

MAGNIFICENT FRIGATEBIRD - FREGATA MAGNIFICENS

Taxonomy: Kingdom: Animalia Phylum: Chordata Class: Aves Order: Suliformes Family: Fregatidae Genus: Fregata
Species: F. magnificens

Habitat:

Biomes: Magnificent Frigatebirds range along coasts and islands in tropical and subtropical waters. They nest and roost in mangrove cays on coral reefs and in low trees and shrubs on islands. Magnificent Frigatebirds forage over warm oceans far out to sea, along the coast, and in shallow lagoons.

Distribution:

In US: It occurs over tropical and subtropical waters off America, between northern Mexico and Ecuador on the Pacific coast and between Florida and southern Brazil along the Atlantic coast. There are also populations on the Galápagos Islands in the Pacific and the Cape Verde islands in the Atlantic.

In Other Countries: ^^^^^

Holistic Description: Beachgoers delight in this large, black pterodactyl-like bird that soars effortlessly on tropical breezes with hardly a flap, using its deeply forked tail to steer. Watching a Magnificent Frigatebird float in the air truly is, as the name implies, magnificent. These master aerialists are also pirates of the sky, stealing food from other birds in midair. Males have a bright red pouch on the throat, which they inflate like a balloon to attract females. Females unlike most other seabirds look different than males with their white chest.

Species Richness: NO SUBSPECIES

Population Dynamic: Apparently declining in most areas for which there are data, due mainly to human destruction of habitat for housing, resorts, etc., and disturbance in colonies. Introduced predators on islands and over-fishing are also potential problems.

Evolution and Systematics:

Evolution: Small frigatebird (*Limnofregata azygosternon*) from lower Eocene in Green River formation, Wyoming; bill shorter and less hooked, hind limbs less reduced, wing shorter than current *Fregata*; shares some characteristics with tropicbirds (*Phaethon*) and some with boobies (*Sula*) that *Fregata* does not. Fossil frigatebird from St. Helena I., s. Atlantic Ocean, determined most likely to be Great, not Magnificent, by heavier bill and stouter humeri.

Systematics: Disputes over nomenclature and lack of information on birds in some areas have resulted in incorrect descriptions of frigate species and ranges in the literature. Five species of frigatebird in family, Magnificent the largest; all species classified in a single genus, *Fregata*, and distributed throughout tropical oceans (see Mayr and Cottrell 1979, Harrison 1983b). Other species include: Ascension Island (*F. aquila*), Great, Lesser, and Christmas Island (*F. andrewsi*) frigatebirds. FORMERLY CONSIDERED TO HAVE 3 SUBSPECIES.

Number of Species: NO SUBSPECIES

Number of Genera: NO SUBSPECIES

Physical Characteristics:

Size and Length: Length: 35.0-44.9 in (89-114 cm) Weight: 35.3-67.0 oz (1000-1900 g)

Wingspan: 85.4-88.2 in (217-224 cm)

Coloration: Magnificent Frigatebirds are mostly black, but females and young birds have varying amounts of white on the head, chest, and belly. Females have a white chest and a dark head. Juveniles start with a white head and belly and gradually obtain darker heads. Young birds also have a pale tan streak on the upper wing. Breeding males are entirely black save for the bright red throat pouch, which is not always visible.

General Body Features: Magnificent Frigatebirds are large seabirds with long, angular wings. They have a deeply forked tail that is often held closed in a point. The bill is long and sturdy with a prominently hooked tip.

Special Features of the Body: The feathers of this species of birds are not water proof, therefore it becomes difficult for them to sit on water for more than one or two minutes. If their feathers get wet, then they cannot fly and due to its small feet they are unable to even move properly in land.

Special Features of the Head and Sensory Organs: Their tremendous control over their body and large wings allow them to habitually steal food from other birds by grabbing them by their tail feathers, shaking them till they part with their food.

Dentition: Lamellae and Gizzard

Special Features of the Limbs and Digits: The massive wingspan allows them to fly without much effort and make poised aerial movements. They can fly even during strong winds.

Any Special Internal Anatomy: The gular sac which is on the lower area of the neck inflates like a red balloon to attract females. Outside the breeding season, the patch fades to orange and is hardly visible.

Sexual Dimorphisms: Sexes differ in size and plumage coloration. Male smaller than female and entirely black, except for brownish inner secondaries on upperwing, and patch of bare skin (gular sac) on lower neck. Gular sac becomes bright red and is inflated like a large balloon during courtship displays and early incubation period, but becomes pale orange and shrinks to become barely visible at other times of the year. At close range, male also glossed purple on head and green on neck, scapulars, and upperwing. Male legs and feet black or gray to brownish black. Female entirely blackish brown except for prominent white patch across breast and uppermost belly (extending variably to sides of neck and with a narrow wedge of dark color extending from throat onto center of upper breast), white tips across axillaries forming 3–4 lines on underwing, and a pale tan to dirty white 'alar' bar on upperwing which extends diagonally inward from the crook on leading edge of wing. Head and upperparts with less extensive gloss than male (mostly restricted to back of head and neck), and gular sac absent. Female legs and feet flesh-colored to pink.

