

## PEST BIRDS OF PAKISTAN: IDENTIFICATION AND DISTRIBUTION

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### A. Introduction

Birds have become of concern to farmers and agriculturalists because some species are granivorous, feeding upon grains and seeds which are needed for food by the human population, while other species are frugivorous and feed on fruit crops which are of economic importance. These few species out of the total bird fauna are considered as "pest birds" and require some action to prevent or reduce the damage they are capable of inflicting on field crops.

The seriousness of crop damage depends upon the growth stage at which the crop is attacked by birds. If the preferred stage is the sprouting and ripening crops, then serious damage often occurs; both the period of attack will be long and many plants will be destroyed, with consequent loss of yield. If the preferred crop stage is the mature crop, then less damage is likely to occur. At harvest, most bird damage comes to a halt and the birds are then welcome to glean the waste seeds from the fields.

When the birds' breeding season comes to an end near the time that crops are ripening in the fields, then crop damage can increase. This is because bird numbers are at their annual peak at this time and the food demands of bird populations are at peak also. The energy reserves of adult birds are minimal because they have just gone through a long and energy-demanding breeding season.

Birds usually have a minimal effect on the physical characteristics of the habitat. It is mainly through their feeding and foraging habits that they come to have an impact on the agro-ecosystem, particularly on cereal grain crops. Birds must secure enough energy each day to meet their normal metabolic requirements plus any additional needs imposed by the effects of adverse climate and temperature extremes or the effects of migration, reproduction and moulting, all of which are very energy demanding. As a general rule, reproduction, moulting and migration do not overlap.

Food consumption depends on the birds' energy demands but also is modified by the composition of the diet, food preferences and availability of various food types. The dietary composition may change due to breeding, at which time the parent birds feed themselves (which may consist mainly of grains and weed and grass seeds) and also forage widely for high-protein foods (like insects) to feed the young. Food preferences also play a role; some birds prefer the sprouting crops and seedlings, while others prefer the ripening stages, particularly grains that are at the "milky" stages. Sometimes the same species attacks several growth stages, as crows do on both sprouting and ripening maize. The availability of foods may determine which crops are attacked. Some crops may be damaged more by structural damage (i.e. breaking of wheat stalks) rather than actual food consumption. Sparrows can cause as much damage by breaking stalks of ripening wheat and barley as by picking out grains from the seed heads.

It may seem surprising that few bird species, even among granivores, have become pests of cereal grains. Reasons are simple: there are few situations where granivorous birds can rely on an abundant supply of cereal seeds throughout the year. Between periods of superabundance, when the crops are ripening and until the gleanings disappear, are interposed months when the birds must rely solely on wild seeds for their survival. Unlike insect pests, birds have no non-feeding stage in their life cycle and, unlike rodents, their limited powers of reproduction prohibit a rapid increase in numbers within a single crop growing season.

If granivorous birds are generally precluded from rapid increase in population size in relation to expansion of cereal production, how can any of them become serious pests? The answer seems to lie in (1) the mobility of certain species and (2) their habit of concentrating in large numbers within fairly small parts of their overall feeding area. These local concentrations occur as a consequence of their flock-feeding habits. This flock-feeding, along with the formation of large communal roosts, leads to pest species (e.g. *Quelea*, *Passer*, *Psittacula krameri*).

Control of pest birds is necessary to minimize crop damages and to maximize crop yields. Usually a variety of techniques are needed to deter birds from feeding on crops; rarely is one method alone effective.

## B. Pest Birds in Pakistan

The majority of granivorous birds tend to be gregarious and gather together in small or large flocks for foraging and feeding. Frugivorous birds also tend to occur in groups, although not in such large numbers as the grain-eating species. Some species, such as crows, are omnivorous and feed upon whatever is at hand, even on carcasses of dead animals. In Pakistan, the following species of birds could be classified as pest birds of particular importance. Their descriptions and habits are given in detail.

