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THE BIRDS OF GUJARAT - A SALIM ALI CENTENARY YEAR OVERVIEW

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(With a plate and a map)

INTRODUCTION

The late Dr. Sálim Ali had undertaken field surveys of what is today the Gujarat State in pre-independence years, largely at the invitation of some of the Princely States of Kachchh, Vadodara, Radhanpur, Palanpur, Khambhat and Rajpipla. Collections were also made in the forest rich tribal area of the Dangs. These surveys had Sálim in the field "for varying periods of a month to five months at a time between the years 1944 and 1946 with shorter field trips up to 1948." The Kathiawar peninsula, today known as Saurashtra, was partially covered, thanks to several "Gaekwadi" territories which touched on to the Gir forest and the southern part of the Gulf of Kachchh in what is known as Okha Mandal, today a taluka of the Jamnagar district. Fortunately, the Kathiawar region was intensively "birded" by several, very keen naturalist families of which mine of Jasdan was one. To our south, the Bhavnagar State was fully covered by the three royal brothers Maharaol Krishnakumarsinhji, Nirmalkumarsinhji and Dharmakumarsinhji. What this sporting trio missed was hardly worth recording. My cousin, the late Shivrajkumar Khachar and I were guided into high level birdwatching by the Bhavnagar "Gurus" — their seasonal visits to Hingolgadh and our return forays to the Bhavnagar seaboard were momentous occasions. To our north was Wankaner with an actively knowledgeable sporting family and much of today's Jamnagar district was the hunting ground of the Jam Sahebs of Nawanagar. The outcome of all this active interest in birds produced two well illustrated books: THE BIRDS OF KUTCH by Sálim Ali and THE BIRDS OF SAURASHTRA by Dharmakumarsinhji. All these and several other princes were members of the Bombay Natural History Society. In addition, there were several "commoners" who either developed an interest in birds through their association with their feudal employers or who had developed an interest entirely on their own; among these mention must be made of the following stalwarts: Harinarayan Acharya, Manubhai Jodhani, Niranjan Varma, Jaymal Parmar, Pradyumna Desai, Vijaygupta Mauriya, Chhotubhai Sutar, Haribhai Chauhan and the poet Dinkarray Vaidya. These men must be saluted since they all have contributed in moulding contemporary attitudes towards birds by their popular writings in Gujarati. Pradyumna Desai was an artist of considerable talent.

Salim Ali renewed his active association with the newly established Gujarat State when BNHS started mistnet captures of birds for banding; Kachchh was his first choice. The netting operations were later started at Hingolgadh in Saurashtra and the ornithologist established a close and affectionate association with birdwatchers of Saurashtra, Lalsinh

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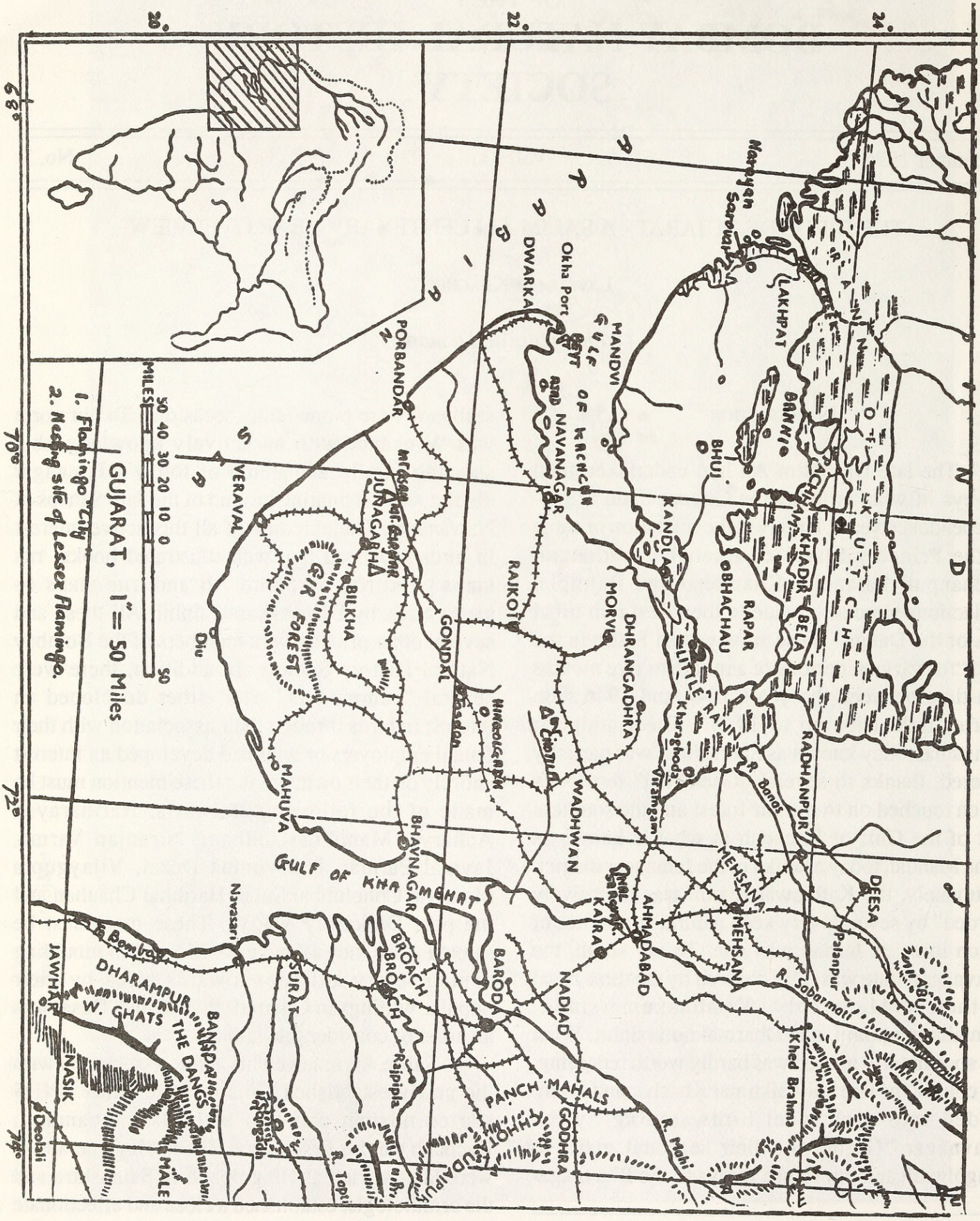
20°
22°
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PAKISTAN
INDIA
Narayan Sarovar
LAKHPAT
BANNI
KUTCH
KHADIR
BELA
BHACHAU
RAPAR
KANDLA
BHUJ
Okha Port
DWARKA
MANDVI
GULF OF KACHCHH
PORBANDAR
NAVANAGAR
JUNAGADH
VERAVAL
Diu
GIR FOREST
BILKHA
GONDAL
RAJKOT
MORVI
DHRANGADHRA
Little Rann
Kharaghoda
Viramgam
RADHANPUR
R. Banas
MEHSANA
DEESA
Palanpur
ABU
R. Sabarmati
AHMADABAD
KAIRA
WADHWAN
MAHUVA
BHAVNAGAR
GULF OF KHAMBHAT
Navsari
Bombay
DHARAMPUR
JAWHAR
W. GHATS
NASIK
Deolali
BROACH
SURAT
BARODA
NADIAD
Rajpipla
THE DANGS
PANCH MAHALS
GODHRA
R. Mahi
Khed Brahma
R. Tapi
MILES 50 40 30 20 10 0 50
GUJARAT, 1" = 50 Miles
1. Flamingo City
2. Nesting site of Lesser Flamingo.

Raol particularly impressed him and K.P. Jadav's bird drawings delighted him. Gujarat continues to have a fairly large number of amateur birdwatchers and it is hoped that through this article concern for the active conservation of the region's still dramatically visible birdlife will be rekindled and that the Society will see the importance of once again exploiting the immense potential within the State. Without popular concern, the trends forewarned by Sálim Ali in 1954 and continually harped on by others including myself will never be halted.

Lalsinh Raol has written extremely readable books in Gujarati which have used standardised birdnames in the vernacular, and a checklist of the birds of Gujarat was updated by him and myself. Considerable new information had been accumulated by bioscience students of the Saurashtra University, Rajkot, where the late Prof. R.M. Naik gave our interest a scientific aura. Notable among the young men who acquired scientific credentials at the University are Bhavbhuti Parasaria who has to his credit qualitative research on egrets and herons, and Taej Mundkur who streaked like a meteor across Saurashtra's ornithological firmament to rekindle the waning enthusiasm among those of us from yesteryear. Today, there are knowledgeable amateur groups in Bhuj lead by MKS Himmatsinhji, and in Bhavnagar encouraged by MKS Shivbhadrasinhji. There are competent amateurs in Jamnagar, Ahmedabad, Baroda and Surat. Hingolgadh continues to be a rallying point for naturalists. We may yet be able to generate a powerful popular commitment for the conservation of Gujarat's birdlife. Unless quality programmes are taken on in the next few years, Sálim Ali's warning: "Conditions affecting wildlife in general, directly or indirectly, have changed and are changing rapidly, and unhappily not for the better", in Part I of his paper, The Birds of Gujarat (JBNHS Aug.-Dec. 1954) may well be the understatement of the century! We have, for all practical purposes, lost the Great Indian Bustard. Other species are in precarious situations. In the 1940s birdlife was plentiful and confiding, particularly so in the regions of Kachchh, Kathiawar — present day Saurashtra, and the densely populated and intensely cultivated "champaigns" of mainland Gujarat. This was on account of the basic sentiments of the people strongly influenced by the Jain and Vaishnava repugnance for taking life, and a land based economy which encouraged care of the land, be it for agriculture, grazing, or growth of grass or trees. Technological limitations prevented over-exploitation and this created a happy situation of what we today hear so frequently talked about in environment circles — "Sustainable use of natural resources". Social restrictions were enforceable in the mileau of the times and birdlife throve. True, there were pockets of poorly managed and even in those times over-exploited lands, but they added habitat variety — considerable areas were overgrazed, poorly farmed and degraded, and there were communities which surreptitiously killed against the popular sentiments. Their impact, however, was low though they were the seeds of much of what we see today. With the advent of democracy what had tended to be discreet came out into the open and paradoxically, because of the still existing strong sentiments against the taking of life, there has emerged no powerful, legally empowered hunting lobby capable of enforcing regulations. Livestock owners, who were always a problem, were emboldened, often encouraged by political opportunism to circumvent restraints on entry into grass preserves, most of which very quickly merged into the surrounding overgrazed common lands. Trees, whether they were on hills, along water courses or forming avenues were mercilessly lopped by goatherds, and felled by fuel gatherers. Kachchh suffered the most, with an active charcoal mafia exploiting ancient stands of *Acacia nilotica*. Waterbodies which had been largely sacrosanct were netted for the first time, and despite setting up of Wildlife Advisory Boards and promulgating wildlife laws there evolved no effective means of restraint in a democratic dispensation. Wildlife, particularly the more visible, rapidly declined.

If the direct assault on wildlife had done considerable damage and continues to do so even today, it is a set of indirect effects which today threatens to produce an almost total collapse. What

set these into motion needs to be examined if we are to prevent the extinction of most of our birds and other animals. Since most of the developments were initiated for the betterment of the general population and considerable gains have accrued, many of those wanting to halt the processes find themselves isolated. Issues tend to be separated into those involving human welfare versus those for wildlife. The same refrain was heard in the late forties by political and social activists is today carried forward by the more aggressive, more powerful "development" lobby with the political leadership invariably responding to populist appeals.

Fortunately, though it has taken time, the general public has begun to realise that issues are not trees and animals against human beings, but that they involve groups aiming for highly personal gains at the cost of social benefits, and that efforts are aimed at quick short term gains, heedless of long term losses, and at highly exploitative economics contra sustainable utilisation of resources. Public debates are on and it will suffice here merely to highlight a few basic issues:

1. **Agriculture**: The shift to largely single crop cultivation has destroyed the diversity of niches within agricultural lands. Intensive agricultural practices have destroyed hedgerows and obliterated grass verges. Significantly, this practice was encouraged as pest control action! Spraying of pesticides (on several occasions by low flying airplanes) has created havoc. Hard sell advertising has resulted in an almost compulsive use of inorganic fertilisers. After World War II there had been drives to eradicate mosquitoes and rats — rodent poisons and DDT which poisoned the biosphere were dumped on to an unsuspecting population. These processes, though now banned in more perceptive societies are still practised, if not actively encouraged, in India and continue to weaken the biological dynamics. Both insectivorous birds and raptors have registered a very significant decline.

2. **The Wetlands:** Village tanks were traditionally central to the community and considerable tacit restraint was enforced to permit a varied use. Invariably, killing of birds and fishing was not countenanced. Birdlife was particularly plentiful and diverse, as well as absurdly confiding. Pulsating communal nesting colonies of ciconiids and cormorants existed everywhere and Sarus bred fearlessly throughout the region. Unhappily, with water being supplied by taps, community concerns diminished and with overall authority weakening, today most wetlands, like other common lands, are under intense pressure. Many are being encroached upon for cultivation or being used as dumping sites near urban centres. The peripheral trees are mutilated for fodder and bark peeled off to kill the trees so as to circumvent laws against felling live trees! Most of the nesting colonies have gone. Several of the larger tanks are leased out by the authorities for fishing and the former sentimental proscriptions are dying out. Reed beds are cut by marginalised communities for thatching. More insidious, however, is the poisoning of the water by greater quantities of detergents and sewage inflows, and the draining in of pesticides and inorganic fertilizers from surrounding agriculture. Tidal forests have been almost wiped out.

3. **Forestry Practices:** Prior to the merger of the States, Wildlife fell under the purview of Shikar Departments. Where the landed gentry lacked shikar compulsions, wildlife cared for itself, protected by and large by popular sentiment. There was, however, a lively awareness of wildlife which is common to all people living close to the land. Some of the finest wildlife caretakers were from communities which also had traditions of snaring birds and small mammals. Such men often enjoyed a considerable reputation, their almost instinctive knowledge of the wilderness being highly appreciated. In north Gujarat, Kachchh and Saurashtra there were Grass Departments enjoined to care for grasslands (*Vidis* in Kathiawar and *Rakhals* in Kachchh) from where grass was extracted as a valuable resource. Avenue trees fell within the purview of the authority charged with road maintenance — some of the major roads were shaded by magnificent, large, evergreen trees dominated by *Ficus* sp.

With the merger of the newly formed Saurashtra State and Kachchh into the bilingual

Bombay State an omnibus Forest Department took over grasslands, roadside plantations and wildlife. Grass became a "minor forest produce" and beautiful grasslands which had acquired characteristic biological communities seemed an affront to the forester's eyes! Roadside avenues became extensions of forestry plantations. Down the decades the Forest Department, unable to adjust to the changed political scenario, found its role in the democratic situation quite like a tightrope walk. The resultant conflicts have still not been resolved. In any case, we find a penchant for favouring quick growing exotics and nonbrowse species almost to the exclusion of all others. Despite the very notable efforts of a few officers, the Department which professionally is the guardian of biodiversity remains quite confused. There are indications of younger officers who are thinking ahead of their times and there is indeed hope of a renaissance in wildlife management involving the people. Unhappily, vast areas have been overgrown by *Prosopis chilensis*, thanks not so much to the tree's great capacity, but to its aggressive propagation by the Department and on account of the continued assault by fuel gatherers and domestic stock on native species. Birdlife has suffered. We have lost the Great Indian Bustard.

4. **Industrialisation:** Much of Gujarat's industrial development has had a direct as well as indirect adverse effect on the environment in general and birdlife in particular. The need for lift irrigation, particularly in the Saurashtra region encouraged the vigorous manufacturing of diesel engines and pumps in the small scale industries and an intensive marketing drive within the area that resulted in overdrawing of water from rivers and subsoil aquifers. All watercourses today have totally dried up and former perennial river pools and their reedbeds have disappeared. The widespread use of pesticides and inorganic fertilisers has already been referred to. A great majority of the more profitable industries are manufacturing detergents, chemicals and dyes, all of which are produced by processes which are banned in industrially advanced countries. The end products are, however, in demand there, hence the profitability. Rivers and depressions carry large quantities of toxic effluents along with untreated sewage from growing urban centres, of which aquatic life has borne the brunt. River Terns, Blackbellied Terns, Pied Kingfishers, Little Cormorants and Darters have all but disappeared. What impact the larger petrochemical and cement units are likely to have on birds is a matter of conjecture. Strategies will have to be worked out to diffuse their impact. To conclude, the situation cannot be worse. The protagonists of "man first, everything else after" have done their worst. Already environmental degradation is adversely affecting human beings and there is public concern. The ancient values for life are fortunately alive and the band of dedicated birdwatchers is vigorous, more youthful and fortunately less apologetic in advancing the cause. There need be no more losses if some qualitative and highly imaginative programmes are undertaken. Birds are still very visible and confiding; Gujarat is a major centre for wintering cranes, the Sarus are still common and loved, peafowl are plentiful and confiding almost everywhere; Jamnagar's Ranmal Lake is a marvellous bird sanctuary and Bhavnagar's Victoria Park and Pele Gardens are pulsating waterbird nesting sites; around Ahmedabad there is a large number of village tanks where stork colonies thrive; flamingoes of both species regularly nest in the Ranns; in the Gulf of Kachchh there are coral and mangrove islands that are largely undisturbed, with thriving colonies of egrets, herons and darters; the tidal mudflats draw teeming flocks of Palaearctic waders — each autumn flocks of birds pass over down the Indus flyway to peninsular India or to Arabia and East Africa. Gujarat remains a major avian area of the world. Bird enthusiasts need to articulate their concerns and work in cooperation on projects which would arouse popular interest.

PHYSIOGRAPHY

In part I of his paper, "The Birds of Gujarat", Sálim Ali very succinctly outlines the great diversity of Gujarat's biotopes ranging as they do, in his language, "from practically pure sandy desert (e.g.

the Great Rann of Kutch) with an annual rainfall of less than 10 inches, to tropical semi-evergreen forest (e.g. portions of Navsari district and the Surat Dangs) with an annual precipitation of over 80 inches". It may be noted that both the Great and the Little Rann of Kachchh are not sandy deserts, in fact they are not deserts in the accepted sense as are the Thar Desert of Jaisalmer, Rajasthan or the Sahara — they are vast, flat saltpans often glistening like a Polar sea when salt encrustation is maximum; at other times they are vast stretches of blue, highly saline water, a period when their lifeless expanses start pulsating with life. Understanding this Dr. Jekyll and Mr. Hyde character of the Ranns would make it possible to ensure that there is no confrontation between the needs of salt industries and of wildlife. As a matter of fact, the danger of denotification of the Little Rann of Kachchh as a wildlife sanctuary is emanating from this very absence of understanding. Also, few naturalists seem to be alive to the fact that the rainfall whether averaging less than 10" or topping 80" per annum is caused under the influence of the SW monsoon with most of the precipitation occurring between June end and September. The rest of the year is a long drought. Also not appreciated is that rainfall fluctuations are considerable and particularly so in Kachchh, with some of the heaviest downpours experienced anywhere in the subcontinent. Wind velocities during the height of both the monsoons are very high over Saurashtra and Kachchh, generating a correspondingly intense rate of evaporation. Knowledge and awareness of these factors would make reforestation efforts significantly different here than elsewhere. Success or failure in revegetating the land on a qualitative basis will determine the survival of Gujarat's avifauna.

