



POTENTIAL
PROBLEM BIRDS
AT INDIAN
AERODROMES

ROBERT B. GRUBH & SÁLIM ALI

BOMBAY NATURAL HISTORY SOCIETY

SPONSORED BY AERONAUTICS R & D BOARD MINISTRY OF DEFENCE. INDIA

**Potential Problem Birds
at
Indian Aerodromes**

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Robert B. Grubh
&
Salim Ali

All species illustrated in colour

Sponsored by
Aeronautics Research & Development Board
Ministry of Defence (R & D), Government of India



BOMBAY NATURAL HISTORY SOCIETY
INDIA
1984

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Bombay

Printed by Bro. Leo at St. Francis I.T.I. Press, Borivli, Bombay 400 103.

FOREWORD

The problem of bird strike hazard to aviation has assumed alarming proportions resulting in large scale damage to aircraft and making the flight of manned aircraft hazardous. The increasing concentration of predatory birds near big airports in the country is a matter of deep concern to all engaged in aviation. The Aeronautics Research and Development Board has been making concerted efforts to promote coordinated Research Programmes to find ways and means to reduce bird strike hazards. In this connection, Bombay Natural History Society, under the guidance of Dr Salim Ali, has mounted very important Research Programmes under the aegis of AR & DB. In fact, in one of their projects involving two airfields, "problem" birds have been identified and practical ways of dealing with these birds determined.

2. There has been a long felt need for operators and others in the aviation industry to be able to identify such "problem" birds and also to have a working knowledge of their behaviour in order that useful observations could be conveyed to scientists engaged in evolving measures to reduce the problem. It is in this context that this book brought out by the Bombay Natural History Society serves to fill a void and provides a simple yet effective means for those concerned, to readily identify such birds when they see them and to gather evidence of vital interest to the scientists.

3. I have no doubt that this book will be welcomed not only by those actively engaged in aviation but also by everyone who is conscious of flight safety. I am happy to note that BNHS have plans to update the contents of this booklet with additions as further experience is gained.

(VIVEK R SINHA)
CHIEF CONTROLLER (R & D)
DEFENCE RESEARCH &
DEVELOPMENT ORGANISATION

PREFACE

Ever since its creation in 1979 the Operational Problems Panel of the Aeronautics Research & Development Board has been concerned with the problem posed by bird strike to aircraft. Many aircraft are being lost in the country due to bird strike: a survey made some years ago revealed that this problem is far more severe in India than in most other countries. Operators have discussed a variety of possible solutions to bird strike; it seems fair to say that as of today there is no single universal remedy, and that the solution to the problem, when achieved, will probably involve action of a variety of different kinds: our airports would have to be cleaned up; the habits of the birds responsible for the damage would have to be studied; and devices will have to be found so that, while aircraft fly safely the bird population of our country will not be adversely affected.

A major study which may lead to the solution of some of these problems is being undertaken by Dr. Sálím Ali and his colleagues at the Bombay Natural History Society. As a first step the Panel felt that it would be useful to have a small handbook describing common problem birds in India so that pilots and ground staff would be able to report on problem birds by their own observations whenever possible. As no simple handbook which enables them to identify such birds exists, we requested BNHS to prepare a suitable manual. This report is the result. I hope that it will be in the hands of everybody who is concerned with reducing risks due to bird strike in Indian aviation; and I am sure that it will make its own contribution to the enhancement of flight safety in India.

(RODDAM NARASIMHA)
Coordinator, Operational Problems
Panel, Aeronautics Research &
Development Board

Acknowledgements

Publication of this booklet was made possible through a grant the Aeroanautics Research and Development Board, Ministry of Defence, sanctioned to the BNHS for an ecological study of bird hazards at Indian aerodromes.

This field project is being carried out successfully at various aerodromes thanks to the unfailing assistance and cooperation rendered by officers of all ranks of the Indian Air Force, International Airports Authority of India and Directorate General of Civil Aviation.

The Bombay Natural History Society has kindly deputed one of us (RBG) to work full time on bird hazard problems.

Our Research Biologists Messers Goutam Narayan and S.M. Satheesan worked untiringly at different airfields and collected valuable data which was essential for preparing this booklet and for making objective evaluation of the problem.

Dedicated

to

PILOTS

who risk bird strike hazard
every time they fly an aircraft

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Design: Cover: R. B. Grubh. Text: J. S. Serrao

Introduction

Bird hazard has become a significant problem to aviation in modern times throughout the world. The birds involved in collision with aircraft are of many species ranging in size from smaller than a sparrow to larger than a vulture. These problem birds vary from country to country and often from one aerodrome to another. Similarly the factors leading to bird strikes also vary from place to place.