1. House crow (*Corvus splendens*)
2. House sparrow (*Passer domesticus*)
3. Rose-ringed parakeet (*Psittacula krameri*)
4. Baya Weaver (*Ploceus philippinus*)
5. Blue rock pigeon (*Columba livia*)
6. Collared dove (*Streptopelia decaocto*)
7. Red-vented bulbul (*Pycnonotus cafer*)
8. Rosy starling (*Shimius roseus*)
9. Jungle crow (*Corvus macrorhynchos*)
10. Crested lark (*Galerida cristata*)

### 1. House Crow (*Corvus splendens*)

**Description:** The house crow is one of the commonest birds in Pakistan. The striking black color of its body, beak, forehead and legs is in sharp contrast to its grey neck and breast (Fig. 1). The sexes are alike in external appearance. It is a medium-sized bird, measuring about 43 cm in length. The bill is stout and powerful. It emits a short, sharp raucous call, in flight, on the ground, or while perched.

**Habits:** Perhaps the most familiar bird of towns and villages of Pakistan. It lives in close association with man and is almost totally dependent on man's presence. It is, like the sparrow, bold and confiding; but also wary at the same time, ever ready to snatch a morsel of food or fly quickly off at a hint of danger. Audacious, cunning and uncannily wary. Crows have no particular food preferences and will eat almost anything: dead rats, offal, carrion, kitchen scraps and refuse, locusts, termites, fruit, grain and eggs or fledgling birds stolen from other species nests. It is highly gregarious and has communal roosts in selected trees or groves where large numbers collect every night.

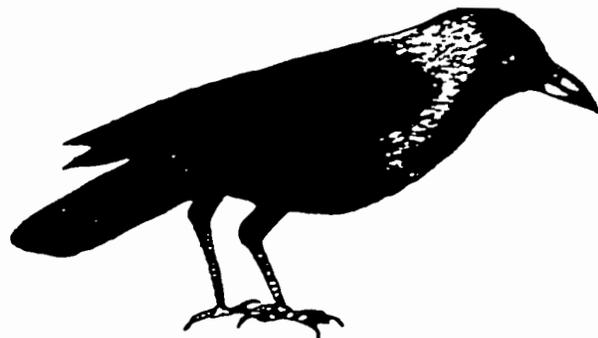


Fig. 1. House crow.

**Nesting:** Nesting-season is principally April to June. The nest is a bulky platform of sticks and twigs frequently intermixed with iron wire, with a cup-like depression lined with soft grasses, vegetable fibres, feathers, wool and rags. Sometimes several nests may be located in the same tree. Nests are located at least 3 meters or more up in the trees. Usually there are 4 to 5 eggs to a clutch, pale blue-green, speckled and streaked with brown. Both sexes share incubation and nest-feeding. Eggs hatch in 15 to 17 days. The nest is guarded and crows will furiously attack any intruder.

Crows invade freshly sown maize, barley, and wheat fields and dig out the emerging seedlings. The late-sown fields are usually the worst hit. Damage is generally more severe to fields nearest the crow's roosting sites. They also damage ripening crops, especially maize and groundnut. Maize cobs are attacked when the kernels are in the soft, sweet "milky" stage.

## 2. House Sparrows (*Passer domesticus*)

**Description:** This familiar town dweller is one of the commonest and best known birds in Pakistan. It is closely associated with man and his structures. It is a small (15 cm length) bird. The male has black streaks on brown wings, a grey crown, a black throat and an ash-grey rump, while the female has pale grey-brown back, dark brown wings and lacks the black patch on the throat (Fig. 2). Most of the population is resident in Pakistan but in the spring other subspecies may migrate through N.W.F.P, Northern Punjab and Baluchistan.

**Habits:** House sparrows roost communally in noisy chattering flocks in thick bushes or trees. During the day they forage in small to large flocks. They are common street birds in towns and cities. They occur in large numbers around grain mills, drying yards and around grain storage godowns, where they fly in and out of the opened structures, feeding upon waste grain mainly.

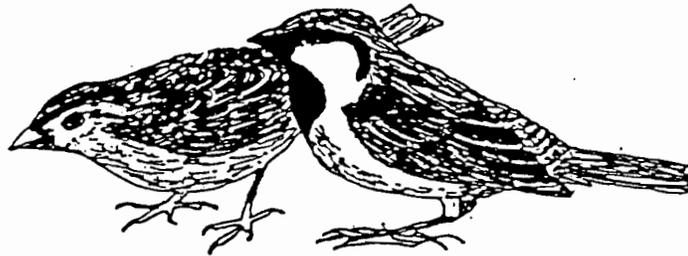


Fig. 2. House sparrows.

