

= White @-@ necked rockfowl =

The white @-@ necked rockfowl (*Picathartes gymnocephalus*) is a medium @-@ sized bird in the family Picathartidae , with a long neck and tail . Also known as the white @-@ necked picathartes , this passerine is mainly found in rocky forested areas at higher altitudes in West Africa from Guinea to Ghana . Its distribution is patchy , with populations often being isolated from each other . The rockfowl typically chooses to live near streams and inselbergs . It has no recognized subspecies , though some believe that it forms a superspecies with the grey @-@ necked rockfowl . The white @-@ necked rockfowl has greyish @-@ black upperparts and white underparts . Its unusually long , dark brown tail is used for balance , and its thighs are muscular . The head is nearly featherless , with the exposed skin being bright yellow except for two large , circular black patches located just behind the eyes . Though the bird is usually silent , some calls are known .

These rockfowl feed primarily on insects , though parents feed small frogs to their young . One feeding strategy involves following *Dorylus* army ant swarms , feeding on insects flushed by the ants . Rockfowl move through the forest primarily through a series of hops and bounds or short flights in low vegetation . This species rarely flies for long distances . The white @-@ necked rockfowl is monogamous and pairs nest either alone or in the vicinity of other pairs , sometimes in colonies with as many as eight nests . These nests are constructed out of mud formed into a deep cup and are built on rock surfaces , typically in caves . Two eggs are laid twice a year . Though the birds breed in colonies , infanticide is fairly common in this species , with rockfowl attempting to kill the young of other pairs . Nestlings mature in about a month . This bird is long @-@ lived .

This species is classified as Vulnerable as its dwindling and fragmented populations are threatened by habitat destruction . Conservation efforts are underway in parts of its range in the form of habitat protection , education efforts , and new laws . Some of the indigenous peoples of Sierra Leone considered the species to be a protector of the home of their ancestral spirits . This rockfowl is considered one of Africa 's most desirable birds by birders and is a symbol of ecotourism across its range .

= = Taxonomy = =

This species was first described by Coenraad Jacob Temminck in 1825 from a specimen collected on the Guinean coast . He published his description in the 2nd volume of *Nouveau recueil de planches coloriées d 'oiseaux* and described it as *Corvus gymnocephalus* , placing it in the crow genus *Corvus* . The species name is derived from the Ancient Greek words *gymnos* " naked " , and *kephal?* " head " . However , only three years later the bird was removed from the genus *Corvus* by René Primevère Lesson and placed in its own genus , *Picathartes* , as it did not share characteristics common to members of *Corvus* such as a feathered head . This generic name comes from a combination of the Latin genera *pica* for " magpie " and *cathartes* for " vulture " . Since its initial description , the picathartes have been placed in more than five different families , including those of crows (*Corvidae*) , starlings (*Sturnidae*) , Old World flycatchers (*Muscicapidae*) , babblers (*Timaliidae*) and Old World warblers (*Sylviidae*) . Today the white @-@ necked rockfowl and its close relative the grey @-@ necked rockfowl are believed to comprise a unique family , *Picathartidae* . It has also been suggested though not generally accepted that the two rockfowl represent the remnants of an ancient bird order . Recent DNA analysis has shown that *Picathartidae* and its closest relatives , southern Africa 's rockjumpers and southeast Asia 's rail @-@ babbler , form a clade . The analysis suggests that the rockfowl split from the common ancestor of their clade 44 million years ago . It is believed that the ancestor of this clade originated in Australia and spread to Africa . Though the white @-@ necked rockfowl has no subspecies , it is believed to form a superspecies with the grey @-@ necked rockfowl , with plumage and facial pattern being the primary differences between the two species .

Common names used for this species include white @-@ necked rockfowl , white @-@ necked picathartes , yellow @-@ headed picathartes , bare @-@ headed rockfowl , and the less frequently used white @-@ necked bald crow . Rockfowl is a reference to the species ' habit of building mud

nests on rock surfaces and caves . Picathartes refers to the species ' scientific name . Bald crow is a reference to its featherless head and somewhat crow @-@ like appearance , especially its beak .

