four weeks at IISc. So my romance with Molecular Biophysics ended and I joined Punjabi University, Patiala to work on a project in geochronology.

During my brief sojourn, I observed that Ramachandran was an introvert, a thorough gentleman who was least interested in publicity and fanfare in which our self-seeking bureaucrat–politician–scientists indulge these days. He was rated as the topmost scientist in India who had won laurels at the international level. I fully agree with the remarks that he remained a reclusive figure, ignored by press and powers that be, as we Indians are accustomed to seeing the greatness of our scientists through the eyes of foreign judges. In my estimation, the work of Ramachandran deserved a Nobel Prize.

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Research papers from non-*SCI* journals can be indexed in *SCI*

Science Citation Index (*SCI*) is one of the best tools for information retrieval and dissemination. There is a growing trend that the papers indexed in *SCI* are considered as valuable ones. As *SCI* database includes only ten Indian journals for source items, a large proportion of Indian research papers are being published in non-*SCI* journals. Sometimes it creates confusion among authors who publish in non-*SCI* journals as to whether their paper can be indexed in *SCI* or not. The *Citation Index* of the *SCI*® lists all the references (cited items) found in footnotes and bibliographies of journals (citing items) covered in the *SCI*[1]. So when a paper is cited by a *SCI* source item or *SCI* source journal (*SCI*-SJ) then it gets indexed in the *Citation Index* part, which helps in tracing a piece of information, but all may not be indexed in the *Source Index* part (*Source Index* contains entries for all items from each journal covered by the *SCI*). That is why some papers published in *Indian Journal of Chest Diseases and Allied Sciences*, *Indian Journal of Experimental Biology*, *Indian Journal of Gastroenterology*, *Indian Journal of Pediatrics*, *Indian Journal of Physiology and Pharmacology*, *Indian Journal of Surgery*, *Indian Heart Journal*, *Indian Pediatrics*, *Journal of the Indian Medical Association*, *Neurology India*, etc. are indexed whereas these are not found in *SCI* list of source journals. For example, the article in *Indian Heart Journal*, 2002, **54**, 404 is indexed in *SCI*, because it is already cited four times in *SCI*-SJs (*Annals of Internal Medicine*, 2004, **141**, 169; *Journal of the American College of Cardiology*, 2004, **43**, 12S; 2004, **43**, 1149; *Circulation*, 2003, **108**, 2066). I have searched nearly 50 papers out of the 272 published in the year 2002 of *Indian Pediatrics* that are cited more than 60 times in total by *SCI*-SJs. Sometimes a paper is being indexed in *SCI* by self-citation or team-citation in a *SCI*-SJ. So an article having intrinsic quality can attract worldwide acknowledgement. Elsevier is currently developing a bibliographic database including citation called *SCOPUS*™, which includes more Indian biomedical journals for source items.

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Is Diclofenac the only cause of vulture decline?

'Vulture population decline, Diclofenac and avain gout' by Arun and Azeez' makes good reading and may generate further debate on the issue of vulture decline, which needs more insight. These authors have rightly opined that it is premature to conclude that Diclofenac is the main factor for the decline of vulture population. This is contrary to what has been said in the study conducted in Kasur, Khanewal and Muzaffargarh and Layyah districts of Pakistan[2]. This study was restricted to Oriental white-backed vulture (*Gyps bengalensis*). But no study on Diclofenac-poisoning has ever been undertaken on any of the three *Gyps* vulture species found in India. Statements like 'Population of all three *Gyps* vultures, namely white-backed vulture (*G. bengalensis*), long-billed vulture (*G. indicus indicus*) and slender-billed vulture (*G. tenuirostris*) has declined drastically to below sustainable limits throughout their distributional range', is therefore incorrect. The study from Pakistan cannot be generalized and should not be applied to all the three *Gyps* species. This view is based on our long-term intensive eco-ethological studies conducted in and around Jodhpur, Thar Desert, Rajasthan[4–8] for about a decade. We view the statement made by Arun and Azeer[1] that 'serious ecological studies and long-term population monitoring programmes need to be targetted on urban birds population' is in place. We have found seven species of vultures at one time in our study area. These include king vulture (*Sarcogyps calvus*), long-billed vulture (*G. indicus*), slender-billed vulture (*G. tenuirostoris*), white-backed vulture (*G. bengalensis*), Egyptian vulture (*Neophron percnopterus*), cinereous vulture (*Aegypius monachus*), Himalayan griffon (*G. himalayensis*) and Eurasian griffon (*G. fulvus*). The first five are resident and the rest are migratory species. Since 1995, we have been studying their habitat preferences, ecology, population dynamics, etc. by monitoring their nesting sites, feeding ecology, breeding success, inter- and intra-species interactions, seasonal migration, predation, etc. During 1995–96, we counted, photographed and videographed 630 vultures of seven species. Our demographic study is being continued. The 2003 census yielded 927 individuals. However, we did record population decline of long-billed and white-backed vultures to about 24 and 40% respectively, between years 1995–96 and 2003. On the contrary, the Egyptian