They are, however, omnivorous, eating grain, insects, fruit buds, flower nectar and kitchen scraps. They sometimes collect in large flocks and damage grain crops, like wheat, rice, and millet.

**Nesting:** They are capable of breeding and nesting almost anytime of year but the main breeding seasons are from March to July and again in September to October. They nest in holes in the walls of houses and in thick bushes and trees. The nest is made from grass, straw, wool, rags, pieces of paper and any other material at hand. The nest is a rather shapeless structure and the egg chamber is thickly lined with feathers. The clutch usually is 4 or 5 eggs of rather nondescript greenish or greyish color uniformly spotted with dark and light shades of ashy-grey and brown. Incubation period varies from 13 to 15 days and the nestlings are dependent upon their parents for food for about three weeks.

Sparrows are both beneficial and harmful from man's viewpoint. In much of the year they feed mainly on harmful insects and weed seeds, thus rendering a service. But they need to be kept from crops during the damage periods, i.e., in rice and wheat at milk stage and from millet and rice in the fall. Reducing populations to a level where they are not causing economic crop losses probably is not feasible since they are so widespread and abundant. Instead, protection of crops at the vulnerable stages of ripening by use of repellents, scaring methods, etc. probably is a more effective means of reducing economic losses.

### 3. Rose-ringed Parakeet (*Psittacula krameri*)

**Description:** The most abundant and well-known of the parrot family in Pakistan, this parakeet is found throughout Pakistan except for purely desert or high mountain areas. It is abundant in light woodland, parks, gardens and cultivated areas. Large populations are seen in old cantonment cities in the Punjab because of the abundance of trees in these cities.

The parakeet is a medium-sized (40 cm) bird with bright green plumage (Fig. 3). The male has a distinctive black collar extending from the throat and below the cheeks where it turns into a rose-colored ring around the hind neck. Females are colored similarly but lack the black throat collar as well as the rose-colored ring on the neck. The bill is red, short, round and strongly hooked.

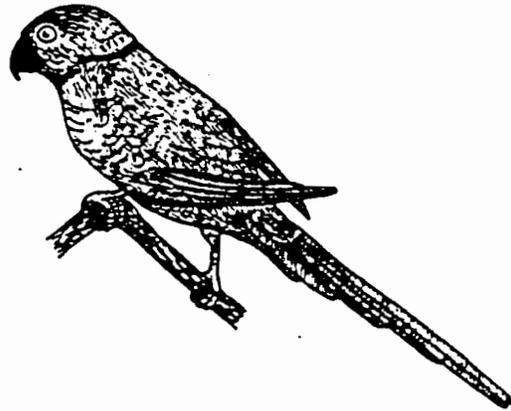


Fig. 3. Rose-ringed parakeet.

**Habits:** Parakeets are beautifully adapted for climbing about in trees, with two toes pointing forwards and two behind. They sometimes visit the ground, walking along with a rolling gait on their short legs. The flight is swift and direct, with rapid wing beats, the long tail streaming behind. Gives a sharp call both in flight and when on a perch. The birds are gregarious, living in flocks most of the year except for the breeding season, when they live in pairs. They are in the habit of flocking together in large numbers in the evening roost, usually a patch of trees where they roost together with flocks of crows and mynas.

The parakeet bands itself into large flocks and feeds in the countryside from dawn until mid-morning and again in mid-afternoon until dusk. It is very destructive to maize, wheat, sunflower, sorghum and other grain crops and to soft fruits, such as guava, mango, orange and loquat.

**Nesting:** Breeding takes place mainly from February to April. Tree holes and cavities are preferred for nest sites, although sometimes the birds themselves excavate a cavity. Holes in walls of buildings are also used. The nest consists of little more than the bare bottom of the cavity or at most a few chips of wood or debris in the bottom. Egg-laying begins in March. The clutch consists of 3 to 6 eggs, pure white, roundish ovals. Both sexes share in the incubation, with the male often gathering food and feeding the female. Incubation varies from 19 to 24 days and nearly all eggs hatch.