The first essential information required for any bird hazard prevention programme is an inventory of the species commonly involved in bird strikes. Correct identification of the species makes it easier for ornithologists to study the various ecological requirements of the problem birds occurring within, and in the surroundings of an aerodrome. This knowledge enables the investigators to work out suitable strategies to dispel the birds from the aircraft's flight path or to take avoidance measures.

The most satisfactory way to recognize problem birds is through identifying their remnants recovered from the site of impact after a strike. Apart from this it would also be useful to document sight identifications recorded by pilots and ground staff, provided they have a fairly good knowledge of the common problem birds of the area.

This booklet is intended to provide some basic knowledge of the common problem birds of India through illustrations and simple descriptions, highlighting aspects of bird hazard significance. For other details concerning these and related birds the reader is expected to refer to standard bird books such as *The Book of Indian Birds* by Sálim Ali (Bombay Natural History Society) and the more elaborate *Handbook of the Birds of India and Pakistan* by Sálim Ali and S.D. Ripley (Oxford University Press).

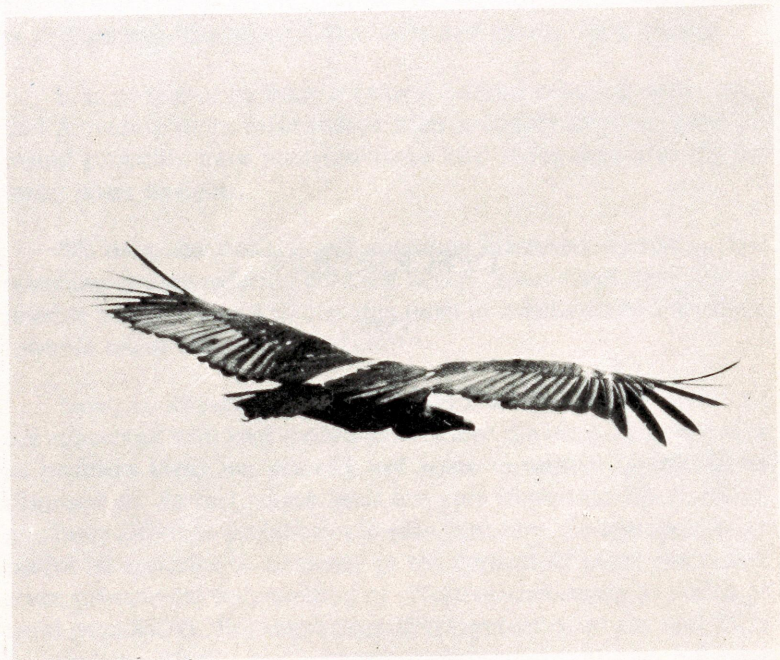
The selection of the birds described here is based purely on information currently available from bird (strike) remnants and from our own visual observations of bird movement at a few aerodromes. The birds are grouped into three broad functional categories namely, 1. Soaring birds, 2. Non-soaring aerial birds and 3. Predominantly ground birds. The relative size and approximate body weight are given for each species in addition to a brief description of its food habits and behaviour relevant to aviation. We have also included the giant fruit bat at the end although it is not a bird, as this animal flies around like birds and causes 'bird' strikes.

It is proposed to issue a revised edition covering more birds and providing more information after a couple of years when we would probably have analysed more bird strike data and studied many more airfields.

We trust this booklet will create an increased interest in bird watching among aviation officials which, apart from being an enjoyable hobby, should also enable them to substantially contribute towards reduction of bird strikes.