Table 1. Demography of resident and migratory vulture species recorded in and around Jodhpur

Census year	King vulture	Egyptian vulture	Long-boiled vulture	White-backed vulture	Himalayan griffon	Eurasian griffon	Cinereous vulture	Total population
1995–96	4	275	148	74	37	68	24	630
1997	6	335	168	97	58	86	20	770
1998	6	308	196	118	74	108	25	835
1999	4	282	175	80	86	105	28	760
2000	6	206	210	65	78	95	30	690
2001	4	350	170	67	67	121	38	817
2002	5	404	138	58	83	152	35	875
2003	2	432	112	43	107	179	52	927

Two vultures interacting at feeding site (photo: Anil Kumar Chhangani).

Six species of resident and migratory vultures together at Jodhpur, A rare sight. (Photo: Anil Kumar Chhangani).

vulture increased to 36% over a period of nine years as found in the eight annual censuses. As in Jodhpur, we also found 15 breeding colonies of four resident vulture species in Pali, Jalore, Bikaner, Barmer, Jaisalmer and Nagour districts, Thar Desert. Population data of four resident and three migratory species collected in and around Jodhpur are given in Table 1.

The Municipal Corporation Animal Dumping Ground (MCDG), about 20 km from the city, serves as a common ground for all the seven species of vultures which feed on carcasses. Here, vultures feed freely in association with other birds and mammals. This includes, tawny eagle (*Aquila rapax*), steppe eagle *Aquila nipalensis*), house crow (*Corvus splendens*), common raven (*Corvus arase*), large-billed crow (*Corvus macrorhynchos*), kites (*Milvus migrans*), feral dog (*Canis familiaris*), jackal (*C. aureus*), hyena (*Hyaena hyaena*) and mongoose (*Herpestes edwardsi*). We regularly surveyed some 5 km^2 of area around MCDG to record any behavioural change in resident birds and mammals. We did not find any bird or mammal remains in the area. Neither villagers nor pastorals reported unusual deaths or disappearances of native birds and mammals in the area.

In our considered opinion, the decline in the *Gyps* vulture population in this part of the country is mainly due to loss of habitat followed by increasing population of feral dogs, human population pressure, predation, inter- and intra-specific competition, etc. We further support the argument of Arun and Azeez[1] that 'in the absence of detailed diagnostic investigation and management strategy specific to the Indian conditions, activities like captive breeding and release may not yield the expected results'. On 20 April 2004, a meeting organized by the MOEF, GOI on 'recovery plan for vultures' facilitated by WII and attended by scientists, ornithologists, forest administrators and wildlife experts had recommended that all states may initiate promotion of captive breeding in their zoos for which proposals were invited. We must, however, remember that there is no record available on the breeding of *Gyps* vultures in captivity in India[9]. Vultures are long-lived birds. Like Albatross they have the lowest reproductive rate compared to any bird species in the world, as reported by Lack[10]. Captive breeding is a difficult proposition and the available records in Indian zoos or captive facilities have not reported successful captive breeding of vultures. Keeping this in view, planners, wildlife managers and policy makers along with ornithologists must plan a sustainable model for conserving vultures. This needs collective effort and a comprehensive plan, which is lacking at present. To understand population dynamics of vultures, we should examine a multitude of factors responsible for vulture population decline like habitat loss, poisoning, accidents, predation by feral dogs, human population pressure and disturbance during breeding. To start with we must identify potential breeding sites, methods to protect them and provide vultures congenial conditions to breed and survive.

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