= = Description = =

This rockfowl measures around 38 to 41 cm (15 to 16 in) in length , with its notably long tail contributing about 18 cm (7 @. @ 1 in) . Adult rockfowl show little sexual dimorphism in plumage and the sexes cannot be told apart by appearance . On the adult , the head , excluding the chin and throat , is completely bare of feathers except for a thin layer of fuzz on the forehead . The head 's skin is bright yellow except for two large , circular patches of black skin located just behind the eye and containing the ear ; only a thin , 2 mm (0 @. @ 0.79 in) wide patch of yellow skin on the crown prevents the two black patches from connecting . The black patch has a raised edge and appears to be a distinct part of the face . The eyelid and eyering are a thin line of black surrounding the bird 's large , dark brown eyes . The beak is robust , disproportionately large , and black . This beak can be considered crow @-@ like , is noticeably decurved in the upper mandible , and is about 30 mm (1 @. @ 2 in) long . The bird 's chin and throat are covered in a thin layer of white feathers , and the neck is long and slender . The nape is also covered in white feathers , while the hindneck is nearly bare , revealing the orange @-@ yellow skin . The upper mantle is a solid black , merging into a greyish @-@ black lower mantle . The rockfowl 's thighs are very muscular and aid its partially terrestrial lifestyle . The back , rump , and undertail are a bluish grey , while the tail is a dark brown and tented in shape . The moderately @-@ sized wings are also a dark brown . The underparts are a creamy white and appear their creamiest in the upper breast . In dim light the white @-@ necked rockfowl can appear to be solely black above and white below . The legs are blue and relatively long . Overall the plumage appears to be smooth with long feathers . The adult weighs 200 to 250 g (7 @. @ 1 to 8 @. @ 8 oz) .

The nestling is born naked with dark @-@ brown skin above and translucent pink skin below , blind , and with an orange @-@ red gape . After a few days , the gape changes to a bright yellow @-@ orange . After hatching , the head 's skin is all yellow without the black patches of the adult ; these are gained about a week before leaving the nest . An immature rockfowl after its fourth week is very similar to the adult , but its underparts are creamier and silkier than those of the adult , its neck possesses fewer feathers , and the yellow on the head is paler . Most noticeably , its tail is significantly shorter than that of the adult .

Although numerous calls have been recorded , the white @-@ necked rockfowl is normally a silent bird . Its call has been compared to the clucks of a chicken , with clucks of " chuk @-@ chuk @-@ chuk " or " choop @-@ choop @-@ choop " being made at a constant rate of eight notes every five seconds . This call typically lasts for at least a minute . It has been suggested that this call may be a proper song , but more research is required to determine if this is accurate . The rockfowl 's alarm call , one of its more frequent sounds , has been described as a continuous , low @-@ pitched , guttural chatter similar to " ow , ow , ow " . Adults and juveniles have also been known to produce a long @-@ drawn " owooh " call note . Additionally , fledglings can give a loud , quavering second @-@ long whistle as a contact call .

= = Distribution and habitat = =

This species is only found in West Africa from Guinea to Ghana . It is locally common in southeastern Guinea , and is widespread in Sierra Leone except for the north and northwest , and in Liberia except for the north and northeast . In Côte d 'Ivoire the species is currently restricted to areas near the Guinean and Liberian border . The bird also lives in Ghana , where it is both local and uncommon in the south central parts of the nation . The white @-@ necked rockfowl 's total range covers approximately 391 @, @ 000 km² (151 @, @ 000 sq mi) . However , the species occurs in low population densities in patches across this large range . The species does not migrate , though it does disperse widely after the breeding season .

This rockfowl lives on steep slopes in both primary and mature secondary forests . These forests

are typically covered in rocks and are found in hilly lowland areas up to 800 m (2 @,@ 600 ft) . The white @-@ necked rockfowl often lives near flowing streams and rivers so that it has access to wet mud for nest construction . Colonies are typically found within 100 m (330 ft) of a stream . The species also seems to show a preference for living near inselbergs . Rockfowl are occasionally seen in partly cleared forests and near cities , but this appears to be abnormal . Recent surveys have shown that abandoned rockfowl nests are more likely to be in or near secondary forest .

