

# The Unappreciated Pigeon

by Alexander F. Skutch

Photographs by Tim Gallagher

**W**hile waiting for the bus to take me home from the small town of San Isidro de El General in southern Costa Rica, I often pass the time watching feral pigeons. Undeterred by the noisy traffic and bustling people, the birds drink from rain puddles in the pavement, then fly up to surrounding buildings where they roost and nest. Seeing them, I'm reminded of the pigeon's lengthy association with people. Over the long millennia of human history, pigeons have been familiar to more people than any other family of birds.

The nearly 300 species in this ancient family, *Columbidae*, have spread over all the Earth's continents except Antarctica, and they colonized many remote islands so long ago that many have evolved into endemic species. In more recent times, humans helped speed up the distribution of pigeons by domesticating one species, the Rock Dove, and carrying it with them to all parts of the planet. They also transplanted several other pigeon species to various lands where they thrive, mostly in association with people. Though some members of the family are called pigeons (a name of French origin) while others, mainly the smaller kinds, are known as doves (an Anglo-Saxon word), there is no scientific foundation for this distinction. Pigeons and doves are very similar in structure and habits.

The pigeons I watched at the bus station are descendants of the wild Rock Dove, which ranges from central Asia, India, the Middle East, North Africa, and Southern Europe to Ireland, Scotland, and islands as far north as the Faeroes. It roosts and nests on sheltered ledges or crannies in cliffs and caves, and occasionally in cavities in trees, often in semi-darkness. After humans in the Mediterranean countries began to build massive temples and dwellings of masonry or wood, Rock Doves took up residence on the various nooks







*A brief history of the much-maligned Rock Dove*



and ledges of these structure. This habit facilitated their eventual domestication some 6,000 years ago in the Middle East.

As Europeans spread to the Americas, Australia, New Zealand, and other lands where this particular species was not present, they carried domestic pigeons with them to use as message carriers and food. Some of the birds strayed, managing to survive and reproduce without human care, eventually forming feral populations.

The pigeons in San Isidro prefer an urban life. In the many years I've been here, I have never seen a feral pigeon on or near our farm and nature preserve, which is only five or six air miles from the city, though seven species of native pigeons and doves have nested here.

This seems to be the way of feral pigeons nearly everywhere; instead of spreading out over the countryside, they remain concentrated in cities; with a few on farms where they can find spilled grain for food and buildings for roosting and nesting. Although flocks of urban pigeons forage in nearby fields, they return to the sheltering town as night approaches.

In the city, pigeons seek natural foods on whatever grass plots or exposed earth they can find, and frequent the parks where people feed them, mainly with bread, the most readily available food for these granivorous birds. Amid crowds, they recognize and approach people who have been kind to them, even when these individuals are not offering

them any food. Such recognition is gratifying to the donors, especially city people who may have no other contacts with birds or other animals. Although many people complain about the unsanitary habits of pigeons, if banished from the cities, the birds would be missed by their friends.

Feral pigeons, regarded by many as feathered pariahs, are usually neglected by serious bird watchers. The birds have been studied most intensively by people hired to find ways to reduce troublesome urban pigeon populations. To learn how they nest and rear families, we must turn to studies of wild Rock Doves or domestic pigeons, or even to pigeons and doves of different species and genera. We can do this with confidence because the breeding habits of practically all members of the pigeon family are basically similar.

Pigeons are monogamous. Mates are strongly attached, resting close together, caressing and preening one another, with the male often regurgitating food for his consort. He guards her closely, driving away other males that approach her. After the pair has chosen a site for their nest,

they build it together, exhibiting a division of labor widespread in this family. The female sits on the growing structure while her partner gathers nest material. Depending on the species, the male may break twigs from high in trees or gather straws and weed stems from the ground. If a piece breaks when he shakes it, he drops it and seeks another. With a contribution in his bill, he flies to the nest and stands beside the female, or on her back, while he lays the piece at her side. She arranges it, turning from side to side to distribute the pieces all around, while he goes off for more.

Unlike many passerine birds that collect a billful to take to the nest, the pigeon brings only one item at a time. Feral pigeons, reduced to gathering whatever they can find in the hearts of cities, may lack the wide choice of materials available in natural habitats. Their poorly attached nests may slip from flat or sloping ledges, or be blown away by a strong breeze.

