginea*, Asian Openbilled Stork *Anastomus oscitans*, Pallas's Gull *Larus ichthyaetus* and Brownheaded Gull *Larus brunnicephalus*), (b) species that feed and scavenge on land and waterways near farms, villages and towns (e.g. Feral pigeon *Columba livia*, Largebilled Crow *Corvus macrorhynchus*, Magpie *Pica pica*, Grey Heron, Kestrel *Falco tinnunculus* and Scaly-breasted Munia *Lonchura punctulata*), and (c) predatory / scavenging species (e.g. Buzzard *Buteo buteo*, Peregrine Falcon *Falco peregrinus* and Largebilled Crow). A wide variety of captive birds have been affected have picked up the virus and would have been fed infected food or may from infected birds in the collections. While both resident and migratory birds are falling victim to the virus, a predominance of migrants has been observed to date. At least few species such as swans appear to be more susceptible to the virus; outbreaks in these species across parts of Europe are believed to be in response to exceptionally cold weather driving birds to these regions, although the source of the virus infecting these birds across their range is not clear.

The H5N1 virus has been isolated only from a very small proportion of dead or moribund wild birds to date. Wide scale sampling of apparently healthy wild birds in Asian, African & European countries has so far not revealed the virus. The sole exception is of six ducks of 13,000 wild birds in China, within bird flu infested provinces. This suggests that the virus is highly lethal and that infected birds may not be capable of long distance migration. However samples sizes to date are very small and with the exception of the Iceland Whooper Swan, only a tiny fraction of any biogeographic population has been sampled, highlighting the need for comprehensive surveillance. Concern of HPAI has increased the reporting of dead wild birds and has helped to improve our understanding of the wide range of such deaths, including due to bacterial and viral diseases, intentional or accidental poisoning and inclement weather.

Ongoing experimental work on testing of susceptibility of the H5N1 in Mallard and few other species has revealed that while some birds die, others survive and shed virus for a few weeks and during this time can infect other individuals of the species. How these results correlates to birds in the wild and the ability of birds to carry this virus over long distances not known and needs to be investigated.

Information on results of surveillance of wild birds has been slow to become available to the public and is preventing timely epidemiological studies that are urgently needed to assist with risk assessments. Formal national reporting to OIE on wild birds is often still inadequate and incomplete on the identity or age of species to support epidemiological studies. For example, reports made in Feb–March 2006 cover 157 outbreaks, of which only in 70 (45%) species identified to species level and as a consequence the majority of information is not usable.

As wild birds are often implicated as a major vector in

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the spread of the disease, it is a high priority to improve our understanding of the precise migratory patterns and phenology of different species, enhance viral surveillance of wild birds in all countries and increase our knowledge on the behaviour of this virus in different wild birds. Such work will require considerable long term resource allocations to support strategic planning and coordination at the flyway and national level, building of capacity at the national level to undertake and report on progress in a timely manner. This information will provide the basis for a much needed early warning system.

Further details can be obtained at: www.cms.int/avianflu and www.iisd.ca/ymb/ais/ymbvol123num1e.html.

[This note is a summary of a presentation made by the author at the "Scientific Seminar on Avian Influenza, the Environment and Migratory Birds" UNEP HQ, Gigiri, Nairobi, Kenya, 10–11 April 2006, organised by UNEP, CMS and AEWA.]

Recoveries from the *Newsletter for Birdwatchers* (1966)—13

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In the previous issue of *Indian Birds* I confined myself to giving examples of the writing of K.K. Neelakantan. In this I remind readers of R.A. Stewart Melluish.

The Indian branch of Oxford University Press (OUP) has had some remarkable personalities as editors who were fine naturalists as well. R.E. Hawkins, of course, became a legend. Apart from being a pillar of the publishing world he was also a pillar of the Bombay Natural History Society. After retiring from OUP he edited the splendid *Encyclopedia of Indian Natural History*, which became a standard reference work for Indian naturalists. The meticulous Ravi Dayal, who died recently, without being an "active" naturalist, had a taste for natural history.

Another remarkable person who joined OUP in 1966 was Stewart Melluish. By any yardstick he was extraordinary—a competent pianist, a good artist, a calligrapher and an ornithologist who sketched birds on the wing in order to identify them later. He was unapologetic about being eccentric. He did not use clocks or watches; he preferred the hour-glass. He never filled-up at a Burmah Shell petrol pump because he didn't like the colours on the signboards. He was a hopeless correspondent, not because he was an uncaring friend, but because he couldn't send a letter that was not perfect by his standards of calligraphy. In the middle of Gir Sanctuary he seemed to be more interested in studying the ancient little train than looking at lions. Almost from the day he landed in India, Stewart became a close friend, and a very strong supporter of the *Newsl. Birdwatchers*. He designed its front cover, and the masthead, which was never changed. As you will see from the following, he wrote in a knowledgeable, easy, light hearted style which was thoroughly enjoyable.

Bird books [Melluish, R.A.S. *Newsl. Birdwatchers* 6 (12): 1–5]
Nothing adds so greatly to the pleasures of field ornithology, and makes them meaningful, as the handling, study and regular use of satisfactory literature. Many bird books are intrinsically pleasant and beautifully illustrated; it is little wonder that far more people buy bird books for armchair contemplation than ever dream of doing anything more about birds or watching them than chucking a few crumbs at sparrows every day. Many will gloat over reproductions of the paintings of Audubon or Gould, G.E. Lodge or David Reid-Henry, who will never be found counting starlings going to roost, or optimistically climbing trees to delve into old abandoned nests full of droppings and slush. The joys of ornithological literature can be savoured independently of the more rigorous study of the living bird.

For the serious birdwatcher, however, his bird books are more coffee table or fireside diversions. They are valuable tools or accessories, often hard to be without. Indeed, they play so big a part in fixing the direction his studies take and the intensity with which he pursues them that their selection should be as deliberate and systematic as that of other far more costly pieces of equipment, like field-glasses and cameras. What books are useful for the birdwatcher in India, and in what degree? This article is supposed to offer a partial answer. It is a review of some of the reference literature available and forthcoming which is relevant to birds in this country. It is not intended to be comprehensive because I have confined myself strictly to books systematically describing birds found in the sub-region, and have said nothing about more discursive literary works such as Lowther's *A "bird photographer in India"* and Macdonald's "*Birds in my Indian garden*", however excellent they may be. I have also not discussed books on birdwatching in general and of inter-regional application, or those which deal with birds of other regions and yet are useful to Indian observers because species migrate or overlap from one region to another (e.g. Witherby's "*Handbook of British birds*"). There are other omissions due to my own unfamiliarity with the books in question. To the veteran birdwatcher this may well be of no interest whatsoever; but there are many readers of the *Newsletter* whose acquaintance with ornithology is not of long standing and who would be stimulated to far greater activity and interest if they possessed good books to guide them, and knew their way around those which are only to be seen now in libraries or other people's homes.

The book to buy first, unless one lives in an area covered by a provincial survey, is unquestionably Salim Ali's "*The book of Indian birds*". Wisely, this does not include everything.