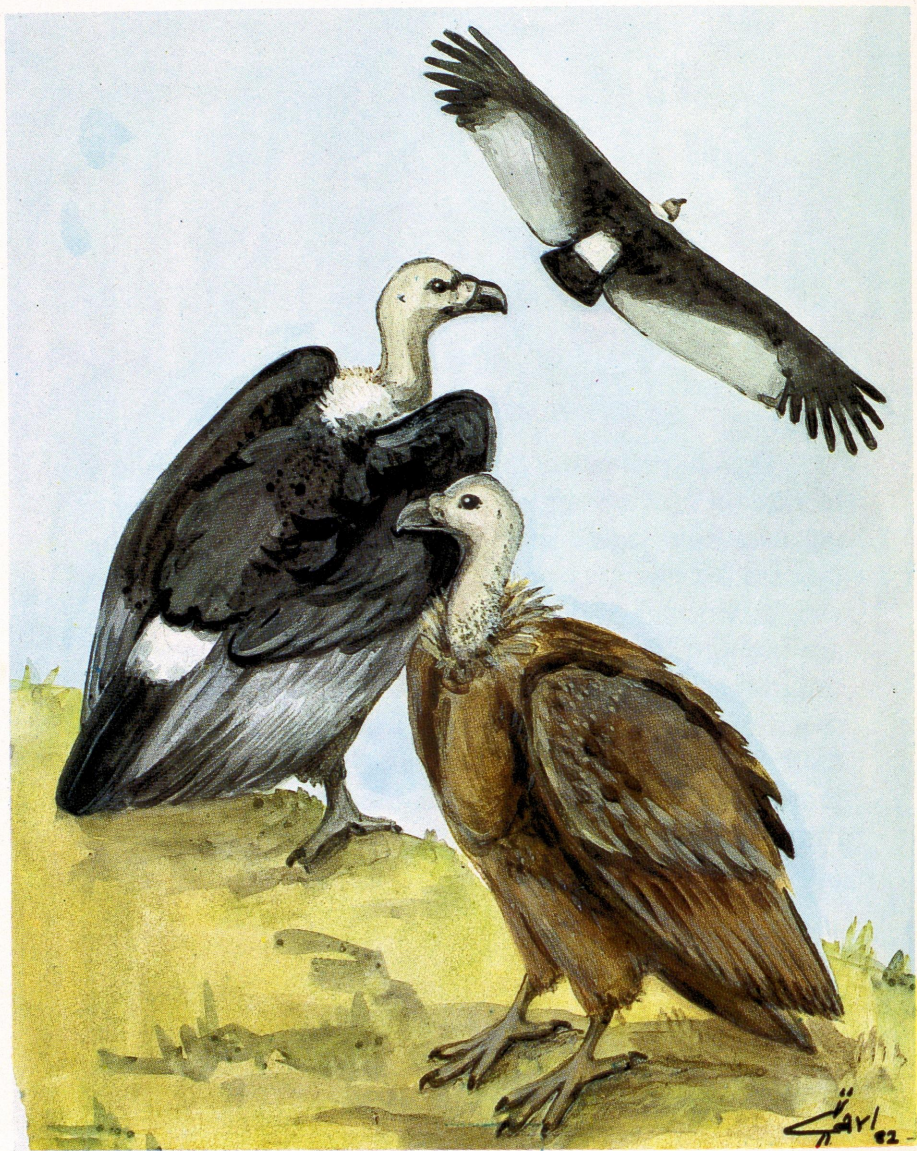
Now, an important point to be kept in mind by all those who are concerned with bird hazard to aviation: the birds described here as problem birds are actually not some unwanted vermin to be disposed of. In fact, these birds are very important for mankind and have different useful roles to play in nature. Several species are useful to agricultural economy in the control of plant pests, and some provide the only method of effective scavenging available to rural population. But unplanned development of towns and cities in modern times, has created unnatural situations inducing unhealthy proliferation and concentration of birds around such areas. So when we must reduce their numbers and keep them away from aerodromes we should try to achieve this goal through ecological measures rather than through unwise short cuts like mass slaughter.

DESCRIPTION
OF
THE BIRDS



Soaring Birds

The characteristic method of flight of these birds is to ride on upward air currents. Thermal bubbles forming over sun-heated ground surface cause most of the upward air currents in the plains while hill slopes provide additional updrafts in hilly terrain. Soaring birds are highly specialised for gliding and take to powered flapping flight only when updrafts are too weak, or for specific purposes. Pilots usually come across these birds from low elevations to as high as about 1.5 km or even more, but some species also come down and settle on runways in air fields.



WHITEBACKED VULTURE
(Brown: immature)

1. Whitebacked Vulture

Weight c. 4.5 kg.

This is the commonest vulture of the Indian plains, and the cause of many major bird strike incidents at climb, approach, and in low flight. It is easily identified by its large size and bare head and neck. Vultures have a powerful hooked beak to tear up meat, and a pouch (crop) at the base of the neck to store it. Soft meat and offal from large carcasses form their staple diet.

Usually the birds start their food-searching flight late in the morning in small flocks, riding on thermals. Once a carcass is spotted they start circling over it. This behaviour soon attracts many more vultures from afar and the rabble, maybe of anything from fifty to two hundred or more in number, comes down to feed.

