

= Rock martin =

The rock martin (*Ptyonoprogne fuligula*) is a small passerine bird in the swallow family that is resident in central and southern Africa . It breeds mainly in the mountains , but also at lower altitudes , especially in rocky areas and around towns , and , unlike most swallows , it is often found far from water . It is 12 ? 15 cm (4 @. @ 7 ? 5 @. @ 9 in) long , with mainly brown plumage , paler @-@ toned on the upper breast and underwing coverts , and with white " windows " on the spread tail in flight . The sexes are similar in appearance , but juveniles have pale fringes to the upperparts and flight feathers . The former northern subspecies are smaller , paler , and whiter @-@ throated than southern African forms , and are now usually split as a separate species , the pale crag martin . The rock martin hunts along cliff faces for flying insects using a slow flight with much gliding . Its call is a soft twitter .

This martin builds a deep bowl nest on a sheltered horizontal surface , or a neat quarter @-@ sphere against a vertical rock face or wall . The nest is constructed with mud pellets and lined with grass or feathers , and may be built on natural sites under cliff overhangs or on man @-@ made structures such as buildings , dam walls , culverts and bridges . It is often reused for subsequent broods or in later years . This species is a solitary breeder , and is not gregarious , but small groups may breed close together in suitable locations . The two or three eggs of a typical clutch are white with brown and grey blotches , and are incubated by both adults for 16 ? 19 days prior to hatching . Both parents then feed the chicks . Fledging takes another 22 ? 24 days , but the young birds will return to the nest to roost for a few days after the first flight .

This small martin is caught in flight by several fast , agile falcon species , such as hobbies , and it sometimes carries parasites , but it faces no major threats . Because of its range of nearly 10 million km² (4 million sq mi) and large , apparently stable , population , it is not seen as vulnerable and is assessed as least concern on the IUCN Red List .

= = Taxonomy = =

The rock martin was formally described in 1842 as *Hirundo fuligula* by German physician , explorer and zoologist Martin Lichtenstein and was moved to the new genus *Ptyonoprogne* by German ornithologist Heinrich Gustav Reichenbach in 1850 . Its nearest relatives are the three other members of the genus , the pale crag martin , *P. obsoleta* of north Africa , the dusky crag martin *P. concolor* of southern Asia and the Eurasian crag martin *P. rupestris* . The genus name is derived from the Ancient Greek *ptuon* (?????) , " a fan " , referring to the shape of the opened tail , and *Procne* (?????) , a mythological girl who was turned into a swallow . The specific name *fuligula* means " sooty @-@ throated " , from Latin *fuligo* " soot " and *gula* " throat " .

The three *Ptyonoprogne* species are members of the swallow family of birds , and are placed in the *Hirundininae* subfamily , which comprises all swallows and martins except the very distinctive river martins . DNA sequence studies suggest that there are three major groupings within the *Hirundininae* , broadly correlating with the type of nest built . The groups are the " core martins " including burrowing species like the sand martin , the " nest @-@ adopters " , which are birds like the tree swallow that utilise natural cavities , and the " mud nest builders " . The *Ptyonoprogne* species construct open mud nests and therefore belong to the last group . *Hirundo* species also build open nests , *Delichon* house martins have a closed nest , and the *Cecropis* and *Petrochelidon* swallows have retort @-@ like closed nests with an entrance tunnel .

The genus *Ptyonoprogne* is closely related to the larger swallow genus *Hirundo* , but a DNA analysis showed that a coherent enlarged *Hirundo* genus should contain all the mud @-@ builder genera . Although the nests of the *Ptyonoprogne* crag martins resembles those of typical *Hirundo* species like the barn swallow , the DNA research suggested that if the *Delichon* house martins are considered to be a separate genus , as is normally the case , *Cecropis* , *Petrochelidon* and *Ptyonoprogne* should also be split off .

= = Subspecies = =

There are several subspecies differing in plumage shade or size , although the differences are clinal , and races interbreed where their ranges meet . The small , pale former subspecies (*obsoleta* , *peroplasia* , *perpallida* , *presaharica* , *spatzi* , *arabica* and *buchanani*) found in the mountains of North Africa , the Arabian peninsula and southwest Asia are now normally split as a separate species , the pale crag martin , following German ornithologist Jean Cabanis , who first formally described these birds , but the changes in size and colour are continuous , and the forms often intergrade where they meet , so the evidence for separate species is not strong . The southern forms of the rock martin can weigh more than twice as much as the smallest northern subspecies of pale crag martin . The average weight for *P. f. fusciventris* is 22 @. @ 4 g (0 @. @ 79 oz) against 10 g (0 @. @ 35 oz) for *P. o. obsoleta* . The robust , large @-@ billed southernmost forms (*P. f. fuligula* , *P. f. pretoriae* , and *P. f. anderssoni*) are sufficiently different from dark , fine @-@ billed *P. f. fusciventris* that the latter could also be regarded as a potentially different species . However , Rhodesian ornithologist Michael Irwin collected specimens from southern Zimbabwe (then Rhodesia) which were dark above like *P. f. fusciventris* and rich reddish below like *P. f. fuligula* . This led him to suggest that the two groups had previously been isolated , but were probably hybridising following secondary contact .