Differences Between Juvenile Stage and Adult: Juvenile plumage similar to adult female except juvenile head entirely white, and a V-shaped wedge of black extends from each side inwardly onto lower breast; legs, feet, and bill light-bluish gray. Juvenile-plumage aspect believed to be retained for 18–24 mo.

Behavior:

Diurnal, Nocturnal, or Crepuscular: Diurnal

Activity: Frigatebirds soar effortlessly over the ocean rarely flapping their long, pterodactyl-like wings and using the long tail to steer. Though they are frequently seen soaring, they are masters of pursuit. They chase other birds including frigatebirds, forcing them to regurgitate their recent meal, which they scoop up before it hits the water. Their gracefulness ends as soon as they head towards land, where they awkwardly perch in low shrubs and trees. Their strong toes help them hold onto branches, posts, and boat masts, but their small feet in combination with their short legs makes it nearly impossible for them to walk on land. On land, males often flutter the balloonlike throat sac (or "gular pouch") to cool off. Males and females also regulate their body temperature by holding up their wings up to sun themselves. To get airborne, they flap a few times and use the wind to help lift them into the air. Male Magnificent Frigatebirds gather in groups to court females. They perch in low trees and shrubs with their red throat sac inflated like a balloon and clatter their bills, waving their heads back and forth, and calling at females flying overhead. Females choose a mate and begin building a nest on the male's display perch. The pair stays together for up to 3 months, after which the male leaves and the female raises the chick alone for up to 1 year.

Locomotion: When not gliding, perches on trees, bushes, or when none available, perches on the ground. Incapable of normal bipedal walking, as legs are extremely short, body large, and tail long. Feet totipalmate but with greatly reduced webbing and strong toes for perching—which this species does on almost any surface from which takeoff is facilitated and visibility is good, such as rigging of vessels, posts, trees, etc. Lands on branches or other graspable surfaces, never on land or water, except accidentally. A powerful, versatile, graceful flier, Magnificent Frigatebird can glide for hours with little wing movement. Rarely uses flapping flight. Normally takes off into the wind, flapping a few times to rise until wind is sufficient for gliding and soaring. Uses long, forked tail for maneuvering. Frigatebirds are among the few birds able to ride out a hurricane in flight. Not known to swim nor dive, although observed aerially "dunking" themselves in fresh water, presumably to drink or bathe. Can take off from water only with much effort owing to long wings and lack of waterproofing.

Communication and Perception: Magnificent Frigatebirds are usually silent at sea, but sometimes give a grating call when coming in for a landing or while fighting with each other above the colony. Males make guttural drumming sounds during courtship. Juveniles beg for food with harsh screams. During breeding and courtship males and females make clicking noises with their bills. Males also use their bill to tap on the inflated gular sac, making drumming sounds.

Home Range: No territory defended beyond nest site. After displaying male is joined by a female, pair builds nest on male's displaying site; pair then weakly defends the nest site as a territory. Nests are pecking distance or slightly further apart. Nest site defended through lunges, Bill-rattling, and Bill-snapping, with no serious fighting. Interspecific territoriality not observed: frequently breeds close to other breeding seabirds and shows no interest in interspecific neighbors. No data on territoriality outside breeding season, or on dominance hierarchies. In roosts and in breeding colonies, individual distance usually determined by pecking distance, but nests sometimes closer than this.

Degree of Sociality: Gregarious when nesting and roosting and sometimes when feeding, yet spends much time in solitary flight. Nests in colonies of ten to several thousand pairs.

Level of Aggression: Individuals pursue others aerially to steal food from conspecifics as well as from other species. Intraspecific agonistic behavior described by Trivelpiece and Ferraris. Male aggression consists of Bill-snapping and -jabbing at encroaching birds (88% other males), usually in competition for perch sites near displaying males. Aggression by females usually to dislodge other frigatebirds (equally likely to be male, female, or juvenile) from perch. Females and juveniles attempt to steal food from other females in act of regurgitating to juvenile; usually disrupts feeding attempt. Nearly half

(45%) of agonistic interactions by juveniles over perch sites were directed to other juveniles; rest were directed at females, either for perch sites or for feeding. At nest, Bill-jabbing when threatened.

Migration: Resident to short-distance migrant. Some individuals are permanent residents, while others move to more tropical waters after breeding.

Predators:

Predators: Cats, Boa Constrictor, Conspecific Cannibalism

Anti-Predator Defenses: NONE

Diet and Nutrition:

Adult Diet: Magnificent Frigatebirds eat primarily flying fish, tuna, herring, and squid, which they grab from the surface of the water without getting wet. They also eat plankton, crabs, jellyfish, and other items on the surface of the water including discarded fish from fishing boats. Magnificent Frigatebirds forage for themselves, but they also chase and harass other seabirds and frigatebirds forcing them to regurgitate recently captured meals, swooping down to steal the meal before it hits the water.