Whitebacked vultures, like most birds, have virtually no sense of smell. They locate food by sight, either directly or by noticing other birds or animals heading for the feast.

After feeding they rise high in huge columns on thermals and glide away in one or more directions. Whitebacked vultures have proliferated in great numbers around many large towns and cities because of two major factors, the first being primitive slaughter houses where vast quantities of animal garbage is produced; and the other, centralized hide and bone collecting units where free living vultures are utilized for cleaning up carcasses.

Other closely resembling but less common vultures, include the longbilled vulture *Gyps indicus*, Eurasian or fulvous griffon *Gyps fulvus* and the king vulture *Sarcogyps calvus*. (For description and habits see Sálím Ali & Ripley *Handbook* Vol. 1.)



Vultures at a carcass

2. Scavenger-or Egyptian Vulture

Weight c. 2 kg.

Scavenger vulture is much smaller than the whitebacked, and resembles a large eagle in size and general appearance, including feathered neck. It is creamy white with black wing quills when adult but immature birds are all brown with intermediate stages in between. The triangular or wedge-shaped tail is usually diagnostic in flight even as a silhouette. It feeds on soft tissues of carcasses, and also takes tid-bits from primitive tanneries and slaughter houses, and from city garbage dumps, including human excrement. Apart from soaring on thermals along with larger vultures and other birds of prey, the scavenger vulture also occasionally comes down to air-fields to pick up dead insects or small animals. Although not more than half a dozen birds occur together as a flock in natural conditions, unnatural abundance of food supply available at several Indian towns and cities cause unusual congregations amounting to several hundreds flocking together.



SCAVENGER VULTURE
(*Brown: immature*)

3. Pariah Kite

Weight c. 650 g.

Pariah kite is smaller than the scavenger vulture but considerably bigger than the crow and is easily identified by its forked tail and dark brown plumage. It feeds off kitchen scraps, as well as tid-bits at garbage dumps, primitive tanneries and butcheries besides taking insects and dead rats. This bird is regularly attracted in large numbers to uncovered garbage bins in airfields. Apart from soaring on thermals at higher elevations it also quarters very low using any other available air currents, and also frequently settles on runways. Thus at many Indian aerodromes, the pariah kite poses a problem to aircraft from ground level to higher altitudes most of the day.



Pariah Kites at a garbage dump



PARIAH KITE

4. Marsh Harrier

Weight c. 400 g.

Much like the pariah kite in shape, size and general plumage; and, like it keeps in the air most of the day. But it can be easily distinguished by its yellowish brown crown and shoulders and absence of fork in the tail. Also the adult male has grey wing- and tail feathers unlike the kite which is all brown. This harrier has the habit of skimming tall grass of open meadows in airfields, mostly singly. It feeds on insects, frogs, lizards, small birds and mammals and occurs as a winter visitor usually from September to April.

In addition to the marsh harrier one also comes across other species of harriers, e.g. Hen and Pale Harriers, whose females resemble each other and are not easy to distinguish in the field. (For descriptions of these birds see Sálím Ali & Ripley *Handbook* Vol. 1.)

5. White-eyed Buzzard-Eagle

Weight c. 340 g.

White-eyed buzzard-eagle resembles a pariah kite in general appearance, but is distinguished by smaller size and a shorter tail without fork. A prominent white throat divided along the middle by a black stripe, and bright white eyes are conspicuous features. It usually sits vertically on poles and trees, and makes occasional short flights showing its pale shoulders. During breeding season pairs often soar high up in the sky. It feeds on insects, and small mammals.



MARSH HARRIER

Lower two: adult male Upper: immature or female



WHITE-EYED BUZZARD-EAGLE



CRESTED HONEY BUZZARD

6. Crested Honey Buzzard

Weight c. 1000 g.

The crested honey buzzard is a larger bird of prey, somewhat heavier than the pariah kite and distinguishable in flight by its extra broad wings and two distinctly blackish stripes on either underwing. It frequents airfields having rock-bee hives hanging on branches of trees or under rock overhangs and concrete structures. This bird feeds on honey and bee larvæ taken from live bee hives without itself being harmed by the bees. It is not a gregarious bird and one usually does not come across more than two or three at an airfield. But its frequent soaring flights over the airfield makes it a likely hazard for aircraft at odd times.