= = Description = =

The rock martin of the nominate subspecies *P. f. fuligula* is 12 ? 15 cm (4 @. @ 7 ? 5 @. @ 9 in) long with earth @-@ brown upperparts and a short square tail that has small white patches near the tips of all but the central and outermost pairs of feathers . It has a cinnamon chin , throat , upper breast and underwing coverts , with the rest of the underparts being a similar brown to the upperparts . The eyes are brown , the small bill is mainly black , and the legs are brownish @-@ pink . The sexes are similar in appearance , but juveniles have pale edges to the upperparts and flight feathers . The other subspecies differ from the nominate form as detailed above .

The rock martin 's flight is slow , with rapid wing beats interspersed with flat @-@ winged glides , and it is more acrobatic than the larger Eurasian crag martin . It is a quiet bird ; the song is a muffled twitter , and other calls include a trrt resembling the call of the common house martin , a nasal vick , and a high pitched twee contact call .

The rock martin is much drabber than most African swallows , and confusion is unlikely except with other crag martins or with sand martins of the genus *Riparia* . The pale crag martin is smaller , paler and greyer than its southern relative . Although only slightly larger than the sand martin and brown @-@ throated sand martin , the rock martin is more robust , has white tail spots , and lacks a breast band . It is paler on the throat , breast and underwings than the all @-@ dark form of the brown @-@ throated sand martin .

= = Distribution and habitat = =

The rock martin breeds in suitable habitat in Africa north to Nigeria , Chad and Ethiopia . It is largely resident apart from local movements or a descent to lower altitudes after breeding . This species has been recorded as a vagrant in Gabon , and its status in Congo is uncertain .

The natural breeding habitat is hilly or mountainous country with cliffs , gorges and caves up to 3 @, @ 700 m (12 @, @ 000 ft) above sea level , but this martin also breeds in lowlands , especially if rocks or buildings are available , and may be found far from water . It readily uses man @-@ made structures as a substitute for natural precipices .

= = Behaviour = =

= = Breeding = =

Rock martin pairs often nest alone , although where suitable sites are available small loose colonies may form with up to 40 pairs . These martins aggressively defend their nesting territory against conspecifics and other species . Breeding dates vary geographically and with local weather conditions . Two broods are common , and three have been raised in a season . Breeding mainly August to September . The nest , built by both adults over several weeks , is made from several hundred mud pellets and lined with soft dry grass or sometimes feathers . It may be a half @-@ cup when constructed under an overhang on a vertical wall or cliff , or bowl @-@ shaped like that of the barn swallow when placed on a sheltered ledge . The nest may be built on a rock cliff face , in a crevice or on a man @-@ made structure , and is re @-@ used for the second brood and in subsequent years .

The clutch is usually two or three buff @-@ white eggs blotched with sepia or grey @-@ brown particularly at the wide end . The average egg size in South Africa was 20 @. @ 8 x 14 @. @ 1 mm (0 @. @ 82 x 0 @. @ 56 in) with a weight of 2 @. @ 17 g (0 @. @ 077 oz) . Both adults incubate the eggs for 16 ? 19 days prior to hatching and feed the chicks about ten times an hour until they fledge and for several days after they can fly . The fledging time can vary from 22 ? 24 days to 25 ? 30 days , though the latter estimates probably take into account fledged young returning to the nest for food .

= = = Feeding = = =

The rock martin feeds mainly on insects caught in flight , although it will occasionally feed on the ground . When breeding , birds often fly back and forth along a rock face catching insects in their bills and feed close to the nesting territory . At other times , they may hunt low over open ground . The insects caught depend on what is locally available , but may include mosquitoes and other flies , Hymenoptera , ants and beetles . This martin often feeds alone , but sizeable groups may gather at grass fires to feast on the fleeing insects , and outside the breeding season flocks of up to 300 may form where food is abundant . Cliff faces generate standing waves in the airflow which concentrate insects near vertical areas . Crag martins exploit the area close to the cliff when they hunt , relying on their high manoeuvrability and ability to perform tight turns .

A study of nine bird species including four hirundines showed that the more young there are in a nest , the more frequent are the parents ' feeding visits , but the visits do not increase in proportion to the number of young . On average a solitary nestling therefore gets more food than a member of a pair or of a trio . Since the nestling period is not prolonged in proportion to the drop in feeding rate , an individual fledgling from a larger brood is likely to weigh less when it leaves the nest . However , a subspecies of the rock martin (*P. f. fusciventris*) was an anomaly in respect of both feeding rate and nestling time . There was no difference in parental feeding rate for members of a pair and members of a trio , but the nestling period averaged 1 @. @ 5 days longer for trios than pairs .

= = Predators and parasites = =

Some falcons have the speed and agility to catch swallows and martins in flight , and rock martins may be hunted by species such as the peregrine falcon , Taita falcon , African hobby and wintering Eurasian hobby . Rock martins often share their nesting sites with little swifts , which sometimes forcibly take over the martin 's nests . In 1975 , one of the first findings of the tick *Argas (A.) africanus* was in a nest of *Ptyonoprogne f. fusciventris* in Kenya , at that time the martin was described under its synonym *Ptyonoprogne fuligula rufigula* (Fischer & Reichenow) .

= = Status = =

The rock martin has a very large range of 9 @. @ 5 million km² (3 @. @ 7 million sq mi) . The total population is unknown , but the bird is described as generally common , although scarce in Botswana and Namibia . The population is thought to be stable , mainly due to the absence of evidence of any declines or substantial threats . Its large range and presumably high numbers mean

that the rock martin is not considered to be threatened , and it is classed as least concern on the IUCN Red List .