= = Ecology and behavior = =

This picathartes typically keeps low in the vegetation or on the ground near its nesting grounds . It moves quickly through its forested habitat primarily through a series of hops and bounds , followed by a pause before resuming its movements . It uses its tail for balance while traversing the forest . The rockfowl also flies at a low altitude for short distances between vines and trees , and it rarely flies for long distances . This species can disappear from sight into a mass of creepers or rocks . It is capable of high jumps , sometimes jumping 6 m (20 ft) off the cave floor to its nest while only partly using its wings .

It was once thought that the rockfowl rarely ventures far from its breeding grounds ; however , new data suggests that the species has a much broader range than previously thought . Rockfowl have been known to continue roosting on their nests for a period following the breeding season . These birds are normally solitary or in pairs , though sometimes they live in groups of three to five birds . Typically , they silently evade any unusual movements in their forest . However , if these birds know that they have been sighted , they can become quite inquisitive and occasionally approach observers . One of the rockfowl 's displays entails several of the birds in a colony forming a loose circle . Individual rockfowl run at each other , forcing the approached bird to retreat slightly before chasing either the bird that charged it or another in the circle . At intervals during this display a rockfowl leans forward on a branch , tucking its head between its legs and half @-@ spreading its wings , thus revealing its crown to the other rockfowl . It is believed that this behavior shows the intent of the rockfowl to roost in a group , though recent evidence suggests that the display could be involved in breeding . To scratch its head , the bird lifts its foot over its wing . This species is long @-@ lived .

= = = Diet = = =

The white @-@ necked rockfowl forages across slopes on mossy , creeper @-@ covered boulders and in trees covered in lianas and hanging mosses . It occasionally forages by hopping across sand by a stream or even in the stream , as evidenced by crab remains in the rockfowl 's droppings . While foraging on the ground , the rockfowl picks up leaves with its bill and tosses them aside . It feeds in mixed @-@ species groups ahead of swarms of Dorylus ants with alethes , bristlebills , and Finsch 's rufous thrushes , picking off insects flushed by the ants , mostly off the ground . The rockfowl has also been observed hopping from the ground and snatching prey midair .

The diet is diverse and generalized , enabling the white @-@ necked rockfowl to have a degree of adaptability in collecting food . This rockfowl primarily eats insects , including larval cockroaches , tettigoniid grasshoppers , earwigs , ants from the genera Pachycondyla and Dorylus , click beetles from the genus Psephus , and termites . Other than insects , it has been observed eating millipedes , centipedes , snails , earthworms , and occasionally small frogs and lizards . When feeding its nestlings , the rockfowl primarily collects earthworms , small frogs , and lizards , with the vertebrates forming most of the biomass fed to the young . In addition , rockfowl are occasionally seen eating plant material , normally from angiosperms or mosses .

= = = Reproduction = = =

The White @-@ necked rockfowl breeds primarily in caves and pairs nest either alone or as part of a small colony . While its courtship behavior is unknown , the species is monogamous and therefore

does not breed with rockfowl other than its mate despite earlier suggestions that it bred cooperatively . The White-necked rockfowl has two breeding seasons throughout the year , though the timing of the breeding seasons is determined by the location of the birds and the timing of the wet season , with nesting occurring just before and after the wet season and averaging 127 days apart . The rockfowl reuses its nest , and typically repairs it two to eight weeks prior to laying eggs . Guinean birds breed from July to January , while those in Sierra Leone breed from November to February and from April to October . In Liberia , breeding occurs from September to December and from March to July . Ghana 's rockfowl breed from March to June and September to November . Breeding caves are traditionally deserted while the rockfowl are not breeding , so increased usage by the rockfowl is considered a first sign of breeding . Nesting colonies average two to five nests , although one colony had forty nests . In addition to breeding birds , sometimes non-breeding rockfowl are present . These birds occasionally attempt infanticide to gain access to prime nesting sites or mates . Birds in these colonies often chase each other in circles , even through the treetops , a rare destination for this species .