Domestic and feral pigeons lay two white eggs, as do a majority of pigeon species. Though white eggs in shallow nests would appear to be readily noticed by predators, pigeons compensate for their eggs' lack of cryptic coloration by sitting on them nearly continuously after the first is laid. Unlike many songbirds, male and female pigeons share incubation, the male sitting through much of the daytime, the female at night, with only two changeovers in 24 hours.

As a boy, I kept common domestic pigeons, white Maltese and maroon Carneau, and I learned that their eggs hatched in about two weeks. The incubation period of the wild Rock Dove on the Faeroe Islands and of some of its closest relatives is 16 to 18 days. A newly hatched pigeon is a soft, helpless creature, with pink or whitish skin, sparsely covered with tufts of short, hairlike, straw-colored or whitish down. Its eyes are tightly closed. The short, dusky bill becomes blacker toward the end, then abruptly whitish at the tip. A hard, whitish egg tooth at the tip of the upper mandible, and a similar but smaller one at the end of the lower mandible, help the chick to break out of its shell. The parents carry away the empty shells, usually half at a time, unless the two parts hang together.

As hatching time approaches, both parents undergo physical changes that enable them to feed their progeny. The walls of the crop, a sac-like expansion of the esophagus, thicken until its weight is increased threefold. Special cells lining the crop swell with proteins and globules of fat, then slough off, producing crop milk. Composed of 13 to 19 percent protein, 7 to 13 percent fat, 1 or 2 percent mineral matter, vitamins A, B, and B<sub>2</sub>, and 65 to 81 percent water, pigeon milk is highly nutritious, but lacks the sugar and other

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carbohydrates found in mammalian milk. During the nestlings' first few days, pigeon milk forms in the parents' crops only when they are empty, thereby ensuring that it doesn't mix with more solid food that might be impossible for the hatchlings to digest. As the young birds grow older, they receive more and more of the food swallowed by the parents mixed with the milk. Domestic pigeons provide milk for their young until they are about 16 days old.

When a parent pigeon comes to feed its brood, it has nothing visible in its bill or mouth. Until the nestlings' eyes open, they are often fed singly. After they can see, the members of a brood of two insert their bills in opposite corners of their father's or mother's mouth, and three heads bob up and down together as the parent pumps up food from its crop with strong muscular movements. Meals become more widely spaced and briefer but more copious as the nestlings grow older.

Some pigeon species neglect to clean their nests. The young birds' accumulated droppings cement the flimsy structure together and may prevent its being blown away by wind. Other pigeons, including Ruddy Quail-Doves and White-tipped



Doves, keep their nests as clean as those of passerine birds. I have watched parents swallow droppings before delivering food, making me wonder how, or if, they avoid returning the nestlings' excrement to them.