The two Gulfs of Kachchh and Khambhat have not been adequately recognised, nor are their differences sufficiently highlighted before. Both Gulfs are tapering in and as such, experience great tidal rise and fall at their heads, creating wide tidal mudflats eminently suited for the teeming multitudes of northern shore birds, and for the flamingoes. Both the Gulfs were fringed by excellent mangrove forests, themselves unique bird habitats on account of the rich detritus generated for marine life, and in providing roosting and nesting sites for herons, egrets, spoonbills, ibises, cormorants and darters. There is, however, a significant difference in that the Gulf of Khambhat is highly turbid on account of large rivers flowing into it — the estuaries of Sabarmati, Mahe, Narmada and Tapti permit inflow of tidal influence far into the alluvial plains, thus interlacing with saline habitats the vast plains to the west and south of Ahmedabad which are themselves converted into, quoting Sálim Ali" ... a chain of marshy jheels ... attracting abundant wildfowl". The Nal Sarovar is perhaps the most well known of the brackish water lakes. There are a host of freshwater jheels notably Kanhewal, Narda, Pariej, etc., all creating a rich mosaic of wetlands. The Gulf of Kachchh wedged between Saurashtra to the south and Kachchh to the north has no large river flowing in. Tides are high, there are immense mudflats equally attractive to shore birds, but the waters are clear and there are coral and mangrove islands along the sheltered Saurashtra coast. Much mangrove vegetation still exists on the outlying islands and several important heronries exist. The Gulf of Kachchh at its head extends on to tidal flats which merge with the expanses of the Little Rann of Kachchh. Seasonally powerful winds drive sea water into the Little Rann as they do up the Kori Creek on the west of Kachchh on to the Great Rann; the Gulf and the Ranns are thus interlinked systems of great biological significance. The Ranns imperceptibly rise on the edges to form grasslands and sedge marshes, the largest of which is the famous range land of Banni. In the not too great antiquity, Saurashtra and Kachchh were islands and the Ranns were shallow inland seas with tides washing up from both the Gulfs to mingle in the Little Rann. The entire complex of shallow seas, salt pans, tidal mud, coral reefs and mangrove jungles fringed by typha marshes and extensive waterlogged depressions into which fresh water collects during the rains creates an amazingly rich bird paradise terminal to the great alluvial plain of the Indus. We have here a nodal area of considerable importance for migrating birds. In his

inimitable language Sálim Ali stated thus: "The geographical position of Kutch, Banaskantha and the Kathiawar peninsula and the natural conditions that obtain ... make them ideal venues for the study of Indian bird migration". He goes on to mention that Kachchh "lies athwart the main route of the hordes of species that sweep into India from the north and northwest in autumn and out in the reverse direction in spring." This massed avian transit is still visible, unhappily less so among raptors and some passerines but with undiminished numbers where waders are concerned. The region also has migrants from Central Asia to Arabia and East Africa passing through mainly during autumn. These are passage migrants teeming for a month or so in October, to be gone by mid November, demonstrating marvellously how birds optimise the rich availability of food after the monsoon rains; the same birds, however, return to Central Asia presumably by the Red Sea and across Iraq. In doing so they benefit from a food source generated by winter rains in those areas; in any case, they are not seen in our area on their return migration. The large number of amateur birdwatchers in Gujarat are raring to help in manning observation posts "... strung out along the northern base of the transverse range of hills ..." from Kuar Beyt in the west to Bela in the east, overlooking the flat Great Rann to the north. What could not be achieved in the feudal age may well happen under a democratic dispensation, field ornithology in India will indeed "come into its own".

If the Ranns, the two Gulfs with their tidal flats, mangrove marshes and fresh water jheels have tended to be dramatised as bird habitats of Gujarat, the undulating plateaux and volcanic extrusions of Kachchh and Saurashtra are equally important biotopes with their valuable grasslands, thorn and dry deciduous forests. Along the eastern boundary of the State are outcrops of the Aravalli range and the eroded escarpments of Mewar in the north and of the Malwa plateau to the east. Still further south beyond the rift valley down which flows the Narmada, draining water from the heartland of central India, are the outliers of the Satpura mountains looming above Rajpipla. Good moist deciduous forest still exists, with a delightful bird population. The valley of the Tapti separates the Rajpipla hills from the escarpments overlooking the Dangs which are the northernmost reach of the dramatic Sahyadris of Maharashtra. The higher rainfall supports moist deciduous forests which harbour forest species of the wetter tropical forests of southeast Asia. The rivers and streams of Saurashtra and eastern Gujarat were shaded by evergreen forest corridors which, in years gone by, formed a network amidst drier situations producing an unique intermingling of forest species with those of savannah and thorn jungles. It is of utmost importance to ensure that this biodiversity is protected by highly qualitative afforestation programmes which can best be achieved by encouraging natural regeneration as against the highly manipulative plantation drives. Management of grasslands and wetlands needs to be strongly emphasised. The story of the Great Indian Bustard should not be repeated with other species. Paradoxically, the peoples' needs and those of the birds converge, and herein lies our hope.

... AND THE BIRDS

Apart from the highly visible and confiding birdlife of Gujarat, and the area's nodal position on a major migratory route as already referred to, the great diversity of habitats resulting from the geomorphology and the fact that the region is wedged, as it were, between the deserts of Sindh and Rajasthan which themselves are extensions of the Saharo-Arabian system, and the Indo-Oriental plateaux of peninsular India, Gujarat has a very diverse composition floristically and hence avian. Careless or thoughtless damage to the ecosystems of the region resulting from various human actions would mean the loss of some important bird species. In the Dangs and the Rajpipla hills we have the already doubtful existence of the Forest Spotted Owlet *Athene blewitti*. The Heartspotted Woodpecker *Hemicircus canente* and the Great Black Woodpecker *Dryocopus javensis* may well be lost if favoured forest remnants are cleared or further degraded. The endemic Whitewinged Black Tit

Parus nuchalis which favours thorn and *Salvadora* forests of Kachchh and adjacent north Gujarat has suffered a shrinking of its already circumscribed range, thanks to the spread of alien species. Neglect of and faulty afforestation drives in grasslands has placed the Lesser Florican *Sypheotides indica* in a precarious situation in its major breeding areas of Saurashtra. Gujarat enjoys the responsibility of conserving the largest nesting location of the Flamingo *Phoenicopterus roseus* in the world and the only nesting sites of the Lesser Flamingo *Phoeniconaias minor* outside Africa; any thoughtless development in these hitherto largely undisturbed areas might mean a major ornithological disaster.

Pollution of rivers and waterbodies and destruction of *Acacia* trees around village reservoirs have wiped out hundreds of communal nesting sites of herons, egrets, spoonbill, ibis and cormorants. The world's largest population of the Darter *Anhinga rufa* continues to survive on the coral and mangrove islands off the Jamnagar coast of the Gulf of Kachchh; this population along with vigorous nesting communities of the Grey Heron *Ardea cinerea*, Large Egret *A. alba*, and the Smaller Egret *Egretta intermedia* depend heavily on the few mangrove groves for their continued reproduction. The once commonly widespread Little Egret *Egretta garzetta* has lost most of its inland nesting sites and we may well lose this species as it has of late been reported to interbreed with the Reef Heron *E. gularis* of the coasts. Saurashtra is a major wintering area of the Demoiselle Crane *Anthropoides virgo*, while the saline grassland verges of the estuaries and the Ranns are important wintering areas for the Common Crane *Grus grus*, already, the planting of *Prosopis chilensis* on these valuable crane habitats is causing concern. The intensely cultivated plains of Mehsana, Ahmedabad and Kheda are the stronghold of the Sarus Crane *Grus antigone*. Unhappily, breeding failures are causing concern. Birds of prey have, as has already been indicated, shown a dramatic decline. The reasons are manifold, but if the huge concentrations of wintering harriers in the Velavadar National Park are any indication, habitat damage is one of the main reasons.

Having given a rather generalised idea of the present scenario which may appear rather alarmist, let me hasten to reiterate that Gujarat still continues to be a major avian region of the world. Birdwatchers visiting us invariably go away with excitement as indeed did Sálim Ali on his last visit to Saurashtra where, for the first time he saw Crab Plovers *Dromas ardeola* in flocks of hundreds. In the report on his surveys he has this to say for this attractive bird "Not met with by the Surveys, and apparently a very rare vagrant". In fact, during his "rediscovery" of Kachchh and Saurashtra with the starting of mistnetting, a considerable amount of interesting new information emerged and several new additions were made to Gujarat's bird list. We await the publication of the considerable data accumulated in the sixties and seventies.

This paper concludes by enumerating each avian family with specific comments on the conservation problems of the group. A systematic list is not attempted; Gujarat's Checklist is available with standardised vernacular names. Sálim Ali, who embarked on his tryst with birds by using a systematic listing which started with Crows and ended with Divers (in the case of Gujarat it would be the Grebes) went to considerable pains to explain why in his 1954 paper he had reversed the order. In the intervening years, placement of bird families has once again undergone a further reshuffling so that we now end with the finches instead of the crows! This arrangement was adopted by Dr. Dillon Ripley in the SYNOPSIS as also it appears in the HANDBOOK OF BIRDS OF INDIA AND PAKISTAN and A PICTORIAL GUIDE TO THE BIRDS OF THE INDIAN SUBCONTINENT; this arrangement is followed here. Almost half a century after Sálim Ali's collection forays into the region, we are poised in a scenario which may well result in a great many deletions from Gujarat's checklist. I consider it appropriate that a loud and clear warning goes out in this, his Centenary Year.

CONSERVATION NEEDS — A SYSTEMATIC APPRAISAL

An appraisal of conservation needs of birds has been made at specific levels. We know the

reasons for the extirpation of the Great Indian Bustard; there was no need for this to have happened. Scientific studies by ornithologists of the Lesser Florican substantiate what we have all been warning against and, demonstrating forcefully that the degradation of grasslands has damaged Gujarat's agrarian economy — the florican's needs are the same as those of human beings. The quality of the environment is at stake and birds, in their varied niches, are excellent indicators of environmental quality. In attempting to provide niches for different birds we may well enrich the human environment and enhance our quality of life.

Family GAVIIDAE: Loons and Divers

Vagrant to the subcontinent as winter visitors, however, their essentially marine habitat during the non-breeding winter months makes their possibility greater off our seaboard. Overfishing and oil slicks pose major threats.

Family PODICIPEDIDAE: Grebes

Of the four species of Grebes on the Indian List, in the 1940s both the Great Crested Grebe *Podiceps cristatus* and the Blacknecked Grebe *P.nigricollis* were considered "rare winter visitors" or vagrants. *P. cristatus* was first recorded nesting on the Khijadia Wetland near Jamnagar by Taej Mundkur and for the last decade there has been regular breeding there and assured sightings on several reservoirs of Saurashtra, Kachchh and central Gujarat. Freshwater jheels adjoining saline marshes appear to be favoured locales and *P. cristatus* may spread to suitable water bodies along the coast, provided these are not polluted by sewage and untreated industrial effluents. *P. nigricollis* has been recorded on several occasions on open, deeper reservoirs and appears to be less of a vagrant than was believed. The Rednecked Grebe *P. griseigena* has been unsatisfactorily identified and more regular birdwatching is needed to confidently place it, albeit as a rare winter visitor, on our checklist. The Little Grebe *P.ruficollis* continues to be a common resident species with numbers augmented in winter by northern migrants. It disperses during the southwest monsoon to nest in rainfed depressions. Threat is mainly from pesticide and inorganic chemical manure concentrations in the water affecting aquatic insects and fish on which the young are fed. During the non-breeding season, the birds concentrate on the perennial waterbodies where they get entangled in fish nets.

Family PROCELLARIIDAE: Petrels and Shearwaters

These are all birds of the open ocean. Occurrence in our area is accidental. We can contribute little towards their conservation.

Family HYDROBATIDAE: Storm Petrels

Pelagic, undoubtedly occuring on high seas. Little information from seafarers. No conservation action recommendable.

Family PHAETHONTIDAE: Tropic Birds

Tropical Oceanic Birds. Occasional in our seas. No quantitative information. No conservation action recommendations.

Family PELECANIDAE: Pelicans

Three species mainly winter visitors. Great fliers optimally using water bodies. The Rosy Pelican *Pelecanus roseus* successfully nested with flamingoes in the Great Rann. Sálim Ali discovered the nesting in 1960. They may regularly nest with the flamingoes. Pelicans need plenty of fish and the main conservation need is to ensure water quality of freshwater jheels. The Dalmatian Pelican *P. crispus* is a threatened species worldwide, while the Spottedbilled Pelican *P. philippenis* nests in South India in declining numbers.

Family SULIDAE: Boobies

Three species of these oceanic island-nesting birds occur out at sea. Sightings are unreported except for occasional storm driven birds on our

shores. Information needs to be collated. No conservation action indicated within our area.

Family PHALACROCORACIDAE: Cormorants and Darter

Gujarat has a major role to play in the continued success of this family. Formerly there were thriving nesting colonies of the Large Cormorant *Phalacrocorax carbo*, the Little Cormorant *P. niger* and the Darter *Anhinga melanogaster* across Kachchh, Saurashtra and mainland Gujarat. Most of these colonial nesting sites are lost on account of felling of trees. The pollution and drying up of river pools has reduced fish populations, hence these birds. In fact the Darter can no longer be considered "Common" in freshwater locales, though a significant population remains centred on the mangrove swamps of the Gulf of Kachchh. Significantly, the Darter is considered a freshwater species — the Gulf of Kachchh population is marine and the Marine National Park off Jamnagar and extending to Beyt Dwarka is an important area for conservation of this species which, because of pollution of freshwater habitats, is endangered. Trees in flooded areas are important for cormorants to nest on. The Indian Shag *P. fuscicollis* still remains an enigma and Sálim Ali's 1954 comment "Noted: Kanewal (Cambay). Possibly overlooked elsewhere" holds true. I believe the immense flocks periodically observed near Jamnagar and flying up some of the Saurashtra rivers could be of this species. Nesting colonies have to be yet confirmed. Fishing nets in Kanewal and other freshwater jheels are a threat to these diving fish predators.

Family FREGATIDAE: Frigate Birds

Birds of oceanic islands. Not yet reported from our area. Two species in Indian Ocean.

Family ARDEIDAE: Herons, Egrets and Bitterns

Gujarat is an important area for this family. In the Gulf of Kachchh there are mixed nesting colonies of Grey Heron *Ardea cinerea*, Large Egret *A. alba*, Smaller Egret *Egretta intermedia*, Indian Reef Heron *E. gularis* and Night Heron *Nycticorax nycticorax* on remnant mangrove jungles in the Marine National Park off Jamnagar; breeding commences early in April and continues into May and June. On the Bhavnagar coast and in locations in the city nesting continues during the southwest monsoon. August and September are important in flooded areas of Ahmedabad and Kheda Districts. Most of the inland colonies of Kachchh and Saurashtra are lost. The Little Egret *E. garzetta* which nested during the rains over the region is now compelled to nest with *E. gularis* and interbreeding has been reported. The Purple Heron *Ardea purpurea* is less common than earlier in the century on account of loss of the favoured reedbeds. The Cattle Egret *Bubulcus ibis* and the Pond Heron *Ardeola grayii* are holding out well and nesting colonies are established in every available grove of tall trees during the height of the southwest monsoon. The mangrove nesting site at Kandla referred to by Sálim Ali no longer exists. If birds are still nesting at Kandla they would have transferred to new trees inland as they have in the precincts of Bhavnagar port. Night Herons *N. nycticorax* are to be found all over the region in full crowned old trees, seen within urban locales. Sálim Ali writes about the Little Green Heron *Ardeola striatus* "Solos in bushes bordering streams and tidal mangroves... Doubtless resident, but no data on breeding within area". We have not yet bettered this information. Water pollution and destruction of waterside vegetation undoubtedly must have had adverse effects on this little heron's range.

In his surveys Sálim Ali came across none of the bitterns. Both the Yellow Bittern *Ixobrychus sinensis* and the Chestnut Bittern *I. cinnamomeus* have been recorded flying over reedbeds by many birdwatchers. Parasarya has confirmed nesting records of these two bitterns along with that of the Black Bittern *I. flavicollis* while Lalsinh Raol has a recent sighting of the Bittern *Botaurus stellaris* in North Gujarat, a species referred to by Sálim ali on the basis of old shikar records. Birdwatchers should

keep a vigilance for the Little Bittern *I. minimus* and the Tiger Bittern *Gorsachius melanolophus,* both species most likely to turn up in winter if not nesting with us. Water pollution and filling in of wetlands pose a threat to their existence.

Family CICONIIDAE: Storks

Sálim Ali's comments for all our resident storks remain valid today, except that nest site crowding on account of loss of larger trees particularly in older traditional sites is considerable. There is an unusual nesting colony of the Painted Stork *Mycteria leucocephala* on a sandstone island in the Gulf of Kachchh. Openbill Storks *Anastomus oscitans* nest on smaller inundated trees in the flood plains of central Gujarat. Whitenecked Storks *Ciconia episcopus* has become more frequent in Saurashtra and also Kachchh but whether this is dispersal on account of increase in population or influx of birds from outside the State in search of favourable nesting trees is a moot point. The Blacknecked Stork *Ephippiorhynchus asiaticus,* if anything, has become sparser and the greatly separated pairs seem not to be successful in breeding, the species needs to be carefully watched.

The status of both the White Stork *Ciconia ciconia* and the Black Stork *C. nigra* has undergone a dramatic change. Both are winter visitors, *C. ciconia* has been seen in flocks of above 200 among fields and in roadside ditches south of the Nal Sarovar. Birds are, however, very mobile and concentrate or disperse depending on food availability. *C. nigra* has become more regular in the Gir and other parts of the State; there has been an increase, but whether this is on account of a population increase or because of dispersal for suitable remaining habitats is questionable. Both species of Adjutant Storks *Leptoptilos dubius* and *L. javanicus* are on the Gujarat list because of old sight records in Kachchh and north Gujarat.

Our resident storks are pressed for nesting sites and existing trees need to be identified and protected even as suitable planting of former known locations is commenced as a special programme.

Family PHOENICOPTERIDAE: Flamingoes

Both the Flamingo *Phoenicopterus roseus* and the Lesser Flamingo *Phoeniconaias minor* are plentiful. Gujarat is the breeding and dispersal centre for the flamingoes of the subcontinent. The former is more widespread in freshwater jheels, estuarine mud and on flooded Ranns and saltpans. The latter is concentrated along the sea coasts and the Ranns. The expanding salt industry has provided favoured habitats for both flamingoes and at times they assemble in thousands on larger pans. At the Great and Little Ranns, both species assemble to nest in immense flocks. Considering the huge numbers of *P. minor* with juveniles, it is puzzling why no large nesting colony has been recorded. This is largely, I aver, on account of a casual approach by us birdwatchers. This, however, is to advantage since publicity has resulted in groups of visitors to Flamingo City once making the birds desert a highly successful nesting endeavour — such disturbances for a disaster prone lifestyle as of flamingoes can prove seriously damaging to the species' very survival. Flamingoes of both species appear to find rich feeding in sewage discharges as well as in effluent ponds of chemical industries. Long term effects on the birds' vitality, however, need to be examined. It must also be borne in mind that the Ranns are highly unstable ecosystems and that of late the huge quantities of salt encrustation are being eyed by industry. Effective management strategies need to be evolved to the benefit of the birds and for industrial needs before serious confrontation develops. That flamingoes are a tenacious group of birds apparently highly adaptable to human proximity is demonstrated by a magnificent flock of several thousand *P. minor* regularly visiting a sewage drainage area within Porbandar city where I was shown several pairs attempting to nest in full view from a busy road.

Family THRESKIORNITHIDAE: Ibises, Spoonbill

Both the White Ibis *Threskiornis aethiopica* and the Black Ibis *Pseudibis papillosa* are holding

out well, the former regularly nesting on inundated trees at all existing communal nesting sites and on islands in the Gulf of Kachchh, the latter has adapted well to nesting on tall trees in cities. In the Gulf *T. aethiopica* starts nesting in March as do the marine herons, egrets and darters. On inland locations breeding occurs during August and September. The Spoonbill *Platalea leucorodia*, though widespread, has perceptibly declined and no longer can be considered "common". The decline is attributable to decimation of the former inland nesting sites in Saurashtra and Kachchh.