Non-soaring Aerial Birds

Under this group we have included birds that do not depend on thermals or air currents for aerial movement but usually perform powered flight by flapping the wings. Consequently these birds can be seen flying over airfields throughout the day, and if nocturnal, at night. Non-soaring birds usually remain at lower elevations except for long distance flights, particularly on migration.



Upper: HOUSE CROW Lower: JUNGLE CROW

7. House Crow

Weight c. 300 g.

8. Jungle Crow

Weight c. 500 g.

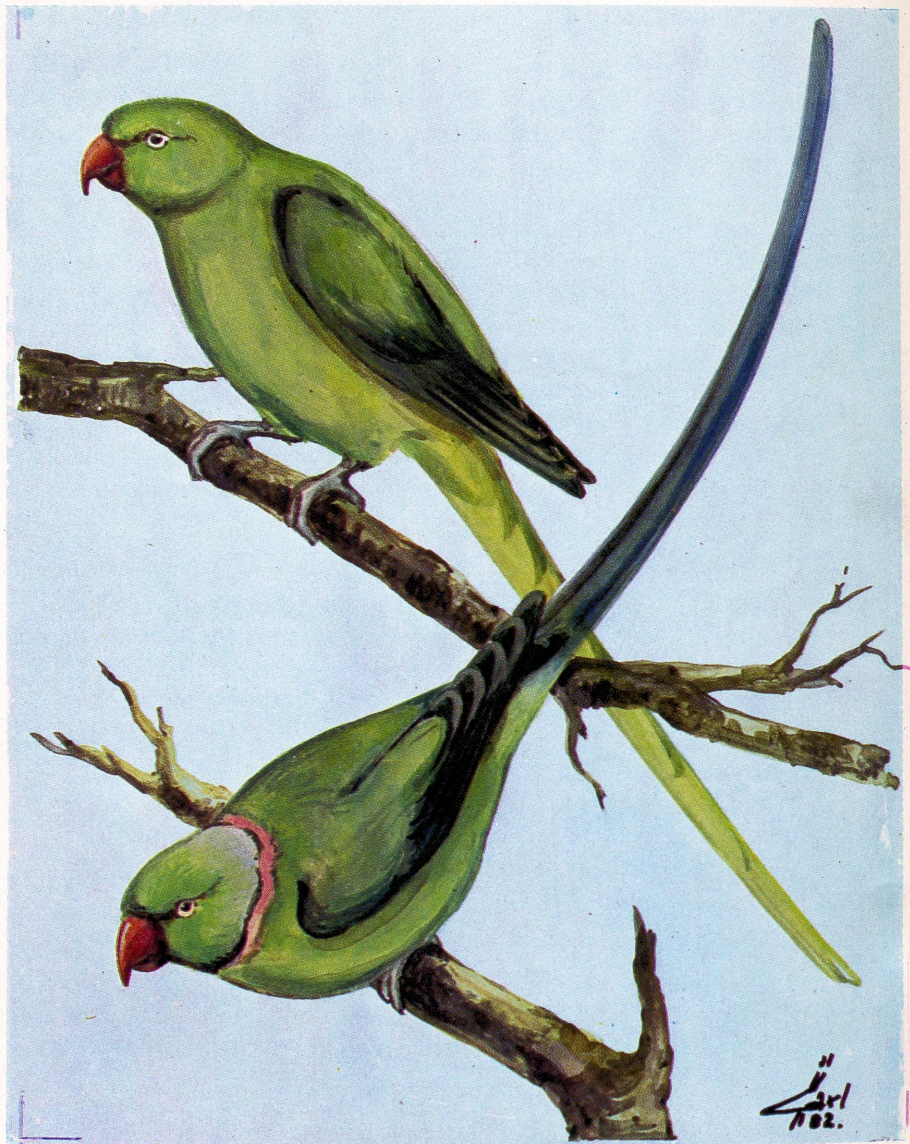
The crow with a greyish neck is the house crow. The jungle crow is all black, has a stouter beak, and is also slightly larger in size. Both are common throughout India and occur side by side although the house crow is much more abundant and has a preference for human habitations. Crows being omnivorous, can be attracted to any type of food including insects and grains. They often roost (sleep) within airfields when suitable trees are present. Crows are a problem at certain airfields particularly for an hour around sunset and sunrise when they cross the runways in loose flocks flying towards or away from their roosts (sleeping quarters). They are regularly attracted to airfield for insects flushed out during grass thinning operations, and to uncovered garbage. Crows also descend on runways in large numbers during the monsoon to pick up insects.

9. Roseringed Parakeet

Weight c. 120 g.