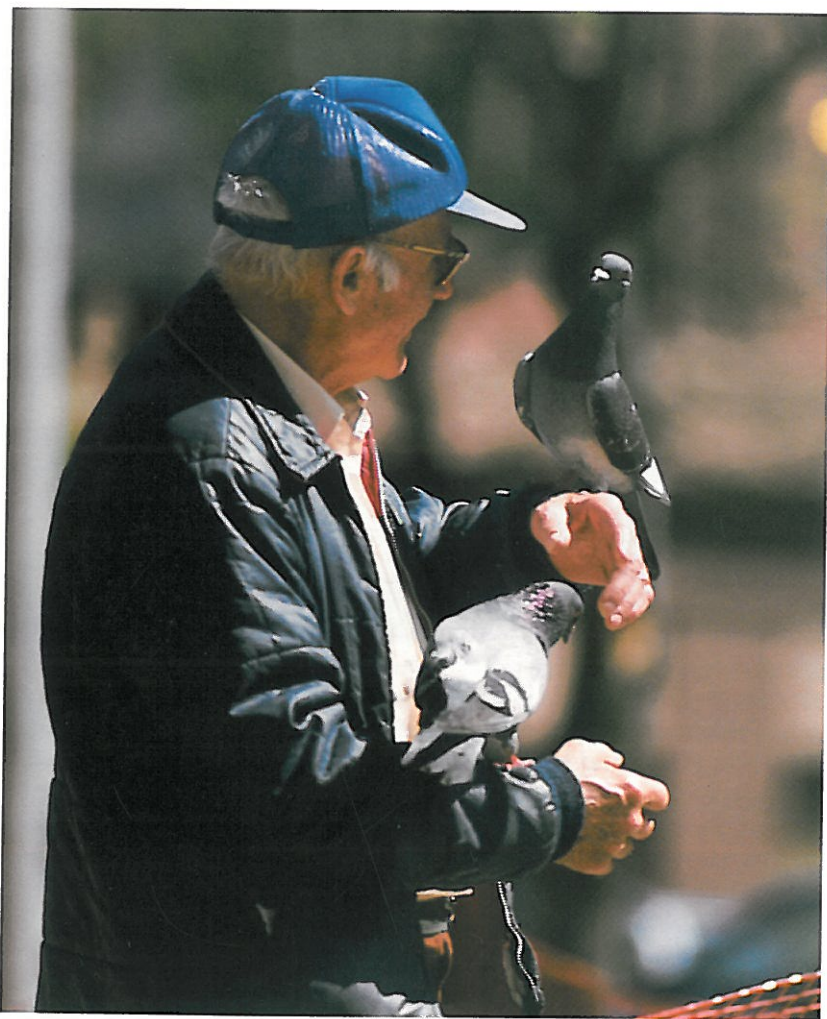
If a person suddenly appears close to a pigeon's nest, the surprised parent often darts away with wildly flapping wings, knocking one or both of its eggs from the shallow bowl and giving the impression that it is a flighty, careless bird. Watching nests from blinds has increased my respect for pigeons' intelligence. Alert to sounds, they watch approaching humans or other animals and weigh the chance of being detected by a potential enemy before they decide whether to stay or flee. A Band-tailed Pigeon remained covering its egg while, on three occasions, a man seeking firewood or stray cattle passed beneath it. The noisy approach of horses or cows did not scare this or other pigeons from low nests. Often they valiantly defend their eggs or young. One evening at twilight, low thuds drew my attention to a White-tipped Dove protecting its nest in a tangle of climbing ferns by striking a snake with blows of a wing, which pigeons use instead of fists.

If such defensive measures fail, or often in their absence, a threatened parent may drop to the ground and flutter along as though crippled, to lure a hungry predator away. These distraction displays, far from being the frantic, convulsive behavior of a

*Above, these recently hatched pigeons are covered with hairlike down. Both parents feed their young on "pigeon milk," a fatty, whitish liquid secreted in the crop. At left, an older nestling has sprouted some flight feathers. Rock Doves may stay in the nest for 20 to 30 days before fledging.*







*City pigeons come to recognize people who feed them, above. The grain-eating birds forage for whatever natural foods they can find in city parks, plus bread and other snacks offered or discarded by humans.*

*These feral pigeons flaunt a variety of colors, including "pied," at right, and "blue-checked" and "mealy," above right on facing page. In a city flock, birds of certain colors may tend to feed first; also, females may select a mate based on his flashy feathers.*

parent torn between attachment to its young and self-preservation as earlier ornithologists too hastily concluded, are deliberate, often successful, attempts to save both its progeny and itself, both of which would be lost if the parent stuck stubbornly to its nest in the face of a predator. Widespread among birds with low nests, distraction displays require controlled movements and cool calculation to remain near enough to the enemy to encourage its pursuit, without permitting it to approach dangerously close. In the absence of a parent, older nestlings of domestic pigeons and related species try to defend themselves, rearing up, clacking their mandibles together, and lunging forward, sometimes striking an intruding hand.

Most young of small and medium-sized pigeons remain in their nests for 12 to 14 days. Rock Doves, however, stay 20 to 30 days, or occasionally more in a safe nest in a cave. For a number of nights after they leave the nests, siblings of several pigeon species

have been found roosting in contact with each other, often with one or both parents close to them.