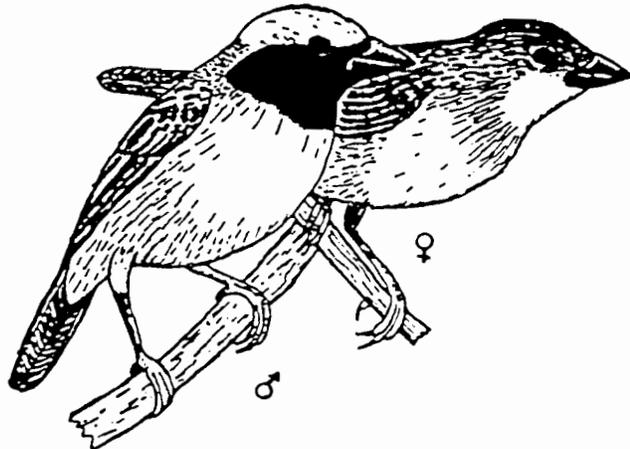


Fig. 4. Baya weaver.

### 4. Baya Weaver (*Ploceus philippinus*)

**Description:** A small (15 cm) bird, dark streaked fulvous brown above, plain whitish fulvous below, with a stout conical bill (Fig. 4). The males only acquire the yellow plumage on the crown, neck and breast and the dark mask on the throat in the breeding season.

**Habits:** A gregarious bird, found throughout the area in plains, grassland and cultivated areas. Not abundant. Occur in flocks in open cultivation. Resident. Gleans paddy and other grains in harvested fields. Roosts in reed beds bordering tanks. In riverain areas, inflicts considerable damage to standing wheat and other ripening crops. Also eats insects but mainly subsists on grass seeds.

**Nesting:** Breeds in large colonies, usually in wet areas. Makes marvelous woven grass nests hanging down from palm fronds or the branches of trees. The long hanging entrance tunnels, up which the birds have to shoot in full flight, makes the nests virtually predator-proof. Nesting season is May to September, coincident with the monsoon and paddy cultivation. The clutch consists of 2 to 4 eggs, pure white. Male alone builds the nest; female alone incubates. Each male has several nests and females at the same time.

#### 5. Blue Rock Pigeon (*Columba livia*)

**Description:** This is a dark slaty-blue colored, stout-bodied bird with a paler greyish white rump and a broad black terminal band around its tail (Fig. 5). The sides of the neck are a glistening metallic green and purple. There are two dark bars on the wings. The bill and legs are crimson red. It is medium-sized (32-33 cm). Its flight is fast and straight.

**Habits:** Abundant around cities and towns in Pakistan. There are still wild populations of this pigeon, which live around ruins or cliffs, feeding in nearby fields. In the wild state it affects open country with cliffs and rocky hills. It is mainly seen as a commensal of man and is largely hybridized through interbreeding with domestic pigeon strains. This semi-feral form has become thoroughly adjusted to the din and bustle of urban life and pigeons are now well-established in most Pakistani towns. Grain warehouses, railway stations and old or disused buildings are their favorite haunts. They tend to forage in flocks and feed on cereals, millets, pulses, groundnuts, etc. They are serious pests at threshing yards just after harvest while the bundles are still lying in the fields.

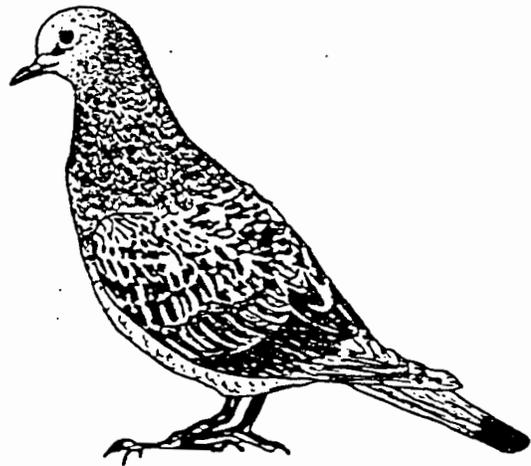


Fig. 5. Blue rock pigeon.

**Nesting:** The nest is a fairly flimsy platform of sticks or twigs with a slight depression in the center. It is usually placed on a ledge or in a crevice in a cliff, or on rafters and ceilings of houses, occupied or not, in any situation that affords shelter, sides of walls, etc. Breeding may occur at any time of year, although the main breeding season is March/June and September/December. Normally a clutch comprises 2 eggs, white and elliptical in shape. Both sexes share the domestic duties.

