BOBOLINK - DOLICHONYX ORYZIVORUS

Taxonomy: Kingdom: Animalia Phylum: Chordata Class: Aves Order: Passeriformes Family: Icteridae Genus: Dolichonyx Species: D. oryzivorus

Habitat:

Biomes: Bobolinks breed in open areas across the northern United States and southern Canada, preferring large fields with a mixture of grasses and broad-leaved plants like legumes and dandelions. They formerly nested mainly in tallgrass and mixed prairie of the midwestern United States and south-central Canada. They now also nest in eastern hayfields and meadows, which became available as eastern forests were cleared, and west of the Great Plains in recently irrigated habitats. After breeding, Bobolinks move to freshwater marshes and coastal areas to molt before migrating. Their main wintering area is in the southern interior of South America, where they spend their time in grasslands, marshes, rice fields, and sorghum fields.

Distribution:

In US: The bobolink breeds in the summer in North America across much of southern Canada and the northern United States. Although bobolinks migrate long distances, they have rarely been sighted in Europe—like many vagrants from the Americas, the overwhelming majority of records are from the British Isles.

In Other Countries: ^^^^^

Holistic Description: Perched on a grass stem or displaying in flight over a field, breeding male Bobolinks are striking. No other North American bird has a white back and black underparts (some have described this look as wearing a tuxedo backwards). Added to this are the male's rich, straw-colored patch on the head and his bubbling, virtuosic song. As summer ends he molts into a buff and brown female-like plumage. Though they're still fairly common in grasslands, Bobolink numbers are declining.

Species Richness: NO SUBSPECIES

Population Dynamic: The numbers of these birds are declining due to loss of habitat. Bobolinks are a species at risk in Nova Scotia, and throughout Canada. In Vermont, a 75% decline was noted between 1966 and 2007. Originally, they were found in tall grass prairie and other open areas with dense grass. Although hay fields are suitable nesting habitat, fields which are harvested early, or at multiple times, in a season may not allow sufficient time for young birds to fledge. Delaying hay harvests by just 1.5 weeks can improve bobolink survival by 20%. This species increased in numbers when horses were the primary mode of transportation, requiring larger supplies of hay.

Evolution and Systematics:

Evolution: Found from Holocene in Iowa and Pleistocene in Florida. Not mentioned by Olson in his monograph on fossil birds.

Systematics: Adult males in Alternate plumage may average slightly paler in the western part of the breeding range and there is a shallow east-to-west cline in increasing body size across the species' breeding range.

Number of Species: NO SUBSPECIES

Number of Genera: NO SUBSPECIES

Physical Characteristics:

Size and Length: Length: 5.9-8.3 in (15-21 cm) Weight: 1.0-2.0 oz (29-56 g)

Wingspan: 10.6 in (27 cm)

Coloration: Breeding male Bobolinks are mostly black with a white back and rump, and a rich buffy nape. Females and nonbreeding males are warm buffy brown, streaked with dark brown on the back and flanks. They have bold brown stripes on the crown but are unstreaked on the nape of the neck. The bill is pinkish.

General Body Features: Bobolinks are small songbirds with large, somewhat flat heads, short necks, and short tails. They are related to blackbirds and orioles, and they have a similar shaped, sharply pointed bill.

Special Features of the Body: Before migration northwards Bobolinks perform a complete molt, being the only passerine in the New World that has two complete molts a year. This is certainly an adaptation to the long distances it travels, particularly over water.

Special Features of the Head and Sensory Organs: NONE

Dentition: BEAK/LAMELLAE/GIZZARD

Special Features of the Limbs and Digits: NONE

Any Special Internal Anatomy: NONE

Sexual Dimorphisms: Adult males are mostly black with creamy napes and white scapulars, lower backs, and rumps. Adult females are mostly light brown with black streaks on the back and flanks, and dark stripes on the head; their wings and tails are darker.

Differences Between Juvenile Stage and Adult: Head with buff median crown stripe, superciliary line, dusky postocular stripe, and deep buff nuchal band. Upperparts dull brownish black, the feathers with buff fringing. Upperwing coverts dull brownish black, edged in buff and tipped with grayish white. Primaries, secondaries and rectrices brown with tin pale buff edges, becoming thicker proximally among inner secondaries and tertials; feathers narrower and more pointed at tip.

Behavior:

Diurnal, Nocturnal, or Crepuscular: Diurnal

Activity: Bobolinks are polygynous, meaning each male mates with several females per breeding season. But they are also polyandrous, with each clutch of eggs laid by a single female often representing multiple fathers. Outside of the nesting season Bobolinks live socially in flocks. After arriving on the breeding grounds males compete vigorously for territories by singing, displaying, fighting, and chasing each other. In the male's primary nest, both parents feed the young, and in his secondary nests he may help with feeding to varying degrees. In some nests, the nestlings are fed by more than two attending adults, which possibly include multiple fathers or offspring from the previous year. The young leave the nest unable to fly, and hide in thick vegetation for a few more days until their flight feathers have fully emerged. Families from several nests join together and form foraging flocks. Within about a month the immature birds learn to feed themselves, and the flock departs the breeding grounds soon afterward.