Feral pigeons are extremely diverse in coloration. The ones I was watching while waiting for the bus in San Isidro were so varied that no two looked alike. Derek Goodwin, author of *Pigeons and Doves of the World*, recognized eight main types of feral pigeons: blue (most like the ancestral Rock Dove), blue chequer, velvet, mealy, red chequer and red, grizzled, black, and pied. To this list we might add white. When you add to this all the breeds of domestic pigeons that have not become feral, it is evident that their variation under domestication has been enormous. Charles Darwin, who raised domestic pigeons as part of his preparation for writing *On the Origin of Species*, estimated the number of distinguishable kinds as over 150, some of which differed only slightly from others. Among the more strongly differentiated forms are pouters, able to inflate their chests enormously; carriers, best for homing; runts, facetiously named because they are so big; fantails, with two or three times the normal number of 12 tail feathers; tumblers, fantastic birds that turn somersaults in long sequences, on the ground or in the air; frill-backs, with upwardly curled feathers; nuns, small, elegant pigeons with white bodies and contrastingly colored heads; and many more. People of his time commonly believed that these different pigeon breeds must be derived from eight to a dozen wild species. But Darwin was convinced that all of them descended from Rock Doves. His studies of pigeons helped to support his theory of evolution.

What a contrast between the pigeons I see in town and the wild White-tipped Doves that we feed every morning on our lawn. Unlike the feral pigeons, which vary widely in appearance, these doves look very much alike throughout their vast range, from southern Texas to central Argentina. Yet, as in all organisms, they must occasionally be subject to mutations that alter their appearance and other characteristics, behavioral and structural. In the case of domestic pigeons, mutants





have been selected by human breeders, who over the generations have produced the weird forms that they cherish. But what keeps White-tipped Doves and other wild birds so uniform? Among the possibilities are natural selection and sexual selection, or mate-choice.

Because it occurs in nature, sexual selection is generally considered to be a mode of natural selection, but it actually operates quite differently. Natural selection eliminates individuals whose capacity for self-preservation or reproduction falls below the norm of their species. A color variation that does not make an individual more conspicuous to predators might not be eliminated by natural selection. Sexual selection provides increased opportunities for reproduction with preferred individuals. If White-tipped Doves always chose mates that resemble their parents, it would keep their appearance uniform.

Nancy Burley conducted experiments in Texas with large numbers of feral pigeons that were released in an aviary and given the choice between differently colored potential mates. The males in her study often seemed more interested in the nest boxes available to them than in the colors of the females they attracted to their nests. Females were more selective, and the more experienced they were, the more attention they gave to the quality of their partners. In descending order, they preferred blue checker males over blue bars over ash reds. Both sexes could somehow assess the experience in breeding of their companions and selected super-experienced over semi-experienced over inexperienced individuals of the opposite sex. Males seven years of age or older, however, were less likely to be chosen as mates; their ability to rear families wanes with greater age. The varied plumage of feral pigeons everywhere is proof that selection of mates does not keep them uniform in appearance.

With soft voices, gentle ways, and exemplary family life, pigeons so endeared themselves to humans that in ancient times they became symbols of love, faithfulness, and spirituality. Feral pigeons are the birds most often seen by many urban people, who feed them and welcome the approach of those who recognize their benefactors. These interesting birds, so often neglected by people who prefer to watch wild birds, provide opportunities for absorbing studies by city-dwellers. The ease of recognizing individuals by their color patterns makes it largely unnecessary to trap

and band them—a time-consuming task for students of bird behavior.

Diligent attention to feral pigeons could answer many questions about their lives. What foods do they prefer? What makes some individual pigeons dominant over others, and what advantages does high status give? Do pigeons prefer mates of certain colors or do they pair indiscriminately?



Do they incubate with a schedule similar to that of wild pigeons? How long does incubation last? How long do the young stay in the nest, and for how many days after they leave do their parents feed them? Do they ever give food to nestlings other than their own? If carried a significant distance away, how do they find their way home? Some of these things may be well known for wild pigeons and those sheltered in aviaries, but it would be interesting to learn how the distractions of urban life affect the behavior of pigeons that live in cities. Watching feral pigeons, with definite questions in mind and careful note-taking, can be a richly rewarding activity for young and old. ■

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*Hundreds of young people across the United States are taking a new interest in the Rock Dove. Through the Cornell Lab of Ornithology's **Project PigeonWatch** they are carefully observing the city pigeon, trying to answer questions about this ubiquitous bird's feeding and courtship behavior.*

*Project PigeonWatch is an ideal activity for urban students, especially those in science-oriented after-school programs. For more information, write to Project PigeonWatch, Cornell Lab of Ornithology, 159 Sapsucker Woods Road, Ithaca, New York 14850, or call (607) 254-2440.*