

= Saxaul sparrow =

The saxaul sparrow ( *Passer ammodendri* ) is a passerine bird of the sparrow family Passeridae , found in parts of Central Asia . At 14 ? 16 centimetres ( 5 @. @ 5 ? 6 @. @ 3 in ) and 25 ? 32 grams ( 0 @. @ 88 ? 1 @. @ 13 oz ) , it is among the larger sparrows . Both sexes have plumage ranging from dull grey to sandy brown , and pale brown legs . Females have less boldly coloured plumage and bills , lacking the pattern of black stripes on the male 's head . The head markings of both sexes make the saxaul sparrow distinctive , and unlikely to be confused with any other bird . Vocalisations include a comparatively soft and musical chirping call , a song , and a flight call .

Three subspecies are recognised , differing in the overall tone of their plumage and in the head striping of the female . The subspecies *ammodendri* occurs in the west of the saxaul sparrow 's range , while *stoliczkae* and *nigricans* occur in the east . This distribution falls into six probably disjunct areas across Central Asia , from central Turkmenistan to northern Gansu in China . A bird of deserts , the saxaul sparrow favours areas with shrubs such as the saxaul , near rivers and oases . Though it has lost parts of its range to habitat destruction caused by agriculture , it is not seriously threatened by human activities .

Little is known of the saxaul sparrow 's behaviour . Often hidden in foliage , it forages in trees and on the ground . It feeds mostly on seeds , as well as insects while breeding and as a nestling . When not breeding it forms wandering flocks , but it is less social than other sparrows while breeding , often nesting in isolated pairs . Nests are round bundles of dry plant material lined with soft materials such as feathers . They are built in holes in tree cavities , earth banks , rocky slopes , and within man @-@ made structures or the nests of birds of prey . Two clutches of five or six eggs are typically laid in a season . Both parents construct the nest and care for their eggs and young .

= = Description = =

The saxaul sparrow is one of the larger sparrows at 14 ? 16 centimetres ( 5 @. @ 5 ? 6 @. @ 3 in ) and 25 ? 32 grams ( 0 @. @ 88 ? 1 @. @ 13 oz ) . Wing length varies from 7 @. @ 1 to 8 @. @ 1 centimetres ( 2 @. @ 8 to 3 @. @ 2 in ) , with males generally being larger . The tail is short at 6 @. @ 3 ? 6 @. @ 95 centimetres ( 2 @. @ 48 ? 2 @. @ 74 in ) . The saxaul sparrow 's legs are pale or pinkish brown , with a tarsus length of 1 @. @ 95 inches ( 50 mm ) . Its bill is 1 @. @ 0 ? 1 @. @ 3 centimetres ( 0 @. @ 39 ? 0 @. @ 51 in ) long , pale grey on the juvenile , pale yellowish with a black tip on the breeding female , and black on the breeding male . Like all other sparrows , it flies swiftly and often at height .

Distinctive markings , especially on its head , make the saxaul sparrow unlikely to be confused with any other bird . It is dull @-@ coloured , with plumage ranging between dull grey and warm sandy brown , varying between and within subspecies . Birds of the subspecies *ammodendri* are a sandy grey , while *nigricans* birds are similar but darker , and *stoliczkae* birds are warm brown or russet . Birds of the subspecies *stoliczkae* and those from the southwest of the range of *ammodendri* also differ from usual *ammodendri* birds in their lack of streaking on the rump and upper tail coverts . Birds in Mongolia have a larger and deeper bill and broad bluish streaks on their chest .

The male saxaul sparrow has bold markings , with a black stripe along the top of its head and another through its eye . It has black feathering , or a " bib " , on its throat and upper belly . By comparison to other sparrows this is thin on the throat , but wide on the breast . The male has a bright russet patch on the sides of its crown and nape . Its cheeks are pale grey or buff , and its underparts are whitish , tinged buff or grey on its sides . Its back is grey or warm brown , streaked variably with black . Its shoulders are more lightly streaked with black bars . The male 's thin tail is brown , with the edges and tips of feathers paler . Its median coverts are black with a white tip , while its other wing feathers are variably dark brown , cinnamon , or black , tipped buff or whitish and edged grey . The non @-@ breeding male differs in having slightly paler plumage .

The female is similar in some ways to the male , but paler and duller . It is sandy grey or brown , with a back patterned like that of the male , and white or whitish underparts . The head of the females of the subspecies *ammodendri* and *nigricans* is dingy grey with darker smudges on the

forehead , behind its eyes , and on its throat . The female of the subspecies *stoliczkae* is buff @-@ brown with a white throat , a conspicuous pale supercilium , darker forehead , and lighter cheeks . The juvenile is similar to the female , differing in its lack of dark tinges on its throat and crown . In adults , moulting begins in July and ends in late August or early September . The post @-@ juvenile moult is complete , and occurs variously from June to August .

The saxaul sparrow 's vocalisations are little reported . Its common call is a chirp , transcribed as cheerp cheerp , softer and more melodious than that of the house sparrow . It gives a flight call transcribed as twerp , and a song described by Russian naturalist V. N. Shnitnikov as " not loud , but pleasantly melodious with fairly diversified intonations " .