The Glossy Ibis *Plegadis falcinellus* continues to be an enigma. This is a very visible bird on inundated areas of central Gujarat and a large roost exists on the outskirts of Vadodara, yet there were no nesting records till a colony was located among water logged *Prosopis juliflora* plantation in Kachchh by J.K. Tiwari on a BNHS field programme. If local birdwatchers were as active during the rains as they tend to be in the cool season, colonies would assuredly be located.

Family ANATIDAE: Ducks, Geese, Swans

This group of wildfowl were best observed and information collated of on account of the many "Sporting" events formerly organised by the aristocracy. A good many jheels were well covered, the most well known being the Nal Sarovar, striking distance to its east from Ahmedabad and from its west from Limbdi whose princely family organised annual "shoots" for fellow princes and British dignitaries. Kachchh too was intensely covered. Today our information on waterfowl is far more sketchy, though the annual waterbird counts are replacing the shoots as "events". Most of what was recorded by Sálim Ali remains true, with a few very significant changes. The Greylag Goose *Anser anser*, recorded as "rare in northern Gujarat", is fairly plentiful around Ahmedabad and morning flights from irrigated croplands to roost beside the large, newly constructed reservoirs on the major rivers are stirring sights. The Barheaded Goose *A. indicus* has started regularly wintering on a couple of Saurashtra tanks. It was in one such flock that the intrepid Taej Mundkur spotted a Snow Goose *Chen hyperborea* subsequently confirmed by the late Shivrajkumar Khachar. As greater numbers of amateur birdwatchers go on "wildgoose chases" more interesting information on geese and other waterfowl is to be expected. Great care, however, needs to be exercised in identification, particularly in the case of the rarer geese and swans, since we do not want veracities doubted as was Stolizcka's claim of sighting swans in the Great Rann in 1870. Off colour flamingoes in belly deep water look remarkably like swans to an eager enthusiast!

Comments for our wintering ducks remain the same, though the large concentrations of the forties seem to have evaporated. Both the "dabbling" duck and the "diving" duck are found in smaller numbers today. If the high concentration of coot on the Nal and other jheels is any indication, vegetational changes in the traditional waterbodies appear to be the reason. Netting for fish now legal on most waterbodies, may also be a significant contributory factor for the decline in water fowl.

The Ruddy Shelduck *Tadorna ferruginea* is certainly not "a rare and erratic" winter visitor. The larger reservoirs all over the State have their complements of this "wide awake" though not necessarily "excessively wary" bird. The Common Shelduck *Tadorna tadorna* continues to be "a very rare winter visitor".

Among our resident ducks, the Spotbilled Duck *Anas poecilorhyncha* has most certainly increased in numbers, having successfully used the great many percolation farm ponds to its advantage to nest in. The Lesser Whistling Teal *Dendrocygna javanica* seems to be less successful and needs to have a watch kept on its annual nesting successes. This is true of the Comb Duck *Sarkidiornis melanotos* as well as the Cotton Teal *Nettapus coromandelianus*. I am not too sure whether their spread into Saurashtra is on account of population increase or resulting from disturbances at their former Gujarat nesting village ponds. Loss of large trees with nesting hollows should be a matter for concern. Felling of trees, deterioration in water quality and

fishing are accelerating threats to the group, particularly our tree nesting ducks. A greater number of reservoirs and extension of irrigation will be of advantage, especially to the winter migrants.

Family ACCIPITRIDAE: Raptors, Vultures

This magnificent group of birds has shown a dramatic decline. Where once a single morning's outing would yield scores of hawks and eagles, today a 100 km drive produces hardly a bird or two! The fading away of raptors from our avian fauna highlights most graphically the immense degradation that has taken place in our environment. Perhaps a very detailed report needs to be prepared. The reasons for the decline are manifold — pesticide poisoning, habitat loss and prey availability reduction are all contributory. In the case of migrant raptors, problems are international, but for our resident species, one of the most significant problems is the loss of large nesting trees. This is most graphically demonstrated by the Whitebacked Vultures almost compulsively moving into public parks within cities. The more shy eagles are being driven to extinction largely on account of nesting failures. The Tawny Eagle *Aquila rapax*, once a common bird, is now rare. Other breeding eagles like the Short-toed Eagle *Circaetus gallicus* and the Bonelli's Eagle *Hieraaetus fasciatus* have become scarce. Sálim Ali's reassuring "fairly common" no longer obtains for the former, while the latter perhaps still operates from traditional nesting sites on old forts or hill crags, most tree eyries are lost.

Booted Eagles *Hieraaetus pennatus* are comparatively common in winter, though there has been no subsequent record of the species nesting in our area since Sálim Ali's record at Deesa. The Blackwinged Kite *Elanus caeruleus* is perhaps our commonest raptor in cultivated and lightly wooded country. Goshawks, Shikra, and Sparrow Hawks need more attention, though the resident *Accipiter badius* is holding out fairly successfully.

Pariah Kites *Milvus migrans* have certainly lost ground. There was a very noticeable crash in numbers in the 1950s after concerted drives to poison rodents whose predation is again vigorous as before, though kite losses have still not been made up! Apart from a bird seen by Shivrajkumar, there are no recent records of the Red Kite *M. milvus* and Sálim Ali's conjecture that the bird is "a regular winter visitor to Kutch but has been overlooked ..." may well apply to Saurashtra and northern Gujarat.

The buzzards of the genus *Buteo* are all winter visitors, not easy to identify and their numbers have very considerably declined as have those of the once exceptionally plentiful White-eyed Buzzard-Eagle *Butastur teesa*, which in the forties had been our "Commonest hawk of the area". To see one calls for some excitement! Fortunately, the Honey Buzzard *Pernis ptilorhychus* continues to be regularly sighted perhaps because its food - the Rock Bee — is still very plentiful in mainland Gujarat. Elsewhere it is more often seen during the cool season when northern birds arrive. The Crested Hawk Eagle *Spizaetus cirrhatus* continues to be "not uncommon in forested country" as indeed the Crested Serpent Eagle *Spilornis cheela* is in the Gir and the Dangs. Though there has been considerable forest degradation, little pesticide use has been resorted to by the "backward" tribal farmers, and as such Sálim Ali's notations of half a century ago can still be applied to the Serpent Eagle.

The Pallas's Fishing Eagle *Haliaeetus leucoryphus* and the Greyheaded Fishing Eagle *Ichthyophaga ichthyaetus* have become great rarities now that the larger rivers are dammed and riverpools overfished and dynamited. In Saurashtra, both species used to predate heavily on inland mixed nesting colonies of cormorants, egrets and spoonbill.

The migrant Steppe Eagle *Aquila nipalensis*, the Imperial Eagle *A. heliaca*, the Greater Spotted Eagle *A. clanga* and the Lesser Spotted Eagle *A. pomarina* have all become scarce and all sightings need to be recorded. Sálim Ali has "Definitely observed only once - a single..." Black Eagle *Ictinaetus malayensis* at Jambughoda an area considerably north of the Narmada valley. I am not aware of any subsequent sightings. This magnificent raptor is a bird of the forested Western Ghats systems and despite considerable degradation of the hill

forests, birdwatchers should be advised to keep a look out for a long winged black eagle coursing along the escarpments specially over hills of Rajpipla and the Surat Dangs further south. Another magnificent eagle still fairly common along the western seacoast south of Bombay is the Whitebellied Sea Eagle *Haliaetus leucogaster.* There seems no reason for this fine bird from occurring further north along the seaboard and it should not be surprising if pairs are found nesting on tall trees along coastal plantations in Navsari District. Nonbreeding individuals may well turn up over the estuaries of the Mahe and the Sabarmati at the head of the Gulf of Khambhat. Infact, though Sálim Ali had not come across this eagle during his surveys, he lends credance incorporating a sight record by Harinarayan Acharya at Gobhlaj jheel "18 miles south of Ahmedabad on 9.2.1936...." This is a freshwater jheel at some distance from the seacoast, but the deep intrusions by tidewater up the estuaries certainly makes is quite possible for a superb flier to drop in on water well stocked by fish and aquatic birds.

This brings us to the vultures. The Black Vulture *Sarcogyps calvus,* never numerically plentiful, is now restricted to the Gir and Kachchh largely on account of nesting tree loss, I believe. The still common Whitebacked Vulture *Gyps bengalensis,* less shy has converged for nesting on large trees in urban parks not, as some believe, on account of population increase, but because of felling of large trees in rural areas. There are reports of this vulture nesting on house tops in western Kachchh! The Longbilled Vulture *G. indicus,* always limited by its nesting on crags, continues to be as common as before. If there has been a marginal decline, I would suspect it is on account of pesticide poisoning. This is most certainly the main reason for the Scavenger Vulture *Neophron percnopterus* dropping from Sálim Ali's "Fairly common over the whole area", to what I would call uncommon. Both the Cinereous Vulture *Aegypius monachus* and the Griffon *Gyps fulvus* are winter visitors in small numbers. The latter certainly is not "a rare straggler" as recorded by Sálim Ali. This, however, is true of the Himalayan Griffon *G. himalayensis* which strays down in winter, as proved by an exhausted bird captured at Hingolgadh and housed for years in the Ahmedabad Zoo.

Of late, harriers have highlighted Gujarat most favourably on account of immense congregations assembling to roost in the Velavadar National Park. This assembly is entirely because of the prime harrier habitat remaining (by active manipulation) in the Park. Elsewhere, sighting a couple of these harriers causes excitement, whereas a few decades ago all three — the Pale Harrier *Circus macrourus,* Montagu's Harrier *C. pygargus* and the Hen Harrier *C. cyaneus* were the joy of birdwatching on windy, winter mornings. Strangely, Sálim Ali makes no mention of *C. cyaneus.* The decline of the three Harriers can be attributed to the loss of grasslands, infestation of pastures by *Prosopis chilensis* and the shift of "Kharif" cultivation from cotton, millets, etc., to monoculture of groundnut and of course the attendant spraying of pesticides. On the other hand, the distinctively sexually dimorphic Marsh Harrier *C. aeruginosus* continues to be a "Winter visitor, fairly common, singly, at jheels and marshes".

The Osprey *Pandion haliaetus* is a "Winter visitor, not abundant but usually one or two present on most of the larger rivers and jheels" and I may add all along the sea coast as well as on the large reservoirs constructed after 1947.

Family Falconidae: Falcons

Falcons were greatly valued in princely times as they are today by the rich Arab Sheikhs. Knowledge of falcons: their identification, capture and training to fly off the fist after hare, partridge and bustard, was honed to a fine skill. Unhappily today, the art of falconry is dead and information on this great group of birds is as meagre as it was voluminous and qualitative half a century ago. Like the other birds of prey, falcons have considerably declined in number on account of habitat degradation, pesticide poisoning and above all, in the case of the resident Laggar Falcon *Falco biarmicus* and the Redheaded Merlin *F. chicquera* because of felling of tall trees holding traditional

nests. Those laggars nesting on fort balconies and hill crags are continuing to successfully raise young, as indeed does the Shaheen *F. peregrinus peregrinator* on the crags of Girnar in Saurashtra, and Mt. Abu just north of Gujarat. Sálim Ali does not mention the Shahin and his "Fairly common" for *F. biarmicus* and *F. chicquera* no longer operates and our responsibility towards conservation programmes for them is great because they breed here. Preservation of existing nests, and putting up artificial nests are among the significant steps to take.

The migratory race of the Peregrine Falcon *F. p. japonensis* continues to be a "winter visitor. Not common and occasional." Its fate depends more on situations in its temperate breeding range. Fairly frequent and excellent sighting can be had around the seacoast and on the edges of the Ranns where prey is plentiful in the vast hordes of shorebirds. This is also true for the Hobby *F. subbuteo*. Unhappily, the "common winter visitor" the Kestrel *F. tinnunculus* is considerably less so no doubt on account of altered habitats of grass and open savannah and pesticides. In recent years, the Lesser Kestrel *F. naumanni* and the Redlegged Falcon *F. vespertinus* have been recorded in Saurashtra, the former outside Rajkot and the latter twice on the western seacoast. The status of wintering desert falcons is very unclear, thanks to our general incapability of identifying them.

Family PHASIANIDAE: Pheasants, Partridges, Quails

This traditionally hunted and snared family of birds has shown an appreciable decline in numbers, not only on account of illegal snaring but because of habitat destruction and pesticide use in agriculture. The position of the Black Partridge *Francolinus francolinus* in Kachchh undoubtedly is the same as that of the Painted Partridge *F. pictus* elsewhere. The invasion by *Prosopis chilensis* on sand dunes, pastures and into grass preserves cannot but have a deleterious effect on the local fauna. The Painted Partridge is holding out well in the broken hill country of eastern Gujarat, which cannot be said for it in Saurashtra. The widespread Grey Partridge *F. pondicerianus* continues to be "a common" but certainly not "abundant gamebird over the entire area", while the Blackbreasted Quail *Coturnix coromandelica* continues to be heard in short monsoon vegetation.In Kathiawar in particular, numbers have declined as indicated if only by the otherwise continual calling during rainy days being less heard. The former "common winter visitor", the Common Quail *C. coturnix* is no longer plentiful, its decline possibly reflects habitat change in its northern breeding range. Both the Rock Bush Quail *Perdicula argoondah* and the Jungle Bush Quail *P. asiatica* are holding out in appropriate terrain, though large coveys are less "tread on" than before.

The position of both the Red Spurfowl *Galloperdix spadicea* and the Grey Jungle Fowl *Gallus sonneratii* cannot be said to be "common" or "uncommon" respectively and population decline is attributable to both direct snaring and indirect habitat degradation. The common Peafowl *Pavo cristatus* continues to be still visible and by and large unmolested, but its former highly favoured urban habitats of large, overgrown compounds have considerably dwindled, with the break up of properties and construction of high-rise buildings, though in Rajkot, peahens have taken to egg laying in balconies and on roofs! In the countryside too, the droves formerly seen are missing, undoubtedly on account of intensive farming practices and the application of pesticides. The loss of tall, sturdy boughed trees to roost in must also be a contributing factor. In the Gir forest, Pranav Trivedi has recorded them roosting high on electricity pylons.

Family TURNICIDAE: Bustard-quails

These tiny and highly inconspicuous little birds need more direct evidence to affirm their present status, though the loud, droning call of the Common Bustard-Quail *Turnix suscitator* is less heard than in the past. Over large tracts of cultivated land, intensive agriculture with the compulsive eradication of "weeds", obliterating of grassy verges and copious application of pesticides have made

conditions inhospitable for all birds, including these tiny cousins of the stately Sarus. Marginal lands along riverbeds, with rocky outcrops, provide retreats where they survive under siege conditions.

Family Gruidae: Cranes

Gujarat continues to be a major crane region of the world and the fact that such huge numbers should continue to be audible and visible in a densely populated and highly agrarian landscape speaks volumes for the traditional values among the general population, and the great adaptability of these magnificent birds. Wintering flocks of Demoiselle Crane *Anthropoides virgo* continue to be evocative of clear winter mornings over Saurashtra's windswept landscape. Salim Ali had, and rightly so, continually emphasised the importance of the escarpments overlooking the Great Rann as vantage points to observe "migration, and the numerous species observed there...in the first week of October, perhaps the most spectacular were the flock upon flock of Demoiselle and Common Crane". The latter is more partial to the edges of the Ranns and estuaries where it feeds on tubers of a xerophytic sedge. The people of Gujarat should be proud of the fact that the State's agricultural heartland continues to be the most important habitat of the Sarus Crane *Grus antigone* in the Subcontinent. Intensive cultivation of rice on former Sarus marshes, garbage disposal in others near urban centres and the draining in of chemical effluents, sewage, pesticides and inorganic fertilizers into all depressions have disrupted the wetland ecology, making successful breeding by these large and spectacular birds difficult. Unless some very imaginative and popular programme is conceived, we may well witness a sharp decline in the population of the Sarus along with other resident waterbirds.

Family Rallidae: Rails and Coots

These excessively secretive birds have never really been well observed. Especially for the species of the genera *Rallus* and *Porzana*, all information on status is rather casual and observations incidental; whether there are resident and/or migratory populations appears to be largely speculative. The Ruddy Crake *Porzana fusca* was first recorded by me during the cool season and I am not sure how many further records exist. It was I who showed the late Dharmakumarsinhji the Brown Crake *Amaurornis akool* near Bhavnagar, and later showed that it commonly breeds in Kathiawar, Saurashtra. Salim Ali cites early observations by Butler which correspond to my observations — *A. akool* was common and widely distributed. The same is true of the Whitebreasted Waterhen *A. phoenicurus* which, however, is less secretive and singularly noisy during the rains when it nests. Salim Ali recorded it as "not common", though I would say it was, as it still is, locally common in the past, being absent from some of the better known "shikar jheels". Very little was known of the large Kora *Gallicrex cinerea* till suddenly in the 1960s they started turning up in quite unexpected places like irrigated farmlands — the quite phenomenal disappearance of reedbeds and desiccation of perennial river pools literally flushed out this otherwise extremely secretive bird. The position today remains an enigma. The Moorhen *Gallinula chloropus* was "fairly common" but today its numbers have gone down and sightings are less frequent. The large and showy Purple Moorhen *Porphyrio porphyria*, in my opinion, had concentrations on larger wetlands in Gujarat from where they spread out to nest in the monsoon; thus the great fluctuations — it certainly is no longer common in Saurashtra. The Coot *Fulica atra* has a strong inflow of wintering birds but a few pairs have nested, curiously enough quite patchily. Large concentrations of Coot appear to indicate an ecological shift from clear water preferred by diving ducks to more weed choked water, attractive to moorhens and the like. Today, the destruction of reedbeds, overgrazing and wallowing by buffaloes, pollution by sewage, industrial discharges and landfills have severely disturbed the habitat of this group of marsh birds. We may well lose several species without knowing of the loss.

Family OTIDAE: Bustards

The disappearance of the Great Indian Bustard *Choriotis nigriceps* and the precarious current status of the Lesser Florican *Sypheotides indica* are a shame on grassland management by the State administration, which annually incurs huge expenses on purchasing hay from neighbouring States to feed its starving cattle. Kathiawar (Saurashtra), Kachchh and the hilly tracts of Gujarat can all produce immense quantities of hay for a highly profitable livestock industry. On this subject, the less said the better! Even well known nesting sites of the Great Indian Bustard — a couple of them declared Bustard Sanctuaries are overrun by livestock and planted over with *Prosopis chilensis*. Both the people and the birds have lost out! The Houbara *Chlamydotis undulata* is not "rare". It is, rather, a regular winter visitor to the semidesert margins of the Ranns and on the sand dunes of Saurashtra and Kachchh coasts. Disturbance by livestock and infestation by *Prosopis chilensis* on the saline grasslands and sand dunes would appear to be negative factors.

Family JACANIDAE: Jacanas
Family HAEMATOPIDAE: Oystercatcher
Family ROSTRATULIDAE: Painted Snipe

The Pheasant-tailed Jacana *Hydrophasianus chirurgus* is still common and widespread during monsoon in weed filled depressions. The drying out of Saurashtra and Kachchh waterbodies and pollution in Gujarat must be seen as threats to this as well as the "decidedly uncommon" Bronzewinged Jacana *Metopidius indicus*. The resident Painted Snipe *Rostratula benghalensis* is perhaps commoner than believed; its highly cryptic colouring and capacity to remain "hidden" beside the smallest of wet areas undoubtedly makes it easy to overlook. Besides, the breeding season is during the monsoon when few keen amateur birdwatchers are out in the field, so calling females are not heard. The boldly pied Oystercatcher *Haematopus ostralegus* is still fairly common during winter on the Kachchh and Saurashtra coastline. Numbers are greater on the oyster-encrusted rocky headlands from Okha to Pirotan Island north of Jamnagar.