Like crows this species too has become a potential hazard at certain airfields at sunrise and sunset when they fly towards or away from their roosts in vast numbers. Parakeets are strictly vegetarian, feeding upon grains, fruits and certain flowers. The adult male has a beautiful rose coloured ring round the neck.





ROSERINGED PARAKEET

Upper: female Lower: male

10. Common Myna

Weight c. 110 g.

11. Bank Myna

Weight c. 70 g.

12. Pied Myna

Weight c. 75 g.

The common myna is a familiar bird at many Indian aerodromes though not often seen in large numbers. This and related birds including the bank myna, the pied myna and certain other starlings gather in thousands in tall vegetation within or near certain airfields for roosting and pose problems to aircraft at sunrise and sunset. They also fly in small flocks across the runway almost throughout the day. Though small, mynas and starlings can be very dangerous when they fly in flocks. In fact an Electra aircraft was downed at Boston airport in 1960 by a flock of starlings from a roost within the airfield, resulting in the death of 61 passengers and crew.

Common myna feeds mostly on insects and fresh kitchen scraps. The bank myna takes the above items and also regularly visits garbage dumps. The pied myna feeds on insects, tid-bits at garbage dumps and also regularly takes human excrement. The latter two species do not occur in the southern part of the Peninsula.

13. Blue Rock Pigeon

Weight c. 300 g.

This occurs mostly as a feral form regularly nesting within the aerodromes in buildings and frequently flying in small dense flocks low over runways throughout the day. Though the pure form is bluish grey as shown in the picture, generations of domestication and selective breeding have produced all sorts of plumage variations including the white, the brown, and the mottled varieties. Apart from feral pigeons those kept by pigeon fanciers near airfields also form potential hazard to aircraft as these often encroach into the approach and climb paths of aircraft. Blue rock pigeons feed on grains.



Flying, and on ground: COMMON MYNA
Sitting, top: BANK MYNA
Sitting, middle: PIED MYNA



BLUE ROCK PIGEON

Lower left: male, right: female

Upper: Plumage variation through domestication



CATTLE EGRET
(Left: in breeding plumage)

14. Cattle Egret

Weight c. 450 g.

It is an all white bird, with long legs, neck, and yellow beak. Breeding birds acquire beautiful golden brown on the head, neck, and over the back. Cattle egrets visit airfields sometimes in large numbers to feed upon insects flushed in grass thinning operations. These birds also thrive on maggots available at city garbage dumps and primitive tanneries. Cattle egrets occur often in flocks and can pose a problem to aircraft at take off and landing.

15. Blackwinged or Blackshouldered Kite

Weight c. 270 g.

16. Kestrel

Weight c. 170 g.

The blackwinged kite is about two-thirds the size of a crow and is predominantly whitish with black shoulder patches and a short unforked tail. It has the interesting habit of hovering motionless at one spot, on quivering wings, as if suspended in mid air, scanning the ground intently. This it does to spot insects, lizards and other prey species. The only other bird commonly seen hovering over land in this fashion is the kestrel, which can be distinguished by its predominantly reddish upper parts.

Both these species occur singly and not in flocks, but their habit of persistently hovering over an airfield make them a possible hazard for aircraft at landing and take off.



Left: BLACKWINGED KITE Right: KESTREL

17. House Sparrow

Weight c. 25 g.

The house sparrow, though very small in size, often moves in flocks and hence can cause some damage to jet engines. Being omnivorous the sparrow is easily attracted in large flocks over airfields where insects or grass seeds are plentiful. It may also flock into the airfield for roosting in suitable trees.

In northeastern India the house sparrow is usually replaced by the similar looking tree sparrow (*Passer montanus*) but no study has been done on its hazard potential as yet.

18. House Swift

Weight c. 20 g.

19. Common- or House Swallow

Weight c. 18 g.

20. Redrumped Swallow

Weight c. 18 g.

The house swift is smaller than the sparrow, but usually occurs in flocks and might be of some significance when many are ingested together by jet engines. It nests and roosts in large numbers under roof domes, archways, rock overhangs etc., and can be regularly seen flying over some airfields catching small insects in flight.

Other birds superficially resembling the house swift and having similar habits and also often occurring in their company include the house swallow, redrumped or striated swallow and a few others. The house swallow is a migratory bird appearing only in the winter months whereas the redrumped swallow occurs throughout the year, making nests in the same sort of places as the house swift.