Juvenile Diet: ^^^^^^

Special Adaptations for Getting Prey: LOOK AT SPECIAL FEATURES

Reproduction:

Mode of Reproduction: Monogamous

Mating System: Mating system may be best described as sequential monogamy, in that male abandons female and chick to return later, while female is still rearing juvenile, probably to breed with another female, though this latter remains unproven. Sex ratio hard to determine because of difference between sexes in attendance patterns at colony, but longer commitment of female to breeding cycle suggests that effective sex ratio of potential breeders is skewed toward males.

Mating Season: November to June

Courtship: During courtship phase, 2–30 males perch together and give Presentation Display to females cruising overhead. Display involves inflation of large red gular sac and rapid vibration of wings while male sits back on spread tail, raises outstretched wings, erects scapular feathers, holds bill vertically, throws head back, and turns head side to side for maximum exposure of gular sac. Males produce “reeling and drumming” sounds by Bill-rattling against the gular sac. Male display concentrated in first 4 h of daylight. Females flying overhead appear to stimulate intense display among males. Female Magnificent lacks ritualized wing or neck movements found in hovering Lesser Frigatebird responding to male's display.

Territoriality: HOME RANGE

Mating: Female greets male very briefly at first, returning several times during day and spending more time with male at each visit. Male flies off to bring nest material, which female weaves into nest. Copulation often follows return of male with nest material. Pair-bonding behavior limited to Mutual Head-waving with occasional and brief unilateral allo-preening

Nesting: Magnificent Frigatebirds nests in dense colonies on top of low trees and shrubs on islands. Nests are packed into small areas and are often within striking distance of another nest. The female builds the nest on the display perch used by the male she chooses. The male brings sticks to the female, which she arranges into a flimsy platform about 9-14 inches wide. The male gathers sticks from trees and shrubs, but also steals them from other males. Nest building takes about 13 days.

Egg-Laying: Clutch Size: 1 egg Number of Broods: 1 brood Egg Length: 2.6-2.9 in (6.5-7.4 cm) Egg Width: 1.7-2.0 in (4.4-5 cm) Incubation Period: 53-61 days Nestling Period: 150-185 days Egg Description: White.

Hatching and Incubation/Gestation: Altricial and nidicolous. Naked at hatch; complete coat of white down is acquired by about 60 d. No information on size or coloration at hatch; eyes closed. Newly-hatched chick is feeble and inactive, lying flat in nest; usually hidden beneath brooding adult.

Development: NONE

Parental Care: Nest defended by female during building, by incubating or brooding adult thereafter. hicks fairly helpless first few days and incapable of begging. Adults poke gently at chick's bill and dribble small amounts of mostly digested food into bill. Chick soon gains coordination and learns to peck at adult's bill to stimulate regurgitation. As chick grows, begging and poking at adult's bill becomes more aggressive and begging call louder and more insistent. Older young feeds by plunging bill deep into female's throat.

Lifespan: Around 30 years.

Conservation:

Official Federal Status: Least Concern

Special Statutes in Individual States: NONE

Threats: Magnificent Frigatebirds are relatively common, but Partners in Flight lists them as Yellow Watch List species due to declining populations in the Americas. Magnificent Frigatebirds rate a 16 out of 20 on Partners in Flight Continental

Concern Score. The estimated global population is 59,000-71,000 breeding pairs. In areas where they breed, many populations are declining due to urban and resort development. Several islands in the Caribbean, including Marquesas Keys off of southern Florida, Aruba, and Seal Key in the Bahamas, no longer support breeding colonies following coastal development. Overfishing, predator introductions on nesting islands, and hurricanes may also reduce nesting success.

Conservation Efforts: ^^^^

Extra Facts:

1. Frigatebirds are the only seabirds in which the male and female look strikingly different. Females may not have the males' bright red pouch, but they are bigger than males.
2. The breeding period of the Magnificent Frigatebird is exceptionally long. Males and females incubate the eggs for around 56 days, and once hatched, chicks don't leave the nest until they are about 167 days old. Even after they leave the nest, females continue to feed them until they are one year old.
3. The Magnificent Frigatebird spends most of its life flying effortlessly over the ocean. It rarely lands on the water even though it has webbed feet, because unlike other seabirds it lacks waterproof feathers.
4. The frigatebird is sometimes called the "man-o-war bird" because it harasses other birds until they regurgitate recently captured food, which the frigatebird snatches in midair.
5. Learning how to chase other birds and steal meals takes practice. Young frigatebirds hold sticks in their mouths and chase each other. When one of them drops the stick, the other dives below to retrieve it.
6. The oldest known Magnificent Frigatebird was at least 19 years, 9 months old when it was recaptured and rereleased in the Lesser Antilles during a scientific study.