Locomotion: Normally walks, occasionally runs on ground. Type of male flight varies depending on context. In silent flight, usually involving a direct flight path, wings are brought substantially above and below horizontal, appearing to almost touch at highest point. Series of fast flaps alternating with short glides. Song flight usually follows a more circular path.

Communication and Perception: The male sings a metallic, bubbly, rambling song with a mixture of sharp high notes and buzzy low pitches. He sings from perches and in flight throughout the breeding season, but mostly while establishing a territory and courting females. Each male has 2 song types, each composed of 25–50 notes in a fixed sequence, lasting about 3.5 seconds.

Home Range: Territorial boundaries are easily determined by observing agonistic interactions. Multipurpose territory. Two patterns of territorial development are evident: compression of original large territories in more suitable areas of meadow from pressure of newly arriving males, and expansion of occupancy of meadow by annexation of peripheral areas. A pattern of contiguous, nonoverlapping territories results. Mean size of territories in Wisconsin ranged from 0.70 ± 0.008 ha. Territory is vigorously defended until male begins feeding nestlings, when territorial maintenance abruptly ends. At this time, drifting males quickly establish territories on better-quality habitats; they are often successful in attracting females that lost original nests on other fields to mowing.

Degree of Sociality: Strongly territorial during early period on breeding fields, but social and highly gregarious during remainder of year. Interfamily flocks begin forming within 6 d after first young fledge. Flock size increases, in some locations to several hundred birds.

Level of Aggression: Strong competition for territories between arriving males, involving song, ritualized display, fighting, and male-male chases. Early in season, males in Wisconsin averaged 11.9 perched and 2.4 flight songs, and > 20 discrete agonistic behaviors per 5-min period. Aerial Chases are common; most frequent and intense during first week of territorial defense. Lasting from 30 s to > 1 min, these high-speed chases involve much song. Pursuer follows within 1–5 m, occasionally swooping and striking at fleeing male.

Migration: Long-distance migrant. Bobolinks travel about 12,500 miles round-trip every year, in one of the longest migrations of any songbird in the New World. From their northern breeding grounds they fly in groups through Florida and across the Gulf of Mexico toward their wintering grounds in South America.

Predators:

Predators: Cooper's Hawks, Ring-Billed Gulls, Milk Snakes, Cats, Dogs, Skunks, Short-eared Owls, Yellow-Bellied Racers, Northern Harriers, American Crows, Mouse, Falcons.

Anti-Predator Defenses: Disturbed adults emit several call notes in response to predators and intruders near nest or young. Both sexes perform diversionary behavior when disturbed at nest by human or predator; typically involves a short hop-flight from nest, then skimming along above vegetation for 1–2 m and plummeting with outspread wings into vegetation, then running in weaving, "rodent-like" fashion for several meters, lurching from side to side and alternately outstretching and sometimes dragging right and left wings.

Diet and Nutrition:

Adult Diet: During the breeding season, Bobolinks eat weed seeds, insect larvae, adult insects, spiders, and other arachnids. They feed their protein-dependent nestlings with invertebrates exclusively. They forage for seeds at the tops of nonwoody plants, often perching on the plant itself while extracting the seeds slowly and carefully. They glean insects and spiders closer to the base of the vegetation. During migration and winter, Bobolinks eat wild and domesticated rice, oats, other small grains,

corn, tassels, weed seeds, and occasional insects. Normally daytime foragers, they may feed after dark on bright nights during migration, to build fat reserves for their long flight over the Gulf of Mexico and the Caribbean.
Juvenile Diet: Based on ligature samples of 124 prey items from 54 nestlings in 38 nests, 75% of the prey brought to nestlings consisted of leaf hoppers, crickets, Lepidoptera larvae, mayflies, and spiders.
Special Adaptations for Getting Prey: Feeds primarily as it walks slowly on ground or as it ascends into lower levels of vegetation. Uses foraging pecks that are slow and deliberate. When foraging on seeds, often perches near top of vegetation and carefully, deliberately, extracts and ingests seed bodies. Has been observed jumping from ground to grasp mature seeds of dandelion and other plants too limber to permit stable perching. Generally swallows seeds or prey items whole; often wipes bill on perch or nearby vegetation after eating milky grains or insects. In winter, searches for insects under leaves of soybean and sunflowers.