#### 6. Collared Dove (*Streptopelia decaocto*)

**Description:** A pale pinkish-grey and brown, medium-sized (30 cm) dove with a prominent narrow black half-collar or ring on the hind-neck (Fig. 6). A rather round, plump body with a comparatively small head and a conspicuous yellow eye ring. The bill is brownish with a swollen base in which the nostrils are located. The feet are crimson red.

**Habits:** A very common and familiar bird. It is gregarious, gathering in flocks to feed on the stubbles, and flying up with strong, noisy wing beats. The population is resident and wide-spread throughout the Indus plains and the desert border regions. Affects open well-wooded and cultivated

country; avoids arid tracts. Becomes quite tame and confiding if unmolested, freely entering gardens and verandas of houses. Its relatively weak beak is adapted for picking seeds from the ground. It is a pest of post-harvest wheat and mustard on the threshing grounds and also is a pest of sprouting maize in Multan District.

**Nesting:** The nesting season is undefined; practically all year. The nest is a flimsy structure of sticks and twigs, low down in a tree or bush; also under eaves and on cornices and beams, etc. in verandas of occupied houses. The clutch consists of 2 white eggs. Both sexes share in the domestic duties.

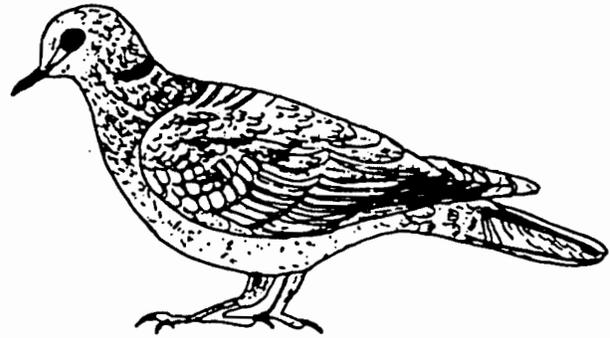


Fig. 6. Collared dove.

#### 7. Red-vented Bulbul (*Pycnonotus cafer*)

**Description:** A small (20 cm), perky smoky-brown bird with partially crested black head (Fig. 7). The under tail coverts are a crimson red (hence its name), black head with a short brushy crest, while the body plumage is mostly grey-brown with a white tipped black tail. The sexes are alike.

**Habits:** One of the most familiar of Pakistan birds. It abounds in gardens, towns, cultivated country, and scrub throughout the plains and hills up to about 1700 m. Bulbuls are mainly arboreal birds, and search among the twigs and foliage for beetles, grubs or fruit, sometimes imitating a fly catcher as they swoop out over the grass after an insect. The red-vented bulbul is a wary bird, and one of the first to give warning cries when a predator appears. It is a pugnacious bird. Travels in pairs or small gatherings. Common in gardens and light scrub jungle, both near and far from human habitation. Large numbers collect to feed on banyan and peepul figs and winged termite swarms. It is a serious pest of vegetables and soft fruits, particularly in Mardan and Peshawar Districts. It occurs throughout the Indian plains and sub-montane areas, being replaced in the desert and montane areas by the white-cheeked bulbul. Insects, fruits and berries, peas and flower nectar are the main dietary items.



Fig. 7. Red-vented bulbul.

**Nesting:** The nesting season is chiefly between February and May, varying with local conditions. The nest is a cup of rootlets, sometimes plastered outside with cobwebs, in a bush or tree, one to 10 m up. Two or 3 pinkish-white eggs are laid, profusely blotched with purplish-brown or claret. Both sexes share parental duties.

#### 8. Rosy Starling (*Stimulus roseus*)

**Description:** A rose-pink myna-like bird (23 cm) with glistening black head, neck and upper breast, wings and tail (Fig. 8). The bill is rose-colored. It has a long recumbent, pointed crest on the crown and nape, sometimes erected. Sexes alike. Young birds and adults in winter plumage (non-breeding) are duller and browner.

**Habits:** It is a late spring and post-monsoon migrant, arriving in huge flocks to attack millet in Sind province. Migrates in large numbers through north-west Pakistan to and from its breeding grounds in western Asia. It is highly gregarious during migration and occur mostly over Sind and southern Punjab provinces. It is omnivorous, eating ripe mulberries, as well as cereal seeds but can be of great benefit in feeding on young locusts when swarms are hatching. It begins arriving in early August, departing by mid-April. Small flocks or clouds of up to 500 birds or more keep in the vicinity of cultivation, particularly sorghum, and do considerable damage to ripening grain crops.