HOUSE SPARROW
(Upper: female)



Upper left and lower right: HOUSE SWIFT

Upper right: HOUSE SWALLOW

Lower left: REDRUMPED SWALLOW



Lower: GREAT HORNED OWL
Upper: SPOTTED OWLET

21. **Great Horned Owl**

Weight c. 1100 g.

22. **Spotted Owlet**

Weight c. 110 g.

Owls are nocturnal birds of prey and feed upon insects, snakes, and rats. The great horned owl is a large bird bigger and stouter than a pariah kite and is recognized by its mottled greyish brown plumage and two horn-like feather tufts on the head. Being fond of rats, this owl frequents airfields that support rats and other small rodents.

Spotted owlet is grey speckled with white. It is smaller than a crow and has a very short tail. It feeds mostly on insects and usually gets attracted to insects coming to lights at airfields but it is not an uncommon sight to find the spotted owlet sitting out in trees in broad daylight and gazing nervously at passers by. This bird usually remains hidden in tree holes and such other cavities.



An owl at nest



Ground Birds

Birds that normally stay on ground most of the time and resort to flying only when disturbed are included here under this category. These birds move about on foot among bushes as well as on open meadows, and often come out on to the runway, either for loitering or to cross over from one side to another. As such these birds are a potential hazard to aircraft at ground level.

In addition to these predominantly ground birds we also may come across certain habitually aerial birds settling on the tarmac as mentioned under soaring birds earlier.



Upper: GREY PARTRIDGE
Lower: BLACK PARTRIDGE

23. Grey Partridge

Weight c. 300 g.

24. Black Partridge

Weight c. 400 g.

Grey partridge is of the size and appearance of young healthy chicken and has a greyish plumage marked throughout with brown stripes and blotches. Being a ground bird, it flies only, when suddenly flushed and that too short distances, low over the ground. It feeds on grains, insect and other small invertebrates besides small lizards and frogs. The grey partridge is a common feature in many air fields having scrub and grass habitats and often moving about freely on runways and taxiways.

Another species of partridge frequenting some airfields, in northern India is the black partridge. It is similar to the former in size and features but more colourful, being predominantly black with reddish brown patches and white spots. Black partridge is a shy bird and hence hard to locate except by its insect like *cluk-tuk-trr-trr-trr* call note uttered repeatedly in the morning and evening. It usually avoids coming out on to the runway.

25. Indian Peafowl

Weight c. 4 kg.

Indian peafowl is about the size of a whitebacked vulture, but appears larger because of the long train. It is predominantly a ground bird, but often crosses open ground in low flight. Trees, scrub and grass provide sufficient shelter and food for these birds to thrive. The food consists of several items including grains, plant bulbs, insects and snakes. Although a thing of beauty, the peafowl has the potential of causing serious accidents at take off if permitted to live within the airfield.



INDIAN PEAFOWL (Male)

26. **Redwattled Lapwing**

Weight c. 190 g.

27. **Yellow-Wattled Lapwing**

Weight c. 110 g.

Redwattled lapwing is a ground bird fond of large open spaces, and it flies up when disturbed. It is slightly smaller than a crow and has long yellow legs and a conspicuous red wattle projecting in front of each eye. In flight it is readily recognized by a broad white 'V' mark extending from wing to wing, and the characteristic call note *titee-tiu*. Its food consists of insects and other invertebrates. This lapwing is often seen walking on runways and even making open nests close by. Yellow-wattled lapwing is a closely related and slightly smaller bird occurring in the airfield and frequenting runways. It has a black crown and yellow wattles. Yellow-wattled lapwing too inhabits vast open areas, but it prefers drier ground.



Redwattled Lapwing



Upper two: REDWATTLED LAPWING
Lower: YELLOW-WATTLED LAPWING

Non-bird



GIANT FRUIT BAT

Giant Fruit Bat or Flying Fox

Weight c. 600 g.

The giant fruit bat is not a bird. It is an animal (mammal) which is perfectly adapted to flying. It has teeth, gives birth to young, and suckles the young like any other mammal. This bat has a wing span of about 120 cm.

Being nocturnal they sleep during the day hanging upside down usually in large congregations, on favourite trees. They start flying on noiseless wings at dusk towards orchards and trees bearing ripe fruits. Though bat ingestion is known to occur, we do not know how often such incidents take place.



Bats at rest in a tree



Bird feather identification:
Tiny fragment of a pigeon feather at 200 \times magnification

BIRD STRIKE DATA AND BIRD STRIKE REPORTING

Bird strike data when analysed, using large samples, provide very useful information for identifying several factors directly or indirectly leading to such incidents.