Family RECURVIROSTRIDAE: Stilts, Avocets
Family DROMADIDAE: Crab Plovers
Family BURHINIDAE: Stone Curlews

I consider the Blackwinged Stilt *Himantopus himantopus* an indicator of the quality of water. This "one of the commonest waders on inland waters: present in varying numbers at every swamp, jheel, puddle or tidal mudflat" is still common. I believe stilts on tidal mudflats are quite incidental, since much of the diet there has to be vigorously probed for, for which the fine bills of stilts are not ideal. On the saltpans and the flooded Ranns, however, there often appear huge concentrations of free swimming copepods which, like mosquito larvae are ideal for stilts to pick off. As water gets polluted fish disappear, though mosquitoes breed in immense quantities with impunity and the teeming larvae attract large flocks of stilts. Further pollution, especially by chemical discharges, suppresses larvae and aquatic fauna, and stilts disappear. Their numbers have most certainly increased over the region. On the other hand, the Avocet *Recurvirostra avosetta* is enigmatic. A winter visitor, it appears at times in appreciable numbers, both on freshwater and on the saltpans — concentrations on the latter at times are a bird spectacle worthy of specially travelling to see! Salim Ali had "discovered a large breeding colony in the Great Rann of Kutch, off Nir on Pachham Island" in April 1944. There may well have been other such nestings in subsequent years. Avocets, like the stilt, appear to benefit by moderate water pollution and their large assemblages must consume huge quantities of mosquito larvae.

All information of the distinctive Crab Plover *Dromas ardeola* till my visit to Pirotan Island in December 1970 was faulty. Sálim Ali's "apparently a very rare vagrant" and Dharmakumarsinhji's disbelief at my identifying a distant flock of what he dismissed as terns, typify the knowledge till then. The Pictorial Guide has this to say "Largely crepuscular, maritime waders". Crab Plovers are not

crepuscular, they operate at the very edge of the tide and their feeding and resting are dictated by the rhythms of the tide. So wedded are they to the water's edge that even in flight, while they readily fly across open water, flying low over it, they skirt headlands and sandbars, never crossing them! At high tide, all birds of a particular stretch of shoreline or exposed reef, collect to rest on a sandspit in flocks from forty to four hundred birds. On the tide turning, they scatter about, when an observer may see singletons at a distance. The enigma remaining is — where do the Gulf of Kachchh flocks nest? They are breeding very successfully, judging from the proportion of juveniles in each flock. Taej Mundkur suspects nesting off Jakhau in Kachchh. The Gulf of Kachchh is perhaps the best place to see this large, distinctive and ridiculously confiding wader.

The Burhinidae has two species, the Stone Curlew *Burhinus oedicnemus* and the large Great Stone Plover *Esacus magnirostris*. The former is "common" across the State, quietly resting in the shade of shrubs and trees in scrubland, unkept orchards and edges of cultivation. The bird's presence is made known by the distinctive call uttered "at evening dusk and before sunrise, and also on moonlit nights". The urban sprawl, resulting in the breakup of suburban properties with their rambling gardens has evicted this largely invisible yet audible bird from its most favoured habitats. The Great Stone Plover is a bird of rocky seacoasts, rocky outcrops around large reservoirs and the rocky beds of large rivers. They are certainly commoner than before, thanks to the many large dams constructed after the formation of the Gujarat State.

Family Glareolidae : Coursers, Pratincoles

Our knowledge of the two species of coursers, the Creamcoloured Courser *Cursorius cursor* and the Indian Courser *C. coromandelicus* has not increased beyond what was known half a century ago! The former is presumably a regular winter visitor to the desert-like edges of the Ranns, while the latter is largely overlooked in open cultivation, pastures and the undulating rocky plateau country of Saurashtra; information on their breeding is needed. Surprisingly, Salim Ali makes no mention of Pratincoles; both the Large or Collared Pratincole *Glareola pratincola* and the Small Indian Pratincole *Glareola lactea* are frequent over the many old and new reservoirs of the area. They nest sporadically beside the Saurashtra and Kachchh reservoirs. Their status has most assuredly improved!

Family Charadriidae: Plovers, Sandpipers, Snipe

The extensive tidal mudflats, inundated Ranns, associated saltpans and the network of rainfilled jheels and flooded depressions, all form a rich mix of habitats favoured by this family of birds known collectively as waders. Their numbers have shown no decline. The Broadbilled Sandpiper *Limicola falcinellus* which Salim Ali mentions while commenting on flocks of small waders in the following vein: "These flocks, doubtlessly contain examples of the Broadbilled Sandpiper" are confirmed as regular visitors especially on either side of the Gulf of Kachchh, where recent reports of the Eastern Knot *Calidris tenuirostris* suggest that the species is a regular winter visitor. There have been no recent sightings of the Sociable Lapwing *Vanellus gregarius* which is enumerated by Salim Ali on the strength of Butler's 1876 report of the species being "very common during the cold weather in the neighbourhood of Deesa". More extensive birdwatching has revealed the rather frequent occurrence of Rednecked Phalaropes *Phalaropus lobatus* on saltpans and brackish lagoons on the Saurashtra seaboard. Observations have revealed that the Bartailed Godwit *Limosa lapponica* has a preference for sea coasts, while the Blacktailed Godwit *L. limosa* prefers backish, inland water and freshwater jheels. In their preferred habitats both species are equally plentiful. The Temminck's Stint *Calidris temminckii* of which Salim Ali states "Usually in mixed flocks..." is more a bird of fresh rather than saline waters which are equally favoured by the undoubtedly more plentiful Little Stint *C. minutus*. Apart from these observations, the status of all other waders remains unchanged. Some

intensive scientific examination, however, needs to be undertaken to assess the effect of huge quantities of sewage and industrial wastes being emptied via the rivers into the Gulf of Khambat. Any increase in toxins into the tidal mud may well affect a sizable segment of the population of Palaearctic waders.

Family STERCORARIIDAE: Skuas
Family LARIDAE: Gulls, Terns

Skuas are gull-like predators of Polar seas and in Salim Ali's language "Within our limits, the records are mainly of accidental waifs storm-tossed during heavy monsoon gales." He does not mention them in his Gujarat reports. Being a maritime state but lacking seagoing birdwatchers, Gujarat may well have Skuas turning up more frequently. We have our fair share of gulls and terns, however. The Blackheaded Gull *Larus ridibundus* and to a lesser extent the Brownheaded Gull *L. brunnicephalus* are plentiful at all ports and present in smaller numbers on inland reservoirs especially in Kachchh and Kathiawar, and in concentrations over the inundated Ranns. Both the Lesser Blackbacked Gull *L. fuscus* and the Herring Gull *L. argentatus* are met in small numbers on inland reservoirs and along the coast, with a particularly impressive gathering each winter at Okha, where the latter are predominating. Sálim Ali makes no mention of the Great Blackheaded Gull *L. ichthyaetus* which is regular in solos and small parties on larger reservoirs of Kachchh and Saurashtra; it is also a regular feature along the sea coast and especially so on the reefs of the Marine National Park between Okha and Jamnagar. The Little Gull *L. minutus* was seen by Sálim Ali himself in flocks over the flooded Great Rann during one of his later visits there; Taej Mundkur has seen them though I have no other reports. Dharmakumarsinhji spoke of the Slenderbilled Gull *L. genei* as a rare winter visitor in a vague sort of manner and it was Lalsinh Raol, whom Sálim Ali rated very highly, who definitely confirmed that the bird was a not uncommon wintering species off the Jamnagar coast, I have regularly seen them off Beyt Dwarka. Our knowledge of terns, especially the migratory, and more marine ones is comparatively meagre and more information is needed. Taej Mundkur reported nesting of the Little Tern *Sterna albifrons* in saltpans on the Jamnagar coast, while a regular colony breeds at Bhavnagar, where the birds had been filmed by Dharmakumarsinhji. The Large Crested Tern *S. bergii* and the Sandwich Tern *S. sandvicensis* and the lesser crested tern *S. bengalensis* are commoner than believed. More intensive birdwatching may confirm that Gujarat is on the itinerary of the migratory Common Tern *S. hirundo*, the Roseate Tern *S. dougalli* and the Black Tern *Chlidonias niger.* Sálim Ali did not come across the regular, though uncommon wintering Whitewinged Black Tern *C. leucopterus*. Both *C. niger* and *C. leucopterus* can be overlooked in winter plumage among the flocks of wintering Whiskered Terns *C. hybrida*, a plentiful species along the coasts and inland.

The large number of reservoirs have provided nesting islands for the Indian River Tern *S. aurantia*, but pollution and desiccation of rivers and inland marshes have made this formerly familiar species less so. Sálim Ali's notation " I can trace no record of its breeding in Gujarat..." surprises me, since I have been inducted into the joys and tribulation of bird photography at Jasdan in Saurashtra, sitting over nests of this and the Blackbellied Tern *S. melanogaster* of which Sálim Ali writes "Status uncertain". The large reservoirs constructed during the last few decades have most certainly become nesting areas for these terns in Gujarat — River Terns have been nesting regularly on the Aji and Niari reservoirs of Rajkot. The Little Tern *S. albifrons* is common on large inland reservoirs and along the coast, particularly so in sheltered water of the Gulf of Kachchh. *S. albifrons* has been filmed nesting near Bhavnagar by Shivbhadrasinh as had been done earlier by his naturalist uncle, Dharmakumarsinhji. Taej identified both *S. a. albifrons* and *S.a. saundersi* around Okha; they are now considered distinct species.

The Gullbilled Tern *Gelochelidon nilotica* is perhaps one of the most visible species over tidal flats and inland, even highly polluted water. Sálim

Ali's "it is not unlikely that they may breed in the neighbourhood" (Nir on the edge of the Great Rann) should encourage amateur birdwatchers to extend their outings beyond comfortable weekend jaunts. The Caspian Tern *Hydroprogne caspica* is an unmistakeable presence on the Kachchh and Saurashtra coasts as well as on larger inland reservoirs. There is all likelihood of this fine tern nesting in Kachchh and on the Jamnagar coast. Sálim Ali did not come across the Indian Skimmer *Rynchops albicollis* flocks of which, sometimes a hundred strong, sporadically put in an appearance on major waterbodies both fresh and brackish. Status remains uncertain.

Family Pteroclididae: Sandgrouse

I can, with confidence, state that our knowledge of this family has not been improved since the 1940s report by Sálim Ali. The Indian Sandgrouse *Pterocles exustus* continues to be widespread over the entire State, including as I found on the sand dune islands of the Gulf of Kachchh. The Painted Sandgrouse *P. indicus* is also holding out well in rocky hill country amidst degraded forests of all types. More effort needs to be put in to update the information on the wintering Imperial Sandgrouse *P. orientalis* and the Spotted Sandgrouse *P. senegallus*. There is all likelihood of the former being more regular and commoner than believed and even "very abundant" as recorded by Butler and the latter actually breeding along the edges of the Ranns which are their main habitat.

Family Columbidae: Pigeons, Doves

The Blue Rock Pigeon *Columba livia* continues to live up to Sálim Ali's observation "Common over the entire region, affecting buildings, whether derelict ruins or in occupation... A popular nesting site ... is down the vertical shafts of disused wells ..." To these favoured places I may add rocky islets out at sea, emphasising the virtuosity of this highly adaptable bird. High rise buildings are providing more vertical nesting space in urban conglomerations, as are the ubiquitous industrial sheds. Thus, this species continues to be a highly successful one. Surprisingly, the Yellowlegged Green Pigeon *Treron phoenicoptera* (which half a century back was known as the Southern Green Pigeon), is unobtrusively successful in all its strongholds of the Gir forest in Saurashtra and over mainland Gujarat; unhappily most of the fine old avenues of shade trees which provided it a ramification into other parts are gone thanks to old trees being felled by road widening and their replacement by "quickie" trees so dear to the professional forester.

Of the four resident doves, the Indian Ring Dove *Streptopelia decaocto*, the Red Turtle Dove *S. tranquebarica*, the Spotted Dove *S. chinensis* and the Little Brown Dove *S. senegalensis*, *S. tranquebarica* seems to have specially suffered immense losses along the new highways with their speeding traffic. This dove just has not learnt to recognise the danger of vehicles, and tends to take off too late to avoid collision with the speeding behemoths. In the countryside, as well as in lightly built-over area, all the other doves are doing well. *S. chinensis*, never an urban bird, continues to be plentiful all over its former "wellwooded areas". The winter migrant Rufous Turtle Dove *S. turtur* presumably continues to be "Excessively shy" and "Not uncommon in open glades and along cart tracks in bamboo and mixed deciduous forest" or what may be left of them in the Surat Dangs where too, the Emerald Dove *Chalcophaps indica* can still be heard. Its range has assuredly got constricted, judging from the efficient destruction of natural vegetation on the hills north of the Dangs and by no stretch of the imagination can this pretty dove be thought to occur at Songadh which "appears to be the most northerly record for this species on the western side of India". Birdwatchers may attempt to confirm the Emerald Dove's existence in "...Rajpipla and at least to the Narbada River" in what today is the much publicised Shoolpaneshwar Sanctuary.

Family Psittacidae: Parakeets

The three parakeets the Roseringed Parakeet *Psittacula krameri*, the Alexandrine Parakeet *P.*

eupatria and the Blossomheaded Parakeet *P. cyanocephala* are holding out. Sálim Ali's observations on the last species can be upgraded by adding the Gir forest to its range. The destruction of gnarled trees with their cavities for nesting and the practice of highly sterile moonocultural forestry plantations are a threat to this otherwise vigorous family. *P. eupatria* and *P. cyanocephala* have not taken to nesting in buildings, nor have they learnt to raid crops and are far less successful in adapting to "progress" than *P. krameri,* which in Sálim Ali's words occupies "Holes in walls of buildings ... even in the heart of noisy bazaars". There are immense roosts in large trees outside the Ahmedabad Junction and in the compound of the Circuit House in Vadodara. Unhappily, the new high rises are singularly free of potential nesting sites.

Family Cuculidae: Cuckoos

Of the eight cuckoo species recorded by Sálim Ali, the Pied Crested Cuckoo *Clamator jacobinus* continues to herald the welcome SW monsoon rains throughout Gujarat. The Koel *Eudynamys scolopacea* continues to be a shadow of the ubiquitous House Crow. The Sirkeer Cuckoo *Taccocua leschenaultii* and the Coucal *Centropus sinensis,* both nonparasitic cuckoos, are fairly common and appear to be doing especially well in dense shrubberies of eroded river banks and hedgerows. The Common Hawk-Cuckoo *Cuculus varius* is fairly common in mainland Gujarat and over the last couple of decades appears to have adapted to thorn-scrub in Hingolgadh where we had never ever heard it, even at the height of the monsoon. The Cuckoo *C. canorus* is one more of the avian enigmas of the region : Sálim Ali found cuckoos "searching for nests to lay in". This he observed in August in Kachchh when "larks and pipits were breeding." I always believed that Cuckoos were largely autumn passage migrants, with a few staying over in winter. The Cuckoo was heard calling in the Panch Mahals, along with the Pied crested cuckoo and the Hawk-Cuckoo on 21st July, 1996 - obviously not a passage migrant! Birdwatchers would be advised to place cuckoos as a group on their prime agenda, since we need to determine the status of the Indian Banded Bay Cuckoo *Cacomantis sonnerati,* which Sálim Ali records and comments on the resemblance of its call to that of the Indian Cuckoo *Cuculus micropterus* and the Indian Plaintive Cuckoo *Cacomantis passerinus,* both species which should be anticipated. The reconfirmation of the 31st October, 1945, sight record at Ajwa, Baroda of the Small Greenbilled Malkoha *Rhopodytes viridirostris* is another recommended assignment. The occurrence of the unusual looking Drongo-Cuckoo *Surniculus lugubris* is worth investigating in the heavy rainfall areas of south Gujarat.

Family Strigidae: Owls

Owls, unfortunately, are so surrounded by superstition that very few people are remotely aware of their tremendous value as predators of nocturnal rodents, and large insects - mainly beetles whose grubs cause damage to plant roots in the soil. Their decline has caused hardly a ripple of concern among ornithologists. In fact, very little new information has been garnered since the classical period of collections. Their status at best can be a matter largely of conjecture. All our resident owls are hole nesters and over large stretches of Saurashtra and Kachchh, the loss of old trees and the absence of crags and deeply eroded river sides to provide alternate nesting and daytime roosting sites has greatly restricted the ranges of most owls. The Barn Owl *Tyto alba* continues to lead its phantom life in urban areas as well as in the countryside where there may be larger buildings of old landlord families. Unhappily, modern construction is owl-unfriendly, lacking rafters and false ceilings to provide shelters. The "common" Spotted Owlet *Athene brama,* because of its small size, continues to be widespread and appears to have benefited by streetlights which attract night-flying insects. The widespread spraying of pesticides most certainly has had adverse effects on this engaging wide-awake little owl. If special

endeavour is justified to rediscover the chimaeral Forest Spotted Owlet *A. blewitti*, it should be justifiable to make a comprehensive study of the status of all the other species of owls like the Collared Scops Owl *Otus bakkamoena* which, as mistnetting operations established, was more widespread than suggested by Sálim Ali's reports; the Jungle Owlet *Glaucidium radiatum* "Common" in S. Gujarat, the Brown Hawk-Owl *Ninox scutulata* "Heard and seen" at several places in Surat Dangs, the Mottled Wood Owl *Strix ocellata* noted by Sálim Ali in mainland Gujarat and recorded by Dharmakumarsinhji as well as myself in Saurashtra. All these owls must have lost ground, thanks to the disappearance of old trees, the widespread plantations of Eucalyptus and *Prosopis chilensis*, two among the several "quick growing" aliens so favoured by the Forest Department and of course the terminal effects of pesticides. A winter visitor, the Shorteared Owl *Asio flammeus*, is perhaps more plentiful than previously thought, though its preferred habitat of grassland is considerably reduced.

Of the large resident owls, the Great Horned Owl *Bubo bubo* continues to be widespread particularly among ravines, around forts (Hingolgadh is a favoured base) and quarries out of commission. Few large enough trees survive to shelter this large owl. Confirmation of the status of the Dusky Horned Owl *B. coromandus* and the Brown Fish Owl *B. zeylonensis* calls for continual monitoring; the latter is still present in the Gir, though elsewhere, Sálim Ali's "not uncommon in wooded country in the neighbourhood of tanks and rivers" for the latter and "A very diurnal owl, often on the move and hunting during daytime" for the former, in what is the most intensively cultivated part of the State, needs to be confirmed.

Family CAPRIMULGIDAE : Nightjars

Nightjars are birds best identified by their calls. Both the Common Indian *Caprimulgus asiaticus* and the Franklin's *C. affinis* were plentiful, the former in orchards, gardens and cultivation, as well as in light grass and scrub jungle, while the latter, more locally common in scrub and deciduous jungle in broken country. Unhappily, developments over the last few decades have not been kind to nightjars: apart from pesticides reducing prey insects, the major threats have been clearing of hedgerows and grassy verges for cultivation; further degradation of scrub-covered, marginalised, highly eroded riversides and, of all things, the network of highways and increasing traffic on them! A great many collision deaths were reported in the 1970s and since then the almost total absence of nightjars on roads is troubling.

Sálim Ali's comment of "Common in teak and mixed deciduous forest areas" for the Indian Jungle Nightjar *Caprimulgus indicus* needs to be reconfirmed and areas beyond the Dediapada forests and the Dangs south of the Narmada valley examined, since Shivrajkumar Khachar with Dharmakumarsinhji had repeatedly mentioned hearing *C. indicus* in the heart of the Gir forest.