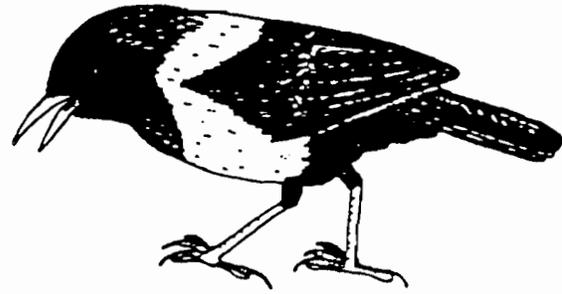


Fig. 8. Rosy starling.

**Nesting:** Breeds in eastern Europe and western and central U.S.S.R. on stony hillsides and amongst ruins in May and June. The breeding grounds overlap those of migratory locusts whose hoppers and other stages provide the staple food of hoards of rosy starlings and their young from the time the latter hatch out.

9. Jungle Crow (*Corvus macrorhynchos*)

**Description:** A glossy black, large (50 cm) crow with a heavy bill (Fig. 9). Sexes alike. The bill sometimes is light colored.

**Habits:** Chiefly a bird of the countryside but small numbers can be seen in towns and villages. Found in the montane areas of Pakistan up to the treeless slopes of the high Himalayas. Feeds on carrion and, like the house crow, is omnivorous and highly destructive to eggs and chicks of other birds. Descends to the northern plains and lowlands of Pakistan with the advent of cold weather in the mountains. Singly, in pairs or in large flocks in winter. Can be a secondary pest in groundnut and maize and will attack sprouting maize in the winter.

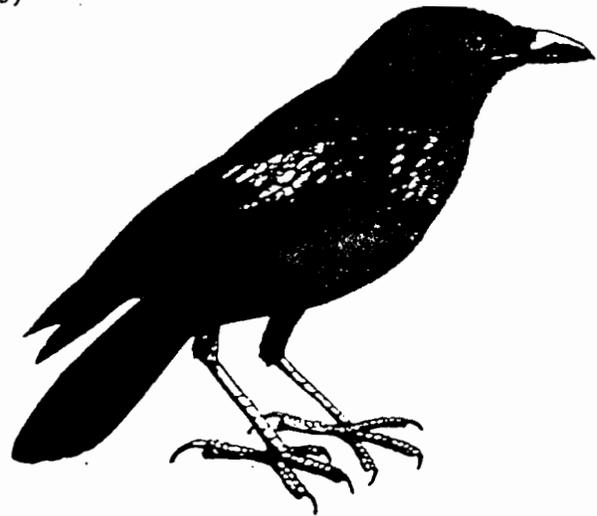


Fig. 9. Jungle crow.

**Nesting:** Breeding season is March to May. Nests and eggs are like the house crows. Both sexes share parental duties.

10. Crested Lark (*Galerida cristata*)

**Description:** The perky crest, pale tawny brown coloration and slightly larger size (18 cm) distinguish this bird from the other larks (Fig. 10). The sexes are alike. Its coloration helps it to blend perfectly with ploughed ground, which it frequents.

**Habits:** Found across northern and central Pakistan as a resident of dry or sandy open country in the plains. Occasionally flocks in winter. Affects open, sandy or stony semi-desert with scant grass ground cover. Runs about in search of food; grass seeds, small beetles and other insects. Gives a short

pleasant song during its display flight which consists of soaring a few feet above the ground on leisurely fluttering wings. Also gives the song while on the ground on a clod of dirt or from a bush top. Has been known to damage the succulent leaves of rapeseed plants and chickpeas and to dig up and open freshly sown sunflower seeds. Minor pest.

**Nesting:** Breeding season is March to June. The nest is a shallow cup of grass, lined with hair, feathers, etc. in open country at the base of a grass tuft or clod. The clutch consists of 3 to 4 eggs, dull yellowish white, blotched with brown and purple. Both sexes share in building the nest and tending the young. Female alone is believed to incubate the eggs.



Fig. 10. Crested lark.