Reproduction:

Mode of Reproduction: Polygynous
Mating System: Strongly polygynous; successful males hold simultaneous pair bonds with multiple females. Extent of polygyny varies geographically, apparently depending on quality of habitat conditions. Of
Mating Season: March to May
Courtship: When unpaired female alights in or close to male's territory, male initiates repetitive, stereotyped advertising-courtship sequence: includes a low, hovering, circle-flight, brief song, and abrupt drop to low perch or ground. During drop, male gives 1–3 rasping buzz notes as he dangles legs and holds wings in strong dihedral. Wings are often retained in elevated position for several seconds after alighting. If female remains, male repeats sequence up to 5 times/min for intervals of 30–40 min. Female typically is passive, although occasionally she initiates sexual chase by flying over male while giving series of zeep or “whine” notes. Chases are tortuous.
Territoriality: HOME RANGE
Mating: Dismounting is always by flight. Between mounts, male typically orients back toward female with prominent erection of nape and scapular feathers, wings slightly spread, and tail lowered and fanned. Male gives partial song and often turns head toward female during display. Copulation bouts are given through second and often into third day of laying.
Nest Placement: Within the male’s territory, the female chooses a nest site on the ground, usually on wet soil at the base of large nonwoody plants like meadow rue, golden alexander, or clover.
Nest Description: The female gathers materials from within about 100 yards of the nest and builds the nest by herself in 1–2 days. She starts the nest by plucking bare a patch of soil and making a depression. She weaves a floorless outer wall of coarse dead grasses and weed stems, then lines the inside by placing fine grasses and sedges directly on the soil. She may continue adding lining material after laying the first egg. The inside of the nest measures 2.4-4.3 inches across and up to 2 inches deep.
Egg-Laying: Clutch Size: 3-7 eggs Number of Broods: 1-2 broods Egg Length: 0.8-0.9 in (2-2.3 cm) Egg Width: 0.6-0.7 in (1.5-1.7 cm) Incubation Period: 11-14 days Nestling Period: 10-11 days Egg Description: Pale bluish gray to reddish brown, with irregular spots of brown and lavender.
Hatching and Incubation/Gestation: Helpless, with closed eyes, and nearly naked except for sparse yellowish down.
Development: Nearly naked except for sparse, buff natal down associated primarily with capital and spinal tracts. Eyes closed. Lie on bottom of nest; movement feeble. In response to noise, emerging young observed to gape while still partially in shell. Capable of strong but silent gaping response within minutes of hatching, lifting head and stretching neck slightly. ALTRICIAL.
Parental Care: Both parents feed young in primary nests. Feeding begins within 1 h after first nestling hatches; continues until fledglings become independent. Food is fed directly from parent's bill to nestlings' mouths when they beg and gape.
Lifespan: Up to 9 years old.

Conservation:

Official Federal Status: Least Concern
Special Statuses in Individual States: NONE
Threats: Although Bobolinks are numerous and adaptable, their U.S. population declined by over 2% per year between 1966 and 2015, resulting in a cumulative decline of 65%, according to the North American Breeding Bird Survey. Partners in Flight estimates a global breeding population of 8 million, with 28% breeding in Canada, and 72% spending some part of the year in the U.S. The species rates a 14 out of 20 on the Continental Concern Score and are on the 2016 State of North America's Birds' Watch List, which includes bird species that are most at risk of extinction without significant conservation actions to reverse declines and reduce threats. People have shot Bobolinks as agricultural pests in the southern United States, trapped and sold them as pets in Argentina, and collected them as food in Jamaica. But the main reason for the Bobolink’s decline is land-use change, especially the loss of meadows and hay fields. To improve the Bobolink’s prospects, people can

maintain its breeding habitat by mowing fields annually once nestlings have fledged, and managing natural prairies through prescribed burning.

Conservation Efforts: ^^^^^^

Extra Facts:

1. The Bobolink is one of the world's most impressive songbird migrants, traveling some 12,500 miles (20,000 kilometers) to and from southern South America every year. Throughout its lifetime, it may travel the equivalent of 4 or 5 times around the circumference of the earth.
2. The species name of the Bobolink, oryzivorus means "rice eating" and refers to this bird's appetite for rice and other grains, especially during migration and in winter.
3. A migrating Bobolink can orient itself with the earth's magnetic field, thanks to iron oxide in bristles of its nasal cavity and in tissues around the olfactory bulb and nerve. Bobolinks also use the starry night sky to guide their travels.
4. Bobolink molt twice a year, completely changing all their feathers on both the breeding and wintering grounds. When the male grows new feathers on the wintering grounds they all have yellowish tips, so he still looks like a nonbreeding bird. Eventually the pale tips wear off to reveal his striking black-and-white breeding colors.
5. Normally a daylight forager, the Bobolink sometimes feeds after dark on bright nights during migration, to build fat reserves for its long flight over the Gulf of Mexico.
6. Bobolinks are related to blackbirds, which are often polygynous, meaning that males may have several mates per breeding season. Bobolinks are polygynous, too—but they're also often polyandrous: each clutch of eggs laid by a single female may have multiple fathers.
7. The oldest Bobolink on record was a female known to be at least 9 years old.
8. The Bobolink was immortalized by nineteenth-century American poet William Cullen Bryant, in a poem titled Robert of Lincoln. The poem recounts the events of "Bob-o-'Link's" nesting season, describing the male's flashy coat and song, the female's modest attire and subdued voice, and the six purple-flecked eggs that hatch into nestlings.

Notable Species: NONE