Unusually for a rainforest dwelling bird , the white-necked rockfowl builds a nest out of mud with varying amounts of plant fibers mixed in . Mud is collected from nearby rivers and streams and is shaped into a strong , thick-walled , and deep cup attached to the cave wall or roof , a cliff , or a large boulder approximately 2 to 4 m (6 to 13 ft) above the ground . These rocks must be sloped inwards to provide the nest with protection from the rain . Phloem fibers and roots from plants line the inside of the cup . The white-necked rockfowl 's nesting caves normally are populated by wasps , and the wasp nests 2 to 3 cm (0.79 to 1.18 in) long are often found embedded in the rockfowl 's nests . It is believed that in order to build their nest on the smooth cave walls , rockfowl use the nests of the wasps as a nucleus to build around . Cliff nests are always built at a distance from nearby plants . Both birds work on the construction of the nest , with roles alternating as one bird collects the materials while the other shapes them into the nest . The mud is sometimes swallowed and regurgitated prior to use . While nearly all rockfowl nests are found in caves or on cliffs , there are records of nesting occurring on a riverbank and on a fallen tree trunk . Nests are typically constructed at least 1 m (3 ft) apart , but one colony had six nests adjoining each other . Nests also vary widely in size , though they average to be 108 mm (4.3 in) long , 172 mm (6.8 in) wide , and 129 mm (5.1 in) deep . It used to be believed that each pair builds two nests , one for breeding and one for roosting ; however , recent surveys have found no evidence of this , with all nests in the colony being used for breeding .

One to two eggs , typically two , are laid in each nest a day or two apart . The eggs weigh about 14 g (0.51 oz) and have an average size of 25 @ 8 by 38 @ 3 mm (1 @ 02 by 1 @ 51 in) . The eggs are a creamy white with dark brown blotches spread across the egg but in higher density near the larger end . Incubation , which begins after the first egg is laid , lasts for 23 to 28 days . The parents take turns incubating their eggs . Hatching typically takes at least 12 hours . The infant rockfowl 's eyes open after nine to eleven days , while feathers begin to grow seven days after hatching . After the young hatch , food is brought to them almost four times an hour . To feed its young , the adult rockfowl clings to the side of its nest while fluttering its wings ; some birds use their tails as a prop underneath the nest to help support themselves . Rockfowl have been known to kill the young of other rockfowl , while nest predation is carried out by cobras of the genus *Naja* , the Nile monitor , sun squirrels , red-chested goshawks , and *Procolobus* monkeys . This leads on average to only 0.44 nestlings surviving per pair of rockfowl . Due to potential infanticide by other rockfowl , parents protect their nest and vicious fights often occur . Rare among other bird species , this behaviour is prevalent in white-necked rockfowl . Not fully understood , it is thought to occur for the sake of resource competition or sexual selection . The young leave the nest after 23 to 27 days , at which time they resemble the adult rockfowl but with much shorter tails . The young leave the nest by standing on the edge , emitting a piercing whistle , and then gliding down to the ground on spread wings where they are met by an adult bearing insects . Even after leaving the nest , the young return to roost on it with their parents .

= = Relationship with humans = =

In the lore of Sierra Leone 's indigenous people , the often bizarre rock formations near which the white @-@ necked rockfowl lives were believed to house ancestral spirits . Its residence there led it to be considered a guardian of the formations , leading to a degree of residual respect for the species that persists despite the beliefs that spawned this respect being practically extinct . However , in some regions the rockfowl 's secretive habits and inaccessible habitat have meant it was unknown to the local population . Conversely , migrant Liberian hunters sometimes catch the nestlings for food . Due to this species ' uniqueness it became a symbol for ecotourism and rainforest conservation in the region in the 1990s . The white @-@ necked rockfowl has been depicted on numerous postage stamps from Ghana and Sierra Leone . Due to its strange appearance and behavior and the difficulty in seeing the species , this bird is considered particularly fascinating by birdwatchers . This species is considered to be one of the five most desirable birds in Africa by ornithologists .