Sálim Ali's procuring a specimen of the Syke's Nightjar *C. mahrattensis* near Vadodara on estuarine ground suggests the possibility of this species occurring not only in Kachchh but in suitable habitats in north Gujarat and down the saline coastal pastures south of Vadodara. We have very little information on the European Nightjar *C. europaeus* which Sálim Ali found "a fairly common and abundant autumn passage migrant through Kutch" passing through between mid-September and mid-October. Amateur birdwatchers in Kachchh should make a special effort to reconfirm this observation.

There has been a recent report of a Ceylon Frogmouth *Batrachostomus moniliger* by Sanat Chavan of the Gujarat Forest Department from the Narmada valley, though I have seen no published report. If confirmed, this extends the range of this bird considerably north, all previous reports are from N. Kanara and south into Kerala.

Family APODIDAE: Swifts

Swifts are great fliers and few birdwatchers spend time to observe them, with the result that what may seem to be vagrants or rare visitors are, in reality, regular visitors; in making this statement I have my

record of the Pallid Swift *Apus pallidus* at Jasdan and Shivrajkumar Khachar's two sightings of the Large Whiterumped Swift *A. pacificus* at Jasdan and at Hingolgadh. The Alpine Swift *A. melba*, continues to be a regular bird, though "...of capricious movements, loose parties appearing suddenly from nowhere ... disappearing just as suddenly." Our birds are perhaps winter visitors from the Himalaya as well as foraging flocks from their nesting sites in the Western Ghats and possibly Mount Abu. Hingolgadh, Pavagadh and Mt. Girnar among other prominent hills are ideal places to observe the breathtaking flight of these swifts. The House Swift *A. affinis* continues to be "a common species over the entire area, though somewhat patchy, with old established colonies under arches and gateways everywhere". Sálim Ali's observation of nestlings taken from a nest of the "Striated Swallow" in Kachchh is in keeping with later researches by the late R. M. Naik at the MS University, Vadodara, where swifts accepted nest boxes. Sálim Ali's observation of differential sizes of the nestlings suggesting that brooding "had commenced with the first egg" substantiates my belief that these little birds spend nights inside their nests, an observation based on the traditional colony in the south gate of Hingolgadh. The Palm Swift *Cypsiurus parvus* has been noted over Jasdan in Saurashtra and Ahmedabad on distant forays from their headquarters in Palmyra palms which grow aplenty south of the Mahi River. Even a small, isolated cluster of these palms attract this swift, as I saw at the foot of Mt. Girnar. It is thus conceivable that if the palm is planted in other parts of the State, the breeding range of *C. parvus* would be extended and conversely if the palms get thinned out, there would be a corresponding constriction and a consequential decline in population; however, one point has to be borne in mind, palms must not be exploited — their fronds being heavily lopped explains Sálim Ali's "...but curiously enough not as common locally as the palms would warrant ....." The palms are, after all, themselves under severe human pressure.

Sálim Ali noted the lovely Crested Tree Swift *Hemiprocne longipennis* in wooded areas of today's Shoolpaneshwar Sanctuary south of the Narmada and at Songadh (where I doubt if it exists any longer) into the Dang forest. The high corridor forests so characteristic of the Gir in Saurashtra are still the home of this lovely swift. Possibly, imaginative afforestation along rivers may well extend this bird's range further north.

Family Trogonidae : Trogons

The Malabar Trogon *Harpactes fasciatus* is a bird of the Dangs in South Gujarat and Sálim Ali collected several specimens. While he suggested the possibility of its occurrence in the Rajpipla hill forests south of the Narmada, the status in the Dangs needs investigating. We have very little recent information on the bird. One hopes Sálim Ali's "fairly common in the Dangs" holds true today.

Family Alcedinidae: Kingfishers

All five species of Gujarat's kingfishers, the Lesser Pied *Ceryle rudis*, the Little Blue *Alcedo atthis*, the Storkbilled *Pelargopsis capensis*, the Whitebreasted *Halcyon smyrnensis* and the Blackcapped *H. pileata* have been placed under great pressure due to habitat disturbance, each in a special way. *C. rudis* is a bird of free-flowing streams and rivers, these are today either dried up or heavily polluted; *A. atthis* delights in reed-margined marshes, shaded free flowing streams and rocky tidal pools: the first two habitats are considerably disturbed and today this little gem of a bird is perhaps best seen along the sea coasts. *P. capensis* "absent in Kuchchh and Saurashtra", has much of its forested habitats along the eastern hill areas of the State heavily disturbed and the former perennial streams are choked with silt and quite unfit for fish; a special investigation is called for to ascertain whether it still continues to be "Not uncommon on forest streams" ranging from Balaram in northern Gujarat south through Chota Udaipur, Jambughoda, the Rajpipla hills to the Dangs. *Halcyon pileata* recorded by Sálim Ali on the Ambika River of south

Gujarat has been seen all along the coast in recent times, suggesting its favoured former mangrove habitat extended to the Kori Creek in western Kachchh. The species is decidedly very scarce. Only *H. smyrnensis*, more catholic in diet, is holding out well — at times at great distances from water. Sálim Ali is rather unclear on the subject of the entire group's nesting season in Gujarat. I believe all our kingfishers nest during the hot season, no doubt due to the easy availability of fish in drying river pools and prior to the heavy rains of late Júne and July, when flood waters would drown nest holes.

The presence or absence of kingfishers would, I suspect provide indications of the quality of water in Gujarat and the success of afforestation both on the hills and along the coastline.

Family MEROPIDAE: Bee-eaters
Family CORACIDAE: Rollers
Family UPUPIDAE: Hoopoes

Sálim Ali records the Bluecheeked Bee-eater *Merops superciliosus* thus "Evidently an autumn passage migrant over Kutch ... like the Kashmir Roller". Actually Kachchh and Saurashtra and perhaps north Gujarat are on the fringes of its breeding range since it nests regularly outside Bhavnagar as first recorded by Dharmakumarsinhji. I have observed several pairs excavating in May in 1948 near Jasdan and very much later, with Shivrajkumar Khachar I saw a large colony at Nir on the edge of the Great Rann. The bird certainly is both a passage migrant and a winter visitor over much of Gujarat. Interestingly, this bee-eater spends a lot of time gliding high in the air capturing insects carried up by warm currents, quite unlike the Green Bee-eater *M. orientalis* which makes sallies from an exposed perch. The larger bee-eater is, therefore, less seen than its smaller cogenitor which is a common resident over much of the State. There is, however, considerable local movement, with birds scattering during the SW monsoon. I have seen *M. orientalis* snapping up small crabs at the edge of the tide on Beyt.

The Bluetailed Bee-eater *M. philippinus* closely resembles *M. superciliosus*. In fact, the two were considered to be subspecies. *M. philippinus* has been reported from central and south Gujarat though we need to ascertain whether it nests in these areas. I found a cluster of nest holes in the chalk heaps of the Gujarat State Fertiliser Corporation outside Vadodara which, I suspect, belonged to this species. The European Bee-eater *M. apiaster* has been recorded by Shivrajkumar Khachar at Jasdan and I am under the impression there have been recent records from Kachchh — at best, this beautiful bird is most probably a scarce passage migrant in autumn. The last of Gujarat's bee-eaters is the Bluebearded Bee-eater *Nyctyornis athertoni* which Sálim Ali heard in south Gujarat but concludes "Confirmation is desirable."

In our area we have two rollers, the European Roller *Coracias garrulus* an autumn passage migrant "abundant between second week and end of September and gone by end of October". The degradation of grasslands and the infestation by *Prosopis chilensis* in its favoured habitats of Kachchh, North Gujarat and Saurashtra must, most assuredly, place a heavy strain on the migrating birds. The Indian Roller *C. benghalensis* nests wherever there are large trees with cavities and after breeding, spreads out into agriculture throughout Gujarat. Of late, numbers have appreciably declined, no doubt on account of pesticides and the destruction of suitable nest trees. The decline needs to be monitored.

The Hoopoe *Upupa epops* is resident in better wooded areas of mainland Gujarat - I have a pair nesting in a nest box at my Gandhinagar residence. Elsewhere, it is "frequent" over the entire area during winter when there is an "influx of immigrants from the north". Trees with holes and buildings with cavities in walls are important for the continued proliferation of this handsome bird.

Family BUCEROTIDAE: Hornbills

Gujarat has only one hornbill, the Common Grey Hornbill *Tockus birostris*. The hornbill was found in better wooded areas from near Palanpur in

north Gujarat, through Vadodara and south to the Dangs. It also was found in the Gir forest of Saurashtra. The exact situation needs confirmation since the birds are persecuted for alleged medicinal values and their need for large trees with nesting cavities which are growing scarce.

Family Capitonidae: Barbets

Three species of these arboreal frugivorous birds have been recorded in Gujarat. The sparrow-sized Crimsonbreasted Barbet *Megalaima haemacephala* continues to be a common resident throughout the State. The exact status of the other two requires confirmation. The large green Barbet *M. zeylanica* was "abundant and noisy where occurring" but the proviso "restricted to well wooded country" qualified its distribution in mainland Gujarat to select patches, many of which have lost the large trees which were so universally valued as avenue trees, particularly the *Ficus*. I recollect hearing this barbet in Mehsana at the railway station in the early fifties. I presume the Small Green Barbet *M. viridis* still continues to be "restricted to moist decidous forest in the Ghats foothill country, and here not uncommon". However, great changes have taken place — certainly not for the better —and we need updated information on this and other forest species in south Gujarat.

Family Picidae: Woodpeckers

Sálim Ali lists ten species of woodpeckers for Gujarat. The most vulnerable among them are the woodpeckers associated with forest country, particularly of the hill areas of Rajpipla and the Dangs. These are the Rufous Woodpecker *Micropternus brachyurus*, the Small Yellownaped Woodpecker *Picus chlorolophus*, the Great Black Woodpecker *Dryocopus javensis*, the Heartspotted Woodpecker *Hemicircus canente*, the Blackbacked Woodpecker *Chrysocolaptes festivus* and the Larger Goldenbacked Woodpecker *C. lucidus*. All the above listed woodpeckers were recorded in the then well timbered hill country south of the Narmada; forest degradation in the last fifty years will have greatly reduced their ranges, if not striking them off the Gujarat list. I am happy to say that I was shown a pair of *Hemicircus canente* and observed in flight a *Dryocopus javensis* in the Dangs in the late eighties. Exact information, however, on these and the remaining four species is urgently required. Indeed, the presence and numerical abundance of all these woodpeckers would confirm the biodiversity build-up through forest regeneration.

Of the remaining four species, the Lesser Goldenbacked Woodpecker *Dinopium benghalense* continues to be "not uncommon" in mainland Gujarat and the Gir forest of Saurashtra, the Pigmy Woodpecker *Picoides nanus* is perhaps often overlooked (as it seems to have been in the Pictorial Guide) and should still be "Common" in the teak tracts of Gujarat as well as in the Gir forest frequently being passed over as the still widespread Yellowfronted Pied Woodpecker *Picoides mahrattensis*. This last species has lost ground over much of Saurashtra with the felling of former thickets of *Acacia nilotica*, to which it seemed to have been partial. We need the latest information on the situation in Kachchh. I anticipate this woodpecker's comeback with the excellent regeneration and active plantation by the Forest Department of the "desi" babool.

The fourth, and last of our woodpeckers, the Wryneck *Jynx torquilla* is a winter visitor which, I regret to record, is no longer "fairly common", though the exact position can be commented on only by very regular birdwatching which, despite the large number of amateurs, is unhappily not being done.

AN OVERVIEW OF THE BIRDS OF GUJARAT

The Families which follow contain the bulk of species, both resident and winter migrants, which are more visible around homes and in cultivation. The majority live in and among vegetation, be it herbaceous or the tallest of trees, and build nests on the ground among grass, in shrubs and up in trees; several nest in holes in walls, or gnarled trees. Their food ranges from seeds, nuts and fruit to insects and

many very readily come to feed on "chapati" crumbs. This large assemblage of Families and still greater number of species are all grouped into a single Order: Passeriformes and in popular parlance are known as Song Birds. The purpose of this introductory insertion is to emphasize that few ornithologists seem to be over concerned about the need for conservation of these more widely dispersed and "common place" birds; this is perhaps so because they occupy no very distinct habitat, and preferences if any are very subtle. There has been a very dramatic decline in numbers of a great many species, while others have had their ranges reduced. Unlike the large, more visible birds on whom considerable attention has been focused, song birds are not long lived and this adds to the great urgency of taking on very immediate conservation action — we do not have time for the luxury of scientific research. Fortunately, what is pleasing to human beings is of advantage to these birds — well maintained avenues, good shady gardens — even pergolas with flowering climbers or a collection of foliage plants in pots suffice; food on bird tables and nest boxes are gratefully accepted, and above all, a popular awareness of birds will register any fading of the morning birdsong, which in turn will generate widespread alarm. A richly endowed avian environment is great for us human beings since birds, especially the vibrant song birds with their high metabolic rates and rather short lifespans need a clean environment to live their vigorous lives in and respond very quickly to changes. As such, their plentitude or paucity may well reflect the state of the environment, providing early warning of possible deterioration. More significantly, every individual can do something which is not possible for action to conserve, say the Great Indian Bustard. We now resume our discussion of Families with a very lovely bird, one of a group so brightly coloured that they are often referred to as Jewel Thrushes.

Family Pittidae: Pittas

Sálim Ali did not see or hear the Indian Pitta *Pitta brachyura* but comments "Possibly arrives in suitable localities, as elsewhere, as a forerunner of the SW monsoon". He cites Dharmakumarsinhji having "found it, widespread and calling frequently in the Gir Forest". Pittas turn up in May and June in the smallest of shady gardens or under dense vegetation along hedgerows and in eroded riverain country. Dharmakumarsinhji had reported a pitta nesting in jungle on the sacred Shetranjaya Hill in Saurashtra and I showed Shivrajkumar Khachar two juvenile pittas still being fed by parents in the Hingolgadh scrub forest. Since few birdwatchers are out during the monsoon, *P. brachyura* is likely to be overlooked. The Dangs forest is an eminently suitable pitta habitat but the tribal children with their lethal catapults are a nemesis to ground and shrub birds. Calling in secondary teak forest and suspected to be nesting in Panch Mahals north of the River Mahi, 20th July 1996. There have been confirmed reports of the bird nesting in the Gir forest.

Family Alaudidae: Larks

Gujarat is great lark country. The Redwinged Bush Lark *Mirafra erythroptera* continues to be "common" in scrub covered hummocky country and edges of cultivation, though less widespread in southern Gujarat. The Singing Bush Lark *M. javanica* is certainly no longer "not uncommon", since the prime grasslands it preferred are either grazed over or planted with *Prosopis chilensis*. More careful observations on all larks are necessary as they are quite confusing, especially the Eastern Skylark *Alauda gulgula,* of which Sálim Ali had this to say — "Fairly common in suitable localities on moist grassy margins of tanks, etc." Novices and a good many otherwise recognised bird watchers tend to gloss over the larks as a group, so more serious attention needs to be given to the family as a whole. Gujarat has the distinction of possessing all three crested larks. The Crested Lark *Galerida cristata* is still "fairly" common in more arid portions of the area, in Kutch, N. Gujarat on the edges of the Great and Little Ranns. It is also plentiful on the Gulf of Kachchh islands particularly Ajad and Beyt. The Sykes's Crested Lark *G. deva* is more partial to the

Deccan trap plateaux of Saurashtra and Kachchh, where it shares its habitat with the Rufoustailed Finch-Lark *Ammomanes phoenicurus*. The Malabar Crested Lark *G. malabarica* was recorded up to south Gujarat in the Western Ghats type of country. Dharmakumarsinhji extended the range further north to the edges of saltpans near Bhavnagar and I have seen pairs on halophytic meadows on Pirotan Island near Jamnagar. The bird is, however, totally absent from interior Saurashtra and much of Gujarat. Sálim Ali recorded the Sand Lark *Calandrella raytal* along seacoasts of Kachchh, but it is now established that the bird in a very distinct, dark form occurs on the Saltpans of Bhavnagar — there is all possibility of the bird occurring across the Gulf of Khambhat in Gujarat; the lighter Kachchh form occurs on coastal dunes and sandy islands south of the Gulf of Kachchh till Beyt Dwarka off Okha. The Blackbellied Finch-Lark *Eremopteris grisea* is a common resident which has found habitat degradation helpful in extending its range into areas otherwise not normal for it. The Blackcrowned Finch-Lark *E. nigriceps* was first recorded by Shivrajkumar Khachar during bird banding at Kuar Beyt in the Great Rann, and later he saw a flock at Jasdan in Saurashtra; perhaps *E. nigriceps* is more common than believed, being overlooked among the ubiquitous *E. grisea*; I have yet to see the bird and its status is to be confirmed. The huge flocks during winter of the Short-toed Lark *Calandrella cinerea* in open country seem to have thinned considerably, undoubtedly on account of overgrazing reducing grass seed on which the immense flocks depended. Change in agriculture patterns with groundnut and cotton largely replacing the former extensive millet and "bajri" along with intensive farming practices obliterating all weeds within crops and grass verges between plots, have considerably depleted food supplies. The large Desert Lark *Alaemon alaudipes*, earlier known more expressively as the Hoopoe Lark, continues to be free of any threat on the barren sandy "Pats in the Rann". It is, however, yet to be seen what effect the burgeoning salt industry around the Little Rann will have on this fine lark, but for the time being the species, it would seem, is not in any danger, living as it does in the most hostile of habitats.

Family HIRUNDINIDAE: Swallows

Sálim Ali had recorded seven species in his Gujarat Surveys. In those days there was only one species of Sand Martin, *Riparia riparia*, but since he goes into trinomials, i.e. subspecies, it is apparent that he only came across the resident subspecies and that too along the larger sandy rivers of mainland Gujarat. The now separate species Plain Sand Martin *R. palaudicola* is locally common, nesting in large colonies on all the major rivers, but more widespread in Saurashtra and Kachchh, with the winter migrant not reported by Salim Ali, the Collared Sand Martin *R. riparia*. This last species is plentiful, with other swallows hawking for aerial insects over water throughout Gujarat. The Dusky Crag Martin *Hirundo concolor* is still "Common" around rock escarpments, forts and large monuments where it places its half-cup shaped nest of mud pellets on narrow ledges or attaches it to the wall under arches; it has readily taken to large new buildings like the Vidhan Sabha and the Secretariat blocks in Gandhinagar and the Sardar Patel Institute of Public Administration in Ahmedabad. The very similar, and largely overlooked, Crag Martin *H. rupestris* is a winter visitor to be looked for at Hingolgadh, Pawagadh, Mt. Girnar and Salher Fort in south Gujarat, where also Sálim Ali collected the black and white House Martin *Delichon urbica*, a bird I have yet to see away from the Himalaya. Both the swallow *Hirundo rustica* and the wintering race of the Redrumped Swallow *H. daurica* are common in season, collecting in large flocks at communal roosts in reed beds and sugarcane. The resident race of *H. daurica* continues to breed "freely" all over the State and in particular in Gandhinagar where pairs have appropriated unfinished bungalows. If any species has benefited by "development" it is the Cliff Swallow *H. fluvicola* which has taken to the many large concrete bridges constructed over rivers like the Vatrak, Mahe, Narmada, etc. Here the nests are in packed colonies, with the owners swarming like

bees disturbed at a hive! Elsewhere in Saurashtra and Kachchh, they are found in lesser numbers with a patchy distribution. The lovely Wiretailed Swallow *H. smithii* is uniformly distributed over the State, though my general impression is that it is less common than a couple of decades ago on account, no doubt, of the general drying up of water and the pollution of what remains in the channels in cultivation.