In order to standardize information recorded for each bird strike and not to miss any vital details, the International Civil Aviation Organisation has prepared a bird strike reporting questionnaire for use the world over. Each category of information sought also has a computer code for easier recording and retrieval. This questionnaire has been updated recently (Kenneth K. Wilde 1980 ICAO Bird Strike Information System, presented at North American Workshop on Airport Bird Strike Reduction Control). This system also provides for additional questions and codes for use in national forms.

The BNHS form shown here is being used by the Indian Air Force. This form includes the entire ICAO questionnaire plus a few more items relevant to Indian conditions. The form makes it easier for the pilot or a ground official to record essential data quickly.

An essential part of reporting bird strikes is to also look for, collect, and send for identification, any bird remnant (be it a feather, foot, wing, or head) that may be found at the site of impact or near by. Engineers of the maintenance units often pull out feathers from damaged engines and these too must be carefully preserved and sent for identification to the Bombay Natural History Society.



BOMBAY NATURAL HISTORY SOCIETY
 HORNBILL HOUSE
 SHAHID BHAGAT SINGH ROAD,
 BOMBAY-400 023

BIRD STRIKE DATA

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YOUR REPORT WILL PROVIDE INFORMATION VITAL TO BIRD HAZARD PREVENTION PROGRAMMES.

TO BE FILLED PREFERABLY BY THE PILOT

AIRCRAFT OPERATOR/ OWNER		MAKE, MODEL		ENGINE MAKE, MODEL		AIRCRAFT REGISTRATION		DATE 08 DAY MONTH YEAR			TIME (LOCAL)		LIGHT 10 DAWN DAY DUSK NIGHT			
01/02		03/04		05/06		07					09		A	B	C	D
AERODROME				RUNWAY		LOCALITY, IF ENROUTE						HEIGHT ABOVE GROUND		SPEED (IAS) (KTS)		
11/12				13		14						15		16		
PHASE OF FLIGHT		PARKED		TAXI		T/O RUN		CLIMB		ENROUTE		DESCENT		APPROACH		LANDING ROLL
17		A		B		C		D		E		F		G		H
AIRCRAFT PARTS	RADOME	WIND SHIELD	NOSE- OTHER	ENG-1	ENG-2	ENG-3	ENG-4	PROPELLER	WING/ ROTOR	FUSELAGE	LDG- GEAR	TAIL	LIGHTS	OTHER (SPECIFY)		
STRUCK	18	19	20	21	22	23	24	25	26	27	28	29	30			
DAMAGED																
EFFECT ON FLIGHT						SKY CONDITION 37				PRECIPITATION						
NONE	ABORTED TAKE OFF	PRECAUTION LANDING	ENGINES SHUT-DOWN	OTHER (SPECIFY)		NO CLOUD	SOME CLOUD	OVER- CAST	VISIBILITY (NM)	FOG	RAIN	SNOW				
32	33	34	35	36		A	B	C		38	39	40				
BIRD SPECIES* (IF KNOWN)	NUMBER OF BIRDS (approx.) SEEN AT TIME OF STRIKE			SIZE OF BIRD 44 SMALL (SPARROW TO MYNA)		MEDIUM (CROW TO KITE/ DUCK)	LARGE (VULTURE/ PELICAN)		PILOT WARNED OF BIRDS BY 45 ATC PIREP OTHER (SPECIFY)			NONE				
41	42			43		S	M	L	Y			X				
REMARKS (Describe damage, injuries and other pertinent information) 46/47																
ADDITIONAL INFORMATION (AT THE TIME OF STRIKE)		EXTERNAL LIGHTS "ON"		RED ROT BEACON	WHITE ROT BEACON	WING	STROBE	NOT "ON"	RADAR (AIRCRAFT)		WIND SPEED (KTS)					
		NAV. LANDING							"ON" NOT "ON"							
THIS FORM FILLED BY				BIRD REMAINS* ENCLOSED HERewith				SENDER								
NAME:																
DESIGNATION:				YES	NOT COLLECTED	SEARCHED BUT NOT FOUND	DATE	INITIALS								

*BIRD REMAINS HELP IN IDENTIFYING THE BIRD. EVEN A FEATHER, A FOOT OR A BEAK IS VALUABLE AND SHOULD NOT BE IGNORED

THIS FORM INCORPORATES THE ENTIRE ICAO BIRD STRIKE INFORMATION SYSTEM OF 1979 (FROM CODE NO. 01 to 47)