#### = = Taxonomy = =

The saxaul sparrow was first described by English zoologist John Gould in a March 1872 instalment of *The Birds of Asia* , from a specimen collected near Kyzylorda , now in southern Kazakhstan , by Russian naturalist Nikolai Severtzov . Severtzov had been planning to describe the species as *Passer ammodendri* for several years and had been distributing specimens among other naturalists . When natural history dealer Charles Dode escaped from the Paris Commune in 1871 with some of his collection , Gould obtained specimens from a set of rare birds Dode exhibited to the Zoological Society of London . Severtzov did not describe the species until 1873 , and some later writers preferred to attribute him , but Gould 's description takes priority over Severtzov 's . The saxaul sparrow 's species name refers to its desert habitat , coming from the name of the *Ammodendron* or sand acacia tree , which is in turn derived from the Ancient Greek ????? ( *ammos* , " sand " ) and ??????? ( *dendron* , " tree " ) . The English name saxaul sparrow refers to the saxaul plant , with which it is closely associated . The saxaul sparrow usually is classified in the genus *Passer* with the house sparrow and around twenty other species , although a genus *Ammopasser* was created for the saxaul sparrow by Nikolai Zarudny in 1890 .

The saxaul sparrow 's relations within the genus *Passer* are unclear , although with its black throat feathering it has usually been considered part of the " Palaearctic black @-@ banded sparrow " group related to the house sparrow . J. Denis Summers @-@ Smith considered that the Palaearctic *Passer* sparrows evolved about 25 @,@ 000 to 15 @,@ 000 years ago , during the last glacial period . During this time , sparrows would have been isolated in ice @-@ free refugia , such as a certain steppe region in Central Asia , where Summers @-@ Smith suggested the saxaul sparrow evolved . Genetic and fossil evidence suggest a much earlier origin for the *Passer* species , perhaps in the Miocene and Pliocene , as suggested by Luis Allende and colleagues in their 2001 phylogenetic analysis of mitochondrial DNA . This analysis also suggested that the saxaul sparrow may be an early offshoot or basal species in its genus , a relative of certain African sparrows such as the northern grey @-@ headed sparrow . If the saxaul sparrow is related to these species , either the saxaul sparrow formerly occurred in the deserts of Africa and Arabia , or each of the groups of *Passer* sparrows are of African origin .

Across its Central Asian distribution , the saxaul sparrow occurs in six probably disjunct areas , and is divided into at least three subspecies . The nominate subspecies *Passer ammodendri ammodendri* inhabits three of these areas , one in the Syr Darya basin of Kazakhstan and Uzbekistan , and another to the south of Lake Balkhash and the north of Almaty , where it is only common in the valley of the Ili River . In a third area , sometimes recognised as a subspecies *korejewi* , *ammodendri* birds breed sporadically in parts of central Turkmenistan , Iran , and possibly Afghanistan , migrating to the south during the winter . The subspecies *stoliczkae* was named after Ferdinand Stoliczka in 1874 by Allan Octavian Hume , from specimens Stoliczka collected in Yarkand . This subspecies is separated from the other two subspecies by the Tian Shan mountains . It is found across a broad swath of China from Kashgar east to the far west of Inner Mongolia , through the areas around the Taklamakan Desert ( but probably not in the inhospitable desert itself ) , and through the east of Xinjiang , northern Gansu , and the fringes of southern Mongolia . In the extreme west of the Gobi Desert a disjunct population separated from the other *stoliczkae* birds by the Gurvan Saikhan Uul mountains occurs , which is sometimes separated as a subspecies *timidus* .

The subspecies *nigricans* , described by ornithologist L. S. Stepanyan in 1961 , is found in northern Xinjiang 's Manasi River valley .

= = Habitat = =

The saxaul sparrow is found in remote parts of Central Asia , where its distribution is believed to fall into six disjunct areas , although this is uncertain due to the scarcity of records . It is found in deserts , especially around rivers and oases . It is usually found around shrubs such as saxaul ( *Haloxylon* ) , poplar ( *Populus* ) , or tamarisk ( *Tamarix* ) . Sometimes it occurs around settlements and grain fields , especially during the winter . It is not believed to be threatened , since it is reported as locally common across a wide range , and hence it is assessed as Least Concern on the IUCN Red List . However , it seems to have lost large parts of its range to the intensification of agriculture and desertification caused by overgrazing .

= = Behaviour = =

Little is known of the saxaul sparrow 's behaviour , because of its remote range . It is shy in many areas , and spends much time hidden in foliage , but breeding birds in Mongolia were reported to be " quite confiding " . When not breeding , it is social , and can form flocks of up to fifty birds , sometimes associating with Eurasian tree , Spanish , and house sparrows . In some regions , it makes small local migrations . Towards the spring , saxaul sparrows form pairs within their flock , before dispersing in April . Seeds , especially those of the saxaul , are most of its diet , though it also eats insects , especially while breeding , most commonly weevils , grasshoppers , and caterpillars . It forages in trees and on the ground . In a study of insects fed to nestlings in the Ili River valley , it was found that beetles are predominant , with weevils and Coccinellidae comprising 60 and 30 percent of the diet of nestlings , respectively . Because of its desert habitat and scarcity , it is not a pest of agriculture . Where water is not available , the saxaul sparrow may fly several times each day over long distances to drink .

The saxaul sparrow is less social than other sparrows while breeding , due to its dry habitat and its choices of nesting locations , holes in trees and earth banks . Isolated pairs are usual , though it sometimes breeds in small groups , with members of its own species as well as house and Eurasian tree sparrows . The breeding season is short , lasting from May to July , with most young raised in April and June . Unusually for a sparrow , it has not been recorded nesting openly in branches , though this may simply represent the lack of published records . Nests are often built in tree cavities , where they are sometimes placed close together . Other common nesting localities are earth banks and rocky slopes , and nests have been recorded on the nests of birds of prey , unused buildings , walls , and electricity pylons . Nests in man @-@ made structures are increasingly common , as large trees in the saxaul sparrow 's habitat are removed . Nests may be quite close to the ground , especially when they are built in trees .

The saxaul sparrow 's nests are untidy dome @-@ shaped constructions , with an entrance in the side or top . They are built of grasses