Family LANIDAE : Shrikes

Of the nine species of shrikes occurring in the Subcontinent, Sálim Ali records six. The Grey Shrike *Lanius excubitor* he found resident and common. "Met with singly or in pairs in sparsely scrubbed semidesert country interspersed with cultivation". Over the years, the numbers have declined significantly and one might like to understand why. The areas this shrike specifically seemed partial to were certainly not free of heavy grazing. I suspect the decline is on account of felling of even the thin thorny trees, and later their replacement by *Prosopis chilensis*, which forms dense thickets. *L. excubitor* needs open spaces with stunted trees to use as vantage points and to build nests in. The Baybacked Shrike *L. vittatus* has recorded a dramatic decline, which to my mind is due to the widespread use of pesticides. This pretty little shrike was a bird of more intensive cultivation; it also seems to have a preference for, as indeed Sálim Ali notes most specifically, "Affects semidesert country ... but slightly better wooded — with babool groves, etc." The babool tree was the first to be wiped out. *L. vittatus* is certainly no longer "fairly common" nor is it as widespread as it formerly was. During the last two decades, there has been a remarkable rehabilitation of the native *Acacia nilotica* and we may anticipated a resurgence in this attractive shrike's numbers. The widespread use of pesticides too must be seen as having been instrumental in reduction of all shrikes since they are entirely carnivorous — large insects and small reptiles being their mainstay. The very similar Redbacked Shrike *L. collurio* is one of those autumn passage migrants which pass over Kachchh, North Gujarat and Saurashtra from mid September to the end of October. Sálim Ali records it as "a not uncommon passage migrant (regular ?)" but I have, over the years, come to the conclusion that it is indeed not a regular passage bird; my doubt is substantiated by Sálim Ali's own questioning of the status of this shrike. During the first birdbanding operation at Changalra, Kachchh, we saw not a single bird, let alone mistnet any. I have seen *L. collurio* at Hingolgadh during what might have been an especially heavy inflow. The Rufousbacked Shrike *L. schach* continues to be fairly common, though the breeding range appears to have got restricted, particularly in the drier parts of Kachchh and Saurashtra and we need to keep an eye on the status of our resident, breeding subspecies. The wintering subspecies continues to be fairly plentiful. The Pale Brown Shrike is now considered a subspecies of the Redbacked Shrike and this is now scientifically named *L. collurio phoenicuroides*, while a very similar subspecies is named *L.c. isabellina*. Both of these are winter visitors to open cultivation and drying edges of jheels where they can be confused with the very similar, less common winter visitor the Brown Shrike *L. cristatus*. Shrikes as a group need some qualitative observation. Their populations have undoubtedly declined due to a variety of man-induced pressures. Special attention needs to be given to our three resident shrikes *L. excubitor*, *L. vittatus* and *L. schach*.

Family ORIOLIDAE : Orioles

Gujarat has two species of Orioles : The Golden Oriole *Oriolus oriolus* and the Blackheaded Oriole *O. xanthornus*. The former is widespread among trees in cultivation, more so during winter; it is, however, a resident nesting species in Gujarat, Saurashtra and also Kachchh, though in Kachchh needs confirmation. Sálim Ali's notation "Uncommon in Kutch; sporadic solos frequent elsewhere. Apparently only a winter visitor" is puzzling. *O. xanthornus* was recorded as "common and resident" south of the Narmada in well wooded

country. It occurs in the Gir forest, though its present status needs confirmation.

Family DICRURIDAE: Drongos

The Black Drongo *Dicrurus adsimilis* (this specific nomenclature has been recently changed!) is no longer "Common" as in the earlier part of the century. Numbers have declined, no doubt on account of widespread use of pesticides. I can confirm Sálim Ali's observation of birds migrating to and from Sind — what he recorded at Nir on the edge of the Great Rann, I have seen on Pirotan and other islands to the south of the Gulf of Kachchh. Nesting is, as noted by Sálim Ali, during the hot season. It is more a bird of open country, capturing much of its insect prey from the ground, over crops and grass, unlike the wintering, though superficially very similar, Grey Drongo *D. leucophaeus*. This wintering species prefers large well crowned trees and is entirely arboreal, spending much time "flycatching" inside the trees. It is most certainly more widespread than supposed; Sálim Ali does not mention Saurashtra and about Kachchh says "Not met with in Kutch. I have examined a vagrant shot in the well-wooded grounds of Vijay Vilas Palace, Bhuj". Actually this drongo is common at Gandhinagar, and in the wooded gardens of Ahmedabad. It is a regular visitor to Jasdan in Saurashtra and palace compounds of Gondal should be highly favoured habitats, as would indeed be the tall corridor forests of the Gir. A talented mimic, the Whitebellied Drongo *D. caerulescens* is a "common, resident" of the well wooded valleys of the hill country stretching from Mt. Abu in the north to the Dangs in the south. During the non-breeding season there is a wide dispersal into Saurashtra and presumably Kachchh, from where there seem to be no records! Kachchh however, has the distinction of a record of a wintering Haircrested Drongo *D. hottentotus* procured by MKS Himmatsinhji in the Vijay Vilas compound at Mandvi. There are all possibilities of this species occurring in winter in other well wooded locations, especially in the Rajpipla and Dangs forests. It is in these hill forests that the spectacular Greater Racket-tailed Drongo *D. paradiseus* successfully evades the catapults of tribal boys, living high up in tall forest trees. Sálim Ali, however, records an interesting observation of one of these fine drongos "imitating to perfection the call of a Shikra, only to be chased, killed and eaten by the hawk!"

Family ARTAMIDAE: Swallow-Shrike

Sálim Ali makes no mention of the Ashy Swallow Shrike *Artamus fuscus*, nor have I seen the bird in Gujarat though Lalsinhbhai Raol has a record of watching three birds near Rajpipla and there is every likelihood of it occurring in suitable hill forests south of the Narmada.

Family STURNIDAE: Mynas and Starlings.

Apart from the specimen collected by Sálim Ali near Ajwa of the Greyheaded Myna *Sturnus malabarica* I have no recent information. Even Sálim Ali fails to make any comments on the species' status. I would, however presume *S. malabarica* is more plentiful than supposed, spreading north in nonbreeding season. Both winter migrants, the Rosy Pastor *Sturnus roseus* and the Starling *S. vulgaris* continue to be as in the 1940s : The former "Common and abundant" and the latter "Evidently an uncommon straggler in winter" though during some winters I have noted *S. vulgaris* as common, at other times totally absent. The Blackheaded Myna *S. pagodarum* continues to enjoy the status as noted by Sálim Ali "Uncommon, capricious and local in Kutch; fairly common in Saurashtra and Gujarat". I would qualify this by considering it more plentiful in Gujarat, where there are still many old trees with cavities for nesting in. Nest boxes are readily occupied and the species would indeed make up any decline if provided with them. Both the Common Myna *Acridotheres tristris* and the Bank Myna *A. ginginianus* are common, the latter fairly patchy in distribution, this no doubt on account of its tendency to nest colonially. The availability of natural and artificial nest holes encouraging colonial nesting could restrict its spread. Both mynas have become commensal on human

beings, finding food and nesting locations in the most densely populated urban areas. The Jungle Myna *A. fuscus* should be looked out for in the better forested hill country of south Gujarat.

Family Corvidae: Crows, Tree Pies

Half a century ago, the Indian Tree Pie *Dendrocitta vagabunda* was "Common in all the better wooded portions of the area" but during the last two decades I have noted a decline in numbers. For instance, I do not recall noting a Tree Pie in my otherwise bird-rich Gandhinagar neighborhood. The decline is difficult to explain, though I suspect faulty monoculture practices in forestry and the replacement of large avenue trees bearing figs and other fruit could well be one of the reasons. It would be interesting to note whether Sálim Ali's comment for Surat Dangs "... it is one of the five commonest bird species in bamboo and mixed deciduous forest ..." still holds true. Wherever found, the bird is fairly vociferous and can be easily recorded. Birdwatchers in Kachchh may like to confirm whether the Ranns have indeed insulated the district from *D. vagabunda*. The House Crow *Corvus splendens* continues to prosper right across Gujarat while the all black Jungle Crow *C. macrohynchos* has a curiously patchy distribution in Gujarat and Saurashtra, where it is entirely missing from the central parts of the peninsula, occurring in the Gir, Girnar, and on Beyt and along the northern coast of Saurashtra till Jamnagar. Its status in Kachchh needs verification. To see the magnificent Raven *C. corax* one must go to the Kachchh edges of the Great and Little Ranns. Our knowledge is no further improved beyond Sálim Ali's, who has little to record about its exact status in our area. I dimly recollect Shivrajkumar Khachar mentioning the Brownnecked Raven *C. ruficollis* during one of his visits to Kachchh — I mention this merely to urge the several very knowledgeable birdwatchers of Bhuj to keep a lookout.

Family Bombycillidae:
Waxwings, Silky Flycatchers.

Sálim Ali makes no mention of the enigmatic Grey *Hypocolius ampelinus* of which he himself had collected a specimen in Kihim, south of Bombay. Bird netting in the sixties yielded a pair at Pachham Island "thirty years after his own ... at Kihim. Had he been alive today, he would have been glad to learn that (it) has been recorded for five seasons running from January 1990 to November 1994. During the Bird Migration Study and the Grassland Ecology Projects young J.K. Tiwari reported over a hundred *H. ampelinus*". I quote MKS Himmatsinhji. With Tiwari now in Kachchh I hope to see my first *Hypocolius*!

Family Campephagidae :
Cuckoo Shrikes and Minivets.

I have yet to see a Pied Flycatcher-Shrike *Hemipus picatus* and the large Wood Shrike *Tephrodornis virgatus* in Gujarat. Sálim Ali records both in the Surat Dangs. Their exact status needs confirming. The Common Wood Shrike *T. pondicerianus* appears to be holding out all over the State. They are largely overlooked by most birdwatchers who give less attention to bird calls. The Large Cuckoo-Shrike *Coracina novaehollandiae* and the smaller Blackheaded Cuckoo-Shrike *C. melanoptera* are both best recorded by their calls. My impression is that cuckoo-shrikes are more widespread as monsoon nesting species than is believed. *C. melanoptera* is quite vociferous in the scrub jungle around Hingolgadh and I have heard it in the Sundarvan Nature Centre in Ahmedabad. The former tends to wander a great deal outside the nesting season, though nesting records are needed. Sálim Ali emphatically says both are "absent from Kutch". There are three minivets listed for Gujarat — the Scarlet Minivet *Pericrocotus flammeus*, the Small Minivet *P. cinnamomeus* and the Whitebellied Minivet *P. erythropygius*. The Longtailed Minivet *P. ethologus* of the middle elevations of the Western Himalaya may straggle south into the hill forests adjoining Mt. Abu. *P. flammeus* is "Resident. Common in hilly bamboo and mixed deciduous forest" of south Gujarat, while *P. erythropygius* is a bird of open thorn jungles "Resident : Common in Kutch, though rather patchy and local". It should also be looked for east of the

Little Rann in suitable tracts, while in Saurashtra the bird is found in grasslands of northern Gir and the Hingolgadh jungle. Sálim Ali's "rather patchy and local" in Kachchh is because, I suspect, the importance of grass admixed with the thorn scrub being to the species' preference. At Hingolgadh, as in Kachchh, both *erythropygius* and *cinnamomeus* share the same habitat, and I have had the opportunity of closely observing both minivets — it was evident that *erythropygius* depends heavily on slender green grasshoppers, particularly plentiful in the first flush of tender grass, to feed the young, while *cinnamomeus* feeds its young on green grubs and minute black beetles. The former exclusively built its nest in the light crowned *Acacia senegal* while the latter used more densely foliaged *Acacia nilotica, Tamarindus indica*, etc. *P. cinammomeus* is found throughout Gujarat, overlapping the ranges of *P. erythropygius* in the drier northwest and *P. flammeus* in the moist, well wooded south.

Family IRENIDAE: Ioras and Leaf Birds

Gujarat has two species of Ioras, the Common Iora *Aegithina tiphia* and Marshall's Iora *A. nigrolutea*. There has been some doubt about *A. nigrolutea* being a distinct species, but in Gujarat the two occupy very distinct habitats, the former being "fairly common in the well-watered portions of Gujarat inhabiting cultivated country interspersed with large trees, groves about villages, roadside avenues and wooded compounds in towns, as well as light deciduous forest". It is also found in the orchard country of southern Saurashtra from Junagadh at the base of Mt. Girnar and the arc of the Gir hills. *A. nigrolutea* occurs all over the drier parts of Saurashtra, north Gujarat, and of course Kachchh where, as at Hingolgadh, it "is common ... to the complete exclusion of *tiphia*". Sálim Ali confirms my own observation as follows "I found the call notes of Marshall's Iora distinct from those of the common species ... I found the notes of the two so distinct, in fact, that after having met the Common Iora all through Gujarat, I detected the presence of this species at once by ear ..." In my case, having grown up listening to *A. nigrolutea* I immediately recognised *A. tiphia* by ear in Ahmedabad and in my compound trees at Gandhinagar. It would be interesting to examine the interaction of the two species along the habitat interface, as along the northern edge of the Gir forest in Saurashtra or at Radhanpur in north Gujarat. Sálim Ali notes that the Goldfronted Leaf Bird *Chloropsis aurifrons* is "Frequent in deciduous forest", but did not come across it north of the Narmada valley. However, my knowledgeable friend Lalsinh Raol personally told me he watched one at Chhota Udaipur and the bird undoubtedly should be occurring in forested locations well upto the Pavagadh hill in Panch Mahal. The Goldmantled Leaf Bird *C. cochinchinensis* has been recorded by Sálim Ali at Pavagadh and further south in "opener country than the Goldfronted species". Perhaps, both chloropses are commoner than believed, being largely overlooked among the tall, densely crowned trees they inhabit. I have yet to see either in Gujarat, though I must admit I have had few opportunities of intensive birding in Gujarat's hill forests.

Family PYCNONOTIDAE : Bulbuls

Sálim Ali saw only one pair of the Redwhiskered Bulbul *Pycnonotus jocosus* at Waghai in the Dangs. I myself have never seen this jaunty bulbul, though there are very suitable habitats all along the eastern hill country up to Mt. Abu where it is fairly common. The Gir forest too is eminently suitable country. The Redvented Bulbul *P. cafer* continues to be "Common throughout the area in every biotope save pure desert (eg. the Great Rann) ..." Numbers, however, have shown a perceptible decline around Hingolgadh, no doubt suggesting degradation of the once strictly protected thorn scrub. The Whitecheeked Bulbul *P. leucogenys* is common in association with *Salvadora persica* and *S. oleoides*; as a result it often shares a habitat with *P. cafer* where suitable semidesert country ramifies into agriculture, as up estuaries of the major rivers. On the Gulf of Kachchh islands, it is the main bulbul species. The Whitebrowed Bulbul *P. luteolus* inhabits

dense scrub in deeply eroded river banks of mainland Gujarat, being totally absent in Saurashtra and Kachchh. Sálim Ali recorded it in Mehsana District north of Ahmedabad, and I have seen it as fairly numerous in the tangled vegetation and trees of the Laxmi Vilas Palace grounds in Baroda. A pair was resident in a small patch of lantana and grass in the Sundarvan Snake Park in Ahmedabad, suggesting that this bulbul is very parochial and continues to thrive in the most circumscribed of suitable habitats.

Family MUSCICAPIDAE : Babblers, Flycatchers, Warblers, Thrushes and Chats

This is a large family and we shall discuss the species under the subfamilies as by Sálim Ali in his paper, following the same sequence though priority has been reshuffled in the SYNOPSIS and the PICTORIAL GUIDE.

i. Subfamily MUSCICAPINAE : Flycatchers

Flycatchers as a group have registered a sharp decline in the intensely cultivated parts of the State, both on account of indiscriminate use of pesticides and the clearing of shrubberies on edges of fields. Degradation of habitat, thanks to over grazing and extraction of brushwood for fuel, has reduced suitable habitats elsewhere; in Kachchh, large areas of northern Gujarat and parts of Saurashtra, the exotic *Prosopis chilensis* has overrun the countryside almost to the exclusion of indigenous plants and cannot but exert a limiting role, adversely affecting a multitude of insectivorous birds, flycatchers, warblers, and babblers among them. The Spotted Flycatcher *Muscicapa striata*, an autumn passage migrant through Kachchh and Saurashtra, continues during "the height of passage, between 2nd and 4th week of September to be fairly common." Sálim Ali presumed the Brown Flycatcher *M. latirostris* to be a resident in the Dangs, but it has been recorded in the Gir forest and at Jasdan in Saurashtra by Shivrajkumar Khachar: the species' exact status seems unclear. I was shown one by Sálim Ali in his Bandra garden during the cool season, so presumably this forest flycatcher wanders considerably outside its breeding season. The Redbreasted Flycatcher *M. parva* is no longer as "fairly common" a winter visitor as a few decades ago, when its clicking sound was to be heard all over Gujarat in farmland, suburban compounds and every type of jungle. Lalsinhbhai Raol personally informed me of his recording the Whitebrowed Blue Flycatcher *M. superciliaris* in the Jessor hills of northern Gujarat and again in a temple grove beside the Hathmati River north east of Ahmedabad. Sálim Ali does not mention this species and quite apparently, it is more often than not overlooked for the more widespread and very similar sounding *M. parva*. The Tickell's Blue Flycatcher *M. tickelliae* is a common breeding bird in the Girnar, the Gir and the Dangs, as well as the shaded hill streams of eastern Gujarat. Sálim Ali notes it as one among the commonest five species in bamboo and mixed deciduous forests of south Gujarat. Outside the nesting season this flycatcher disperses widely and can be expected in shaded locations all over Saurashtra and Gujarat, though records from Kachchh are lacking. The Verditer Flycatcher *M. thalassina* from the mid elevations in the Himalaya is a winter visitor to mainland Guajarat. It has been recorded in the Gir forest and at Jasdan in Saurashtra by me. The Greyheaded Flycatcher *Culicicapa ceylonensis*, Salim Ali presumed to be a winter visitor, "not common". This lively little bird is a regular winter visitor to be looked for in groves of large trees, and is quite regular and certainly not uncommon. In Saurashtra it has been seen by me in the Gir and Girnar forests as well as near Jasdan, it is a regular winter visitor to Sundarvan Park, Ahmedabad. Birdwatchers in Bhuj should keep a look out for this active little bird in the Vijay Vilas compound at Mandvi. Both the Whitebrowed Fantail Flycatcher *Rhipidura aureola* and the smaller Whitethroated Fantail Flycatcher *R. albicollis* are present in mainland Gujarat, absent in Kachchh and the former occurring in Saurashtra where its range today has become restricted to the Girnar and Gir Forests though it was a common bird around Jasdan in 1940s. Where ever still found, it is partial to mango

groves and forest clearings. Both fantails can be seen in Ahmedabad and around Baroda, though *R. aureola* prefers more open situations with large trees, while *R. albicollis* is restricted to dense shrubberies and undergrowth though, as Sálim Ali states, "in borderline localities the two are sometimes found in the same patch and even in the same tree!" For the Paradise Flycatcher *Terpsiphone paradisi* Sálim Ali says "The status of the Paradise Flycatcher needs to be determined". He hazards a guess that it "is resident and breeds in the better wooded parts, e.g. Navsari district, Rajpipla and Surat Dangs, and it has recently been reported to do in the Gir forest ... by K.S. Dharmakumarsinhji." I have seen it during the breeding season in the Girnar Forest, a pair was regularly nesting in the lovely Ramparda Vidi near Wankaner and currently this flycatcher is a regular breeding bird in the Indroda Park outside Gandhinagar. During the non-breeding season, birds turn up almost throughout the State many of the individuals no doubt being migrants from the North. The Blacknaped Flycatcher, *Hypothymis azurea* is recorded by Sálim Ali as being "Resident. One of the commonest birds in bamboo, teak and mixed deciduous forest" of south Gujarat, but non-breeding birds appear to scatter widely as indicated by Sálim Ali's record from Dwarka, and mine from Jamnagar and Rajkot. In the Gir forest this Flycatcher presumably breeds and is more plentiful than believed.

ii. Subfamily TIMALINAE: Babblers

Of the 124 species on the Indian List under this subfamily Gujarat has only eight. Of these, the Spotted Babbler *Pellorneum ruficeps*, the Slatyheaded Scimitar Babbler *Pomatorhinus* and the Quaker Babbler *Alcippe poioicephala* are restricted to the moister hill forests south of the Narmada valley, though there is a very early record of the last species from Rajkot! I would personally like to question this, though Sálim Ali refers to it without comment. These three forest Babblers seem to have been fairly common, though we need qualitative confirmation since there has been considerable degradation and Songarh so repeatedly mentioned in Sálim Ali's paper no longer has forest worth mentioning. It may be pointed out that *Pomatorhinus horsfieldi* occurs far to the north at Mt. Abu and so there are possibilities of small populations occurring in remnant jungle in the area in between. The tiny Rufousbellied Babbler *Dumetia hyperythra* was "Common in scrub jungle, particularly where cut up by ravines" all along the eastern hill country from near Palanpur in north Gujarat down south and along the deeply eroded riversides of the major rivers like the Mahe, Narmada and Tapi. In Saurashtra the bird was recorded by Dharmakumarsinhji at Bhavnagar, and by Sálim Ali near Kodinar south of the Gir forest. I have seen this Babbler near Sasan in the Gir. Elsewhere in Saurashtra, semi-arid parts of north Gujarat bordering the Rann and Kachchh these shrubbery loving babblers are absent. The attractive Yelloweyed Babbler *Chrysomma sinense* continues to be "not uncommon" over the entire State though it disappears where overgrazing thins grass and tangled shrubberies; over much of central Saurashtra the bird has been extirperated and its status in *Prosopis chilensis* overgrown parts of Kachchh needs confirmation.