This species also helped launch Sir David Attenborough 's career in 1954 , when he was the producer on the new television program Zoo Quest . The show 's presenter Jack Lester was required to travel to Africa to record attempts to capture animals for display in zoos , with the focus of the series being on the white @-@ necked rockfowl . However , when he fell ill , Attenborough took his place , which launched him into the limelight and starting his narrating career .

= = = Conservation = = =

This species is considered Vulnerable by the IUCN due to its highly fragmented distribution , dwindling population , and habitat destruction . It is considered to be less common and more threatened than the closely related grey @-@ necked rockfowl . The stronghold of the species is in Sierra Leone and southern Guinea , where the bird is still locally common if difficult to locate . It is estimated that only 2 @, @ 500 to 10 @, @ 000 white @-@ necked rockfowl survive , with the population dwindling and spread out over a known 32 sites ; however , most individuals studying this species believe that the population is far fewer than the 10 @, @ 000 maximum . Many of its colonies are currently approaching the minimum population size necessary to guarantee long @-@ term viability against inbreeding . The primary threat is the commercial destruction of its habitat for timber . Although the white @-@ necked rockfowl is capable of withstanding some disturbance of the nearby habitat , as demonstrated by one colony surviving after it was completely surrounded by a cocoa plantation , habitat disturbance is far more likely to negatively impact on breeding success . Most of the remaining colonies in Guinea , Sierra Leone , and Côte d 'Ivoire are on protected land , while Liberia and Ghana 's colonies are mostly unprotected . In part to protect this species , Sierra Leone recently upgraded its protection of the Gola forest by turning it into its second national park , Gola National Park , and has announced that the country intends to work with Liberia to form a trans @-@ national park protecting the Gola rainforest . In return for lost logging rights , Sierra Leone has compensated locals with road and school renovations , additional training for police officers , and construction of churches and a mosque . Liberia has also expressed a desire to expand its national park system , which would help protect the species . In Guinea , the bird 's forests are being logged to provide land for rice farming to help support farmers immigrating from the country 's drier north .

Laws exist in Sierra Leone , Liberia , and Ghana to protect this species , but enforcement is minimal . International trading of the white @-@ necked rockfowl is regulated as the bird is currently listed under CITES Appendix I. Additionally , in 2004 BirdLife International drafted an international action plan to provide strategies for protecting this species . This plan focused on surveying the remaining habitat , raising awareness amongst the local populace , and limiting the continued destruction of its habitat . In 2006 , BirdLife International received a US \$ 19 @, @ 900 grant from the Disney Wildlife Conservation Fund to help enact this plan . Surveys conducted with this funding have resulted in the discovery of additional populations in Sierra Leone . Additionally , wardens have been trained to protect Sierra Leone 's Western Area Forest Reserve . This plan , coupled with the bird 's appearance and unusual habits , have led it to become a flagship species for habitat conservation

across Africa and particularly in its upper Guinean forests .

Until 2003 , the species was thought to be extinct in Ghana . Most of the Ghanaian sites from which it is known are active forest reserves , where logging periodically occurs . Outside of the reserves , bush @-@ burning and mining for gold and other metals threaten remaining habitat . Following its rediscovery in Ghana , the Ghana Wildlife Society has begun to survey remaining habitat and implement conservation strategies .

In the 1950s and 1960s , collecting this species for display in zoos was a major threat , and in Liberia in particular this practice destroyed several of the bird 's colonies . The rockfowl were captured by the indigenous peoples through the use of traps , while hunters in Guinea , who were already catching rodents and hyraxes at the bird 's nesting colonies , sometimes captured rockfowl at night . In Côte d 'Ivoire specimens were sometimes caught by bat @-@ catchers . Most birds collected from the wild die within 24 hours . Despite over 70 white @-@ necked rockfowl being displayed in zoos during the 1970s , captive breeding was a rare occurrence and no stable captive populations have been formed . Despite this , zoos did have limited success and at least one zoo was able to hand @-@ rear a white @-@ necked rockfowl . As of 2002 , no white @-@ necked rockfowl have existed outside of Africa since 1998 .