The three remaining babblers are widespread and are still holding out well. There is considerable overlapping of ranges and a detailed study of the three would reveal fascinating species habitat preferences. The Common Babbler *Turdoides caudata* is "Common over a wide range of terrain from right away on the barren Rann through sandy cultivation with scrub interspersed, to fairly thick but dry thorn and scrub jungle... Dry sandy ravines bordered by *Capparis*, *Zizyphus*, *Acacia* and *Prosopis* are its favoured haunts". This habitat occurs over Kachchh, much of northern Saurashtra and the agricultural plains of Gujarat all the way south to the Mahe estuary and perhaps along the saline coastal flats till the Narmada; the eroded "badlands" along these rivers provide favoured habitats well into otherwise unacceptable areas. Sálim Ali has frequently mentioned the Rann, an impression being gained that it is an arid, dry, lifeless desert of perhaps sand and rocks; that the Ranns are unique

geographical features is undoubtedly a fact, the uniqueness has indeed been indicated by Sálim Ali in his Birds of Kachchh : the uniqueness is that the Ranns are the most expansive of saltpans on earth and periodically they get inundated by water blown up by strong southwest monsoon winds from the sea or by especially high equinoxal tides spilling over; heavy rains in Rajasthan and north Gujarat send floods down rivers like the Luni, the Banas and the Saraswati which debouch onto the Ranns turning them into shallow seas of clear but highly saline water. At times, great expanses of the drying Ranns become encrusted by layers of shimmering salt crystals giving an impression of a frozen Polar sea! The Ranns it bears repeating, most certainly are not deserts of sand and rock like the Thar, the Rub al Khali or the Sahara. That *T. caudata* often moves out on to the dry Ranns is because it feeds on seeds, insects and spiders blown out by the strong surface winds so prevalent in these parts.

Sálim Ali did not come across either of the Jungle Babbler *Turdoides striatus* or the Large Grey Babbler *T. malcolmi* in Kachchh, though both babblers were recorded in Kachchh by earlier European ornithologists. Interestingly, *T. striatus* is common in the Gir and areas south of it, but totally absent across rest of Saurashtra; interestingly an isolated population survives at Wankaner north of Jasdan from where a flock was trapped and released at Hingolgadh two decades ago, the birds have settled down well. Significantly, though, there has been no expansion into surrounding areas. In Gandhinagar, when I moved in, I had both *T. caudatus* and *T. malcolmi* freely patronising the birdtable but there were no *T. striatus*. After my compound became densely foliated followed by a thick leaf litter, a flock of *T. striatus* dropped in and now they and *T. caudatus* share the offerings while *T. malcolmi*, though present outside the compound do not come in! Both the larger babblers are common throughout Gujarat, keeping to their favoured habitats, whenever a flock of one intrudes into the habitat of the other there is a cacophony of babbler calls till the intrusion is vacated.

While on the subject of babblers it may be worth recalling an interesting observation. I had shifted to Gandhinagar in March. To my surprise I found all the *T. malcomi* with dark brown breasts! I had considered collecting a couple of specimens to send to the Bombay Natural History Society, my rather poorly developed scientific temper quickening to the possibility of describing a new subspecies! Fortunately my zeal as a scientist was not motivating enough and I did nothing for a month by which time, the brown breasted babblers had assumed the normal light colouring! The non violent scientist in me was piqued and I began to ask questions: the answer flashed upon me when I realised that the coral trees which were in full bloom at the time of my shift had lost their inflorescences — the brown on the breasts was on account of the dark brown pollen. Next March I confirmed this explanation and further noted that the Blackheaded Mynas also had their breasts smudged. Pollination of these "birdflowers" was done by the pollen brushing off on to the breasts and not the foreheads of the birds! Enough on babblers, let us move on.

iii. Subfamily SYLVINAE : Warblers

Warblers are a confusing group and there is very little qualitative information to add to Sálim Ali's notes of half a century ago. There is, perhaps, considerable data awaiting research in the records of the huge numbers of birds mistnetted in the '60s and 70s. The most significant was the adding of a large warbler — the Thickbilled Warbler *Acrocephalus aedon*; this wetland vegetation bird was overlooked all along for the very similar Indian Great Reed Warbler *A. stentoreus*. *A. aedon* is a winter visitor which, it would appear, is widespread and not uncommon. *A. stentoreus* more vocal though equally a skulker in dense reeds where Sálim Ali found it "fairly common". He makes no notation to the effect that it is a winter visitor. This is what it was believed to be till it was found calling loudly among mangrove thickets of the Gulf of Kachchh, I suspect it nests in the Pirotan mangrove swamp north of Jamnagar, as well as on the major islands of Bhaidar, Nora and Chank at the entrance of the Gulf. The Paddyfield Warbler *A. agricola* was very

plentiful in reedbeds during winter but with the desiccation and destruction of reeds across Saurashtra and Kachchh, the status of this Warbler and the Blyth's Reed Warbler *A. dumetorum* need checking. "Curiously," as Sálim Ali notes, "...not met with at all in Kutch, Saurashtra or elsewhere in Gujarat" but if I recollect clearly, many were indeed netted and *A. dumetorum* is a bird more of *Acacia* thickets. Sálim Ali makes no mention of the Moustached Sedge Warbler *A. melanopogon*, again a case no doubt of its being a great skulker during winter. I recall the late Shivrajkumar Khachar mentioning it and I myself seeing what I suspected was this bird on a couple of occasions. The reedbeds are gone and so, presumably with them, this species.

Another skulking reedbed Warbler similar to *A. melanopogon* and perhaps confused with it is the wintering Grasshopper Warbler *Locustella naevia*, which Sálim Ali collected near Cambay and observed on wetlands around Baroda. Perhaps this bird is widespread though "not common or abundant ... usually flushed in likely patches ...tall standing or flattened down grass at the edge of drying-up tanks or in swampy depressions". Sálim Ali failed to meet the Bristled Grass Warbler *Chaetornis striatus* which Capt. A.E. Butler found "not uncommon about Deesa (north Gujarat) in the rains at which season it breeds". Grass, whether wet or dry as in the grass reserves of Kachchh and Saurashtra, is a favoured haunt of the tiny Streaked Fantail Warbler *Cisticola juncidis*. It is a monsoon breeding bird, the little males drawing attention to themselves by their "zigzag chip-chipping" soaring display flight. I found these little birds on the sand islands of Bhayder in the Gulf of Kachchh.

Sharing very similar habitat along the sea coast from Beyt and on to the sand dune grasslands bordering the Ranns in Kachchh is the tiny, but very longtailed Streaked Wren-Warbler *Prinia gracilis*, recorded by Salim Ali in Kachchh, on the "Beyts" in the Little Rann and at the head of the Gulf of Khambhat near the old seaport of that name. I recorded it on each of the grass covered dune islands of Pirotan, Karumbhar, Bhayder and Hanuman Dandi of Beyt along the southern side of the Gulf of Kachchh. Another widespread warbler is the Plain Wren Warbler *P. subflava* which inhabits edges of wetlands, standing millet and grassy verges of fields, as well as young sugarcane. It continues to be a "common, resident". The attractive Ashy Wren-Warbler *P. socialis* appears to be absent in Kachchh. It is very localised in Saurashtra but widespread in Gujarat, preferring better vegetation both along streams, and in farmland and gardens. In Gandhinagar, it is a confiding inmate of my garden.

Two wren-warblers with very specific habitat preferences are the tiny Rufousfronted Wren-Warbler *P. buchanani* and the large Jungle Wren-Warbler *P. sylvatica*. The former is "Resident. Affects dry sparsely scrubbed semidesert country" sharing the habitat of the Redwinged Bush Lark, both birds being common in the preferred habitat across Saurashtra, north Gujarat and Kachchh. *P. sylvatica* appears to prefer taller grass and a heterogenous admixture of shrubs and small trees, and is distributed all over the State. Its present status in Kachchh needs confirmation as does its continued presence in central Saurashtra where considerable damage has been done to protected grasslands. The least demanding in habitat other than perhaps the most arid is the tiny Franklin's Wren-Warbler *P. hodgsonii* which continues to be "Resident. Common and generally distributed" all over the State. This little warbler, like *P. socialis* and the Tailor Bird *Orthotomus sutorius*, stitches leaves of fast growing monsoon herbs, thereby optimally exploiting ephemeral vegetation in the most degraded of habitats. Interestingly, *P. hodgsonii* has a longer tail during the non-breeding period and has the grey upper parts replaced by brown, making for confusion in identity.

The perky Tailor Bird *Orthotomus sutorius* continues to thrive throughout the State and the loud call is heard even in the smallest of gardens in rapidly expanding urban sprawls. Reading through Sálim Ali's paper I was thrilled to learn that under pressure of the absence of broad-leaved plants in Kachchh, "The bird builds a nest of the *Cisticola* type, woven out of vegetable down with a number of narrow

leaves sewed to it at the sides for support." This explains the versatility of the little bird; at my bird table, it feeds on *chapati* crumbs and bananas along with the mynas and bulbuls.

The remaining species of warblers belong to three genera, one among them is an autumn passage migrant, the rest are winter visitors. It takes considerable experience to identify the members of this entire group, except for the Orphean Warbler *Sylvia hortensis*, from one another in the field. Though not shy and permitting fairly close observation, their restless movements while hunting insects among thickets of thorn, and among foliage of trees makes it difficult to register the minor differences. Some of the tiny *Phylloscopus* species are difficult to identify even in the hand. Experience goes a long way in recognizing the species as I learnt fairly early when going out with the Delhi Bird Watchers' Club under the guidance of the legendary Horace Alexander to whom Sálim Ali deferred in opinion on the "Little Brown Jobs". Most amateur birdwatchers of the present time are abysmally ignorant where warblers and pipits go, and we may never really get substantial field information. Over the years, I have noticed a very dramatic decline in the number of all the wintering warblers. This, I suspect, is largely due to habitat alteration and degradation. One of the best methods of identifying individual species was by the locale it was seen in — for example the Booted Warbler *Hippolais caligata* was "abundant between September and January" in "babul, Khandi, and similar scrub jungle, *keeping to the canopy*" (italics mine). A continual "harsh *chuck, chuck* or *churr, churr*" draws attention and assists in identification. Sálim Ali indicates the possibility of this warbler being resident, but there is no confirmation to the effect. The Lesser Whitethroat *Sylvia curruca* continually utters a "low *tek, tek, tek* like the clicking of one's tongue against the palate" as this formerly "common, abundant and widely spread winter visitor" restlessly hunts among its preferred babool and kandi groves and hedgerows. Apart from the sound, the distinctive white throat stands out to advantage. *S. curruca* has three subspecies wintering with us; formerly these were considered separate species and we used to spend considerable time deciding whether the bird in sight was *S. curruca, S. althaea* or *S. minula*. The Whitethroat *S. communis* is no longer an "abundant" passage migrant following the retreat of the SW Monsoon in September. Kachchh and Saurashtra are on the eastern edge of this bird's outward migration route and the alteration in habitat most certainly has reduced the numbers. Of course, most birdwatchers today tend to go out birdwatching in winter and then too, gloss over the warblers. A very attractive and really quite distinctive wintering bird in tamarisk and *Acacia senegal* thickets is the not common though regular Desert Warbler *S. nana*. Kachchh and the edges of the Little Rann in Saurashtra is where one should go in search of this quietly attractive warbler.

As a group, the several Leaf Warblers are distinctive with their small size, restless movement among foliage and flicking of wings. Identifying the various species of these wintering birds, however, is another matter. I was rather fortunate in that I was introduced to the group early in life in Delhi which, during the 1950s, was a birding capital. One needs to be very committed and regular birder to be able to remember the distinctive calls and identification formulae of one or two wing bars, a bar down the crown, and other colour combinations of greens, browns and yellows. We would be advised to be very cautious like Sálim Ali who was always very concerned not to be wrong! The Brown Leaf Warbler *Phylloscopus collybita* is perhaps the commonest and most widespread, with a distinct preference for babool and waterside shrubs, less so in dry hedgerows where it could be confused with the very similar *Hippolais caligata*, barring the flicking of its wings. The Olivaceous Leaf Warbler *P. griseolus* has a very distinctive habit of operating on boles of trees and rock outcrops instead of among foliage and herein lies its identification character; Hingolgadh and situations like it are this warbler's preferred habitat where, though not common, it continues to be regular. The other Gujarat *Phylloscopii* are the Yellowbrowed Leaf Warbler *P. inornatus* easier to identify by its lisping *"tis yip, tis yip"* call, the Dull

Green Leaf Warbler *P. trochiloides* with a high pitched *"chiwee"*, the Large Crowned Leaf Warbler *P. occipitalis* which is usually overlooked, being silent and partial to taller trees, and the Tytler's Leaf Warbler *P. tytleri*, a bird I have yet to record to my satisfaction. Sálim Ali records it as "not uncommon" in the Dangs. I am sure other Leaf Warblers drop in, especially in better forested locations, but are largely overlooked for the reasons indicated earlier. A serious birdwatcher with an academic bent of mind may well produce a scholarly paper on habitat preferences of our wintering warblers, highlighting the need for qualitative afforestation instead of the present efforts.

iv. Subfamily TURDINAE : Thrushes, Robins and Chats

This subfamily has ninety three species on the subcontinent's list, most of which are Himalayan and of Oriental origin. Others are winter migrants from temperate Eurasia with races breeding in the high Himalaya and still others, especially chats, from the deserts of Southwest Asia and Arabia. Only eight are resident or likely to be so in Gujarat; of these, the Indian Robin *Saxicoloides fulicata* continues to be a "common" resident freely associating with human beings, with a penchant for placing its nest in cornices under eves of houses and fuse boxes of lamp posts in Gandhinagar.

The Brown Rock Chat *Cercomela fusca* is endemic to India. It can be overlooked as a female Indian Robin though it never cocks its tail. The hill forts of Kachchh and the rocky outcrops north of Palanpur are this chat's home where it is "not uncommon". It was with great surprise that I saw a bird on the ruined temple of Harshad on the west coast of Saurashtra north of Porbandar. I would not be surprised if this chat is found on the rocks of the Barda Hills near Porbandar. A pair was seen on rocks of a narrow gorge in Panch Mahals north of the Mahi by Pranav Trivedi and identification confirmed by Lalsinhbhai Raol.

The fine voiced magpie Robin *Copsychus saularis* is absent in Kachchh, but is a breeding bird over much of Gujarat and Saurashtra wherever old mature trees survive. In non-breeding season this bird scatters over a wider area, affecting tangled shrubberies and hedgerows where it is joined by the Blackbird *Turdus merulus* which was — atleast till very recently — exceedingly common as a breeding bird at Mt. Abu. Sálim Ali says it is "absent" in Kachchh and he had not come across it in Saurashtra though it was a regular nonbreeding visitor to gardens at Jasdan. The shaded high corridor forests of the Gir and Girnar are eminently suitable for it. Incidentally, *C. saularis* is particularly plentiful in the Gir. The Blackbird's nesting on the higher hills of Gujarat like Jessor in the north, adjacent to Mt. Abu and those of Rajpipla and the Dangs needs to be confirmed. The exact status of the Orangeheaded Ground Thrush *Zoothera citrina* also needs checking; Sálim Ali came across a single bird in South Gujarat but is unsure of the species' status. The Malabar Whistling Thrush *Myophonus horsfieldii* was recorded by him in the south where its present status needs confirmation as does the possibility of its occurring in the Rajpipla hill forests. The importance of regular birdwatching by amateurs cannot be over emphasised and we have a fine example of the record of a very unusual winter visitor, the Dark Thrush *Turdus obscurus* at Porbandar on the western seaboard of Saurashtra. This thrush is a winter migrant to the Oriental Region from Eastern Siberia where in breeds. In India there have been very few observations by earlier birdwatchers. The Porbandar record being the most recent by Lalsinhbhai Raol who in the late sixties and seventies was habituated to go birdwatching to selected locations every weekend. He as was his habit took down careful notes on the spot and not finding the bird in his run of the mill books, went out again the next morning — which tortuitously was a holiday — and found the bird rumaging among litter under dense babool shrubberies as on the previous day. He took further careful notes and sent them onto me and I could immediately identify the species from Stuart Baker's FAUNA. This brings me to another point Sálim Ali always urged, to the point of nagging, birdwatchers, he insisted, must

immediately make notes and not leave things to memory — an ommission, I have sadly been indulging in through my own half a century of watching.

The tiny Pied Bushchat *Saxicola caprata* is a resident in open hill country of South Gujarat, though elsewhere it is a winter visitor from north India along with the Stone Chat *S. torquata*, both species being common in fallow cultivation and on the edges of drying jheels in Kachchh, Saurashtra and Gujarat. Numbers appear to have thinned out, no doubt on account of the indiscriminate use of pesticides resorted to in the 1970s. There has been a very perceptible drop in numbers of these formerly "fairly common and abundant" Black Redstart *Phoenicurus ochruros* all over the state in cultivation, along nallas in scrub and dry deciduous forest, and on old monuments. The decline is undoubtedly on account of pesticides, among other deleterious factors like changes in cropping and degradation of vegetation quality.

Both the Blue Rock Thrush *Monticola solitarius* and the Blueheaded Rock Thrush *M. cinclorhynchus* are winter visitors, the former to rocky coasts, prominent hills and large buildings, in use and in ruins, abandoned quarries and the like, while the latter in forest country, principally of south Gujarat though it has been recorded on several occasions at Hingolgadh in central Saurashtra and I am convinced it visits the Jessor hills close to Mt. Abu where there was an early record. It should be looked for in the Girnar and Gir forests.

Sálim Ali has no record of the Blue Chat *Erithacus brunneus*, a bird well known for its supposed nonstop flight from the Himalaya to the Nilgiris and associated high hills of Kerala and further south in Sri Lanka, however I have recorded a female at Hingolgadh after a violent thunderstorm in late September, when interestingly enough Sálim Ali was visiting with us. Undoubtedly, this was a storm tossed migrant blown off its normal epic flight. The Bluethroat *E. svecicus* continues to be a "common, and locally abundant" winter visitor favouring reedbeds and sedges on wet ground, irrigated winter wheat and lucerne and suchlike locations. Though normally seen when flushed, it is not a shy bird and can be watched hopping on the ground at fairly close range when the Redspotted and the Whitespotted races can be made out in the males. In March, prior to emigration, males may be seen on telegraph wires singing vigorously. During September, Kachchh and the northern half of Saurashtra (Hingolgadh inland and the Jamnagar coast) have the attractive Rufous Chat *Erythropygia galactotes* passing through on its way to wintering grounds in Africa. The numbers tend to fluctuate from one autumn to another; it is a very attractive little bird, quite un-chatlike in deportment and worth making a special effort to see.

To conclude this section we are left with the several species of *Oenanthe* chats, all of which are partial to semidesert and desert facies. They are all winter visitors and range from common to uncommon from Kachchh in the northwest towards east and south. The Isabelline Chat *O. isabellina* and the slightly smaller Desert Chat *O. desertii* are fairly plentiful on edges of salt deserts, heavily grazed pastures, dried margins of reservoirs and coastal sand dunes. The Redtailed Chat *O. xanthoprymna* is a bird of desert country around the edges of the Ranns specially with rocky outcrops. There are old records from the base of Mt. Abu and Morvi in Saurashtra. I have seen it near Jasdan and below Hingolgadh. The Pied Chat *O. picata* is inexplicably no longer "very common and abundant in Kutch and the semidesert western portions of N. Gujarat." It was equally abundant in the hill pastures of Saurashtra. The decline was noticed by myself and pointed out to Shivrajkumar Khachar in the Jasdan area some two and a half decades ago; the reasons are puzzling. This chat is polymorphic and has three very distinct colour phases, one all black, one with a white crown and the more plentiful one without a white crown and a white lower breast and abdomen. The last colour phase can be confused with the Hume's chat *O. alboniger* of Baluchistan, and the white crown phase with Pleschanka's Chat *O. pleschanka* and the very similar Hooded Chat *O. monacha*. The former breeds in the arid mountains of NWFP, Gilgit, Ladakh and Lahaul, while the latter is a winter visitor

to the Mekran Coast — there are possibilities of these three desert species appearing on the hills of Pachchham, Khadir and Bela south of the Great Rann in particularly severe winters.

Family Paridae: Tits

Three species of tit occur in Gujarat, the endemic Whitewinged Black Tit *Parus nuchalis*, the Grey Tit *P. major* and the Yellowcheeked Tit *P. xanthogenys*. *P. nuchalis* needs to be carefully monitored since Kachchh and adjacent rock hills of Balaram and similar rocky outcrops further south are its main habitat, this tit was recorded by Sálim Ali as "fairly common in Kutch but capriciously patchy". The immense alterations in vegetation in Kachchh and northern Gujarat, thanks to unimaginative blanket plantations of *Prosopis chilensis* cannot but have had an adverse effect. *P. major* is patchily distributed in the better wooded parts of Gujarat and in the Girnar and Gir forests in Saurashtra, though it is absent from those areas inhabited by *P. nuchalis* in north Gujarat and curiously absent from most of Saurashtra and the agricultural areas of central Gujarat. Since *P. major* has been recorded near the base of Mt. Abu not far from Balaram, the ecological imperatives of the two species would make a fascinating study. The handsome Yellowcheeked Tit *P. xanthogenys* has a patchy distribution in forested hill country along the eastern edge of the State, the locations recorded by Sálim Ali being Hathidhara near Mt. Abu, the Rajpipla hill forests south of the Narmada and the Dangs further south. The present status in these specific locations calls for investigation.

Family Sittidae: Nuthatches and Tree Creepers

The beautiful Velvetfronted Nuthatch *Sitta frontalis* was found to be "fairly common" in moist deciduous forests of south Gujarat, and the Spotted Grey Creeper *Salpornis spilonotos* was "not uncommon" in such ecologically diverse situations as around Deesa on the edge of the Rann in north Gujarat and in the teak forests of Rajpipla! I myself heard a song which I believe was of this species in a babul grove near Ahmedabad. We need current information on both these little birds which presumably are resident in Gujarat. Their continued presence may well confirm the health of the forest ecosystems they inhabit, which may, by and large appear to be badly damaged.

Family Motacillidae: Pipits and Wagtails

Like the warblers, pipits are a very neglected group of birds. Identifying the different species requires considerable experience and very regular observation. Except for the Paddyfield Pipit *Anthus novaeseelandiae*, all the others are winter visitors. Our resident pipit occurs in cultivation and on grassy verges of jheels over much of the State. Sálim Ali noted it as "a common resident species". I am not sure the position remains the same. The migratory pipits often sharing the same habitat as the resident species should actually make for exciting bird identification and amateur birdwatchers should spend more time unraveling their seemingly confusing identities. The first two are the Indian Tree Pipit *Anthus hodgsoni* and the very similar Tree Pipit *A. trivialis*. Sálim Ali considers the former as "uncommon" and the latter as "rare in Kutch and common and abundant in Gujarat and Saurashtra". The Tawny Pipit *A. campestris* continues to be even now "common and abundant", especially on open pastures and stony plateaux. The Redthroated Pipit *A. cervinus* is not common and this view was held also by Dharmakumarsinhji, though I suspect it is often overlooked. The same may be true of the Vinaceousbreasted Pipit *A. roseatus* and the Water Pipit *A. spinoletta*, specimens of the former were collected by Dharmakumarsinhji, and examined by Sálim Ali and the latter unsatisfactorily identified as such by Sálim Ali. The rather large and dark Brown Rock Pipit *A. similis* is not uncommon as indeed Sálim Ali found it to be in dry, rocky country by preference. There are specific demands by each species and the location of sighting could help field identification immensely, but being migrants and with habitats all heavily disturbed by human activity,

birds may turn up anywhere. Even so, qualitative, very patient observation over several years may be most enlightening, specially in understanding how confusingly similar species indeed maintain their specific identity.

On the other hand, wagtails in their full breeding plumage are a delight to watch and easy to identify. Confusion however, is generated at the time of their arrival in September and October, when a large number are juveniles and have yet to don their adult plumage. By March, just before they migrate to the Himalaya and beyond, all the birds are in brilliant nuptial attire and flocks of them on cropped grass beside water or in irrigated plots are a feast for the eyes. Broadly, among the wintering Wagtails we have the Pied or White Wagtail *Motacilla alba* with white underparts, french grey upper parts and varying amounts of black on the crown and breast; the several subspecies of the Yellow Wagtail *M. flava* with yellow underparts and greenish grey upperparts; the two subspecies of Yellowheaded Wagtail *M. citreola* and the Grey Wagtail *M. cinerea* with a light yellow wash, especially on the abdomen and vent and light ashy grey above. *M. cinerea* tends to be a solitary bird, to be looked for beside shady forest streams and along roads in well wooded compounds. It is uniformly distributed in suitable locations throughout the State, though the ideal locations are along the hill streams from Mt. Abu south to the Dangs and the Girnar and Gir forests. Before migrating, the males become lemon yellow on the lower parts, with a black throat. The several subspecies of Yellow Wagtails in full plumage are so distinctive that they were formerly considered separate species. Sálim Ali collected the Greyheaded Yellow Wagtail *M. flava thunbergi*, the Blueheaded Yellow Wagtail *M. f. beema* and the Blackheaded Yellow Wagtail *M.f. melanogriseus* during the surveys, later all the subspecies were trapped in mistnets. Yellow wagtails formerly used to literally swarm over irrigated fields and collect in large roosts in reedbeds along with *M. alba* and swallows, their numbers have sharply declined undoubtedly on account of the heavy, indiscriminate use of pesticides. *M. alba* was a common sight on lawns of palaces and large houses of the elite, and with the break up of properties and lawns being abandoned, this bird is now less frequently seen within urban settings. Pesticides too have reduced their numbers. Of the two subspecies of *M. alba*, Salim Ali mentions only *M. a. dukhuensis* though *M.a. personata* has been seen on several occasions at Jasdan. The Society's mistnetting data may help us to update our subspecific knowledge of both *M. flava* and *M. alba*. Both subspecies of the Yellowheaded Wagtail *M. citreola* occur with us; never swarming as *M. flava* did, they are still fairly common though more in solos among other Wagtails on the grassy verges of irrigation tanks. Like the pipits, the Wagtails show very distinct habitat preferences which need to be studied. Sálim Ali has the following to say about the resident Large Pied Wagtail *M. maderaspatensis* "Resident. Local and uncommon in Kutch and Saurashtra, more generally distributed in Gujarat though nowhere abundant." The position remains the same today though heavy pollution of all water courses in Gujarat and their disiccation in Kachchh and Saurashtra have had adverse effects on numbers.

About the Forest Wagtail *M. indica* Sálim Ali's observations remain true "Winter visitor. Rare. Sporadic solos met with in moist deciduous biotope." His conjecture that it "possibly occurs" in the Gir forest of Junagadh (Saurashtra)" has, to the best of my knowledge, been proved true. To see this unusual wagtail, which wags its tail from side to side, the best bet would be to quietly walk along forest streams of the Rajpipla hills or those of the Dangs. I have yet to add this species to my life list.

Family DICAEDAE: Flowerpeckers
Family NECTARINIDAE: Sunbirds
Family ZOSTEROPIDAE: White-eyes

Gujarat has two species of flowerpeckers, the Thickbilled Flowerpecker *Dicaeum agile* and the Tickell's Flowerpecker *D. erythrorhynchos*. Both are tiny, very nondescript birds and so are largely overlooked. According to Sálim Ali, flowerpeckers are absent in Kachchh and there is no record of them in Saurashtra. *D. agile*, however, is not uncommon

in Saurashtra among large trees, and undoubtedly also intrudes into Kachchh. *D. erythrorynchos* however is indeed restricted to areas south of Vadodara where "as elsewhere, inseparable from clumps of the *Loranthus* plant parasite infesting mango and other trees." Sálim Ali mentions the possibility of a third species, the Plaincoloured Flowerpecker *D. concolor*, occurring in the Dangs. Any takers? All three are tiny and nondescript.

The Purple Sunbird *Nectarinia asiatica* is an exuberant presence throughout Gujarat from flowering *Capparis aphylla* overhanging the saline expanses of the Ranns, sand dune islands in the Gulf of Kachchh overgrown by *Salvadora persica*, to the moist evergreen forests of the Dangs. The Rajpipla forests are the northernmost limits of the Yellowbacked Sunbird *Aethopyga siparaja* which Sálim Ali found "common in the Surat Dangs". It is in the Dangs that a look out needs to be kept for the two Western Ghats sunbirds — the Small Sunbird *Nectarinia minima* and the Loten's Sunbird — *N. lotenia*. Sálim Ali has only "a single unconfirmed sight record" of the Purplerumped Sunbird *N. zeylonica*, though resident birdwatchers of Vadodara and Surat may well come across a good many more. I have always found this otherwise brightly plumaged sunbird quite easy to overlook as it flits atop tall trees and I suspect I have actually been watching this bird casually in the fine foliage trees of Sayaji Baug, of Vadodara.

The White-eye *Zosterops palpebrosa* is common all over Gujarat and Saurashtra among all types of trees. I am sure it is also present in Kachchh where Sálim Ali did not come across it, since it is drawn to *Salvadora* trees in flower and fruit right out on to islands in the Gulf of Kachchh and inhabits mangroves as well. Flocks of white-eyes are very mobile and the bird spreads about over the entire region in the nonbreeding season. Nesting, however, is in more restricted, better wooded parts of the State. We need actual nesting records.

Family PLOCEIDAE: Weaverbirds and Sparrows
Family FRINGILLIDAE: Buntings and Finches

The House Sparrow *Passer domesticus* continues to be "ubiquitous" in cultivation and around human habitation, whether in densely populated urban settings or around isolated shelters of shepherds in seeming wilderness. Birds, especially in urban areas, assemble in huge flocks to roost in favoured trees, often drawing a Shikra which benefits by picking off a sparrow from among the melée. Sálim Ali graphically writes about these concourses thus "When shooting down into the thickets, or flying out on alarm the whir of their thousand wings was like surf breaking in the distance." Such huge numbers of seed eaters, it would appear, are an unmitigated disaster to farmers, yet *P. domesticus* , like its ubiquitous cousin the Baya *Ploceus philippinus*, rear their young on green caterpillars and other insects which would wreak incalculable damage on young monsoon crops. Sálim Ali has a very valuable observation which I quote since it bears emphasizing that birds are invaluable pest controllers and there is no need to systematically poison the countryside by spraying insecticides. He writes thus: "In the town of Bhuj the young were fed very largely on a green defoliating caterpillar which was swarming on googar (*Balsamodendron mukul*) and other bushes, denuding them completely of the newly sprouting leaves."

Both the Blackthroated Weaver *P. benghalensis* and the Streaked Weaver *P. manyar* need to be carefully recorded for their nesting. Sálim Ali had not recorded the latter and had collected five of the former in Kheda District south of Ahmedabad. He suggests that the sexes segregate into male and female flocks outside the breeding season which coincides, as it does in case of the Baya Weaver *P. philippinus*, with the southwest monsoon, when insects are at their maximum. In non-breeding plumage the three species of weavers are difficult to tell apart. *P. philippinus* continues to be ubiquitous and nesting colonies are to be seen everywhere. They have taken to nesting, often singly, in suburban gardens!

The Yellowthroated Sparrow *Petronia xanthocollis* is perhaps less "common and abundant" than a couple of decades ago for it is a bird of light jungle interspersed by cultivation. It was found all over the State in Kachchh and Saurashtra, as well as

in the better wooded South. Interestingly, this sparrow prefers holes and cracks in trees for nesting in and is less partial to such accommodation available in buildings; habitat degradation and the spread of the very competitive House Sparrow should be seen as reasons for the apparent decline of *P. xanthocollis*.

Among the munias, the pretty Red Munia *Estrilda amadava* is rather locally distributed in Gujarat, affecting reedbeds where it nests. Stray occurrences have been reported from various locations in Saurashtra. There is need for more detailed information. The attractive green Munia *E. formosa* is to be looked for in grass jungles of the eastern hills from near Palanpur in the north to Rajpipla and the Dangs in the south. For this Central Indian species, Gujarat would appear to be on the western edge of its range, we have no authentic records. The Whitethroated Munia *Lonchura malabarica* is the most widespread of the munias, happily occurring in habitats from near desert to cultivation bordering on forest in the South. Its southward spread appears to be in consonance with the habitat degradation in former forest areas and the incursion of grasslands and cultivation. On the other hand, the Whitebacked munia *L. striata* appears to be restricted to the Dangs. The spotted Munia *L. punctulata* is more widespread in Gujarat south of Vadodara, though I have seen them in the Gir forest in Saurashtra.

Our resident buntings are the Striolated Bunting *Emberiza striolata* and the Crested Bunting *Melophus lathami*. The former is locally found in Kachchh, Saurashtra and north Gujarat, very partial to rocky hillocks; at Nir on the edge of the Great Rann, numbers collect to drink at watering places for cattle, along with Little Brown Doves and Redvented Bulbuls. Sálim Ali also makes special mention of this. *M. lathami* is a bird of grass and dry scrub of the type in the Panch Mahal and Rajpipla along degraded riverain country. Gujarat's eastern hill borders appear to be the western limit of this bunting's continental range. The other three common buntings —the Greynecked Bunting *Emberiza buchanani*, Blackheaded Bunting *E. melanocephala* and the Redheaded Bunting *E. brunniceps*— are winter visitors in fairly large numbers, the former favouring drier, open rocky country of Kachchh and Saurashtra, while the latter two assemble in huge flocks in agriculture. Formerly, they were well spread out in monsoon crops of millets and sorghum, but with groundnut becoming the major rainy season crop in Saurashtra these buntings have moved away. Central Gujarat remains the main area for these two buntings, though on passage in autumn and spring they may be plentiful in Kachchh and Saurashtra. Sálim Ali makes no mention of other wintering *Emberiza*, however, I have seen a fine specimen of the Whitecapped Bunting *E. stewarti* near Hingolgadh, while Shivrajkumar and I identified a pair of Little Bunting *E. pusilla* near Jasdan and we mistnetted several Ortolan Buntings *E. hortulana* at Hingolgadh. These last, should be recorded in BNHS's birdbanding database.

Among the Fringillinae, the Common Rosefinch *Carpodacus erythrinus* is a fairly common winter visitor, generally distributed over the entire area with largest concentrations in the agricultural champaign of central Gujarat from Mehsana south to Baroda, where it mixes freely with the Blackheaded Bunting *E. melanocephala*. The scarlet males are surprisingly unobtrusive, and attention is drawn to the birds only when a flock flies up and settles along electric wires crossing fields when their generally dark colouring, thick bills and distinctly forked tails are observed. Birdwatchers in Kachchh, have recently reported sighting the Trumpeter Bullfinch *Carpodacus githagineus* in Kachchh, which brings me to the end of this overview of the birds of the Gujarat region.

Conclusion

As I went over Sálim Ali's two part paper published in the early 1950s, I was struck by the man's diligence on the one hand, yet realised how limiting such time-based collection surveys can be. The importance of regular birdwatching through the years and ofcourse meticulous recording of observations cannot be over emphasized, as I realise to my own chagrin. When I look for dates of my own records, I

cannot lay my hands on any: I do not have careful notes of the half century of bird watching which got me to know such outstanding ornithologists like General Harold Williams, Horace Alexander, Dharmakumarsinhji, Humayun Abdulali and of course Sálim Ali. If younger birdwatchers today feel I encourage them without hesitation, it is because of my own vivid memories of how much these giants of yesteryear encouraged me, and if at times I dampen youthful excuberances for recording rare sightings, it is because I remember Sálim Ali, cajoling me to be cautious and extremely methodical. I am saddened to find that just when awareness for the environment has grown, amateur birdwatchers are playing a less meaningful role. While birdwatching fiestas like the annual waterfowl censuses and anniversary bird counts are to be welcomed, it is the day to day observations, the simple act of putting out food on bird tables, or hanging birdboxes that are needed to generate a populace-wise concern for the decline in birds as a whole.

I am aghast at how the giants, for all their field expertise, failed to highlight strongly the importance of indigenous vegetation for native birds this perhaps is a pointer to the fact that the tendancy to plant exotics, almost to the exclusion of native species had not been as prevalent then as during the intervening decades. Though Sálim Ali's paper does have an underscoring of ecological imperatives and there is a continual reference to *Prosopis* as a bird tree, irresponsible, or at best ignorant, promoters of *Prosopis chilensis* across the Gujarat countryside may use this as a justification for their actions, claiming for the intrusive alien the highest of biological significance quoting no less an authority than Sálim Ali it must be pointed out that Sálim Ali's *Prosopis* is the fine desert tree *P. spicigera* variously known as "Khijado," "Khijadi," "Sami" or "Khandi," indigenous of the desert tracts of Kachchh, Saurashtra, north and central Gujarat and the desert regions of Marwar in Rajasthan. Significantly Sálim Ali does not mention *P. chilensis* the "Gando Bawal" of Saurashtra and "Hadkayo Bawal" of Kachchh so dear to the heart of professional foresters. Today this tree dominates extensive areas and the ecological fallouts have yet to be evaluated. Conservation of birds, whether it be through improving grassland management for the Great Indian Bustard and the Lesser Florican, the care of wetlands for safeguarding nesting sites for the Sarus Crane, the cleaning up of sewage and industrial wastes from rivers to rehabilitate the Pied Kingfisher or the protection of tall timber forests to help the Black Woodpecker to survive, the needs of the birds are the needs of the people and herein lies the necessity of shedding any apologetic attitudes towards our concern for birds. Any action taken will merely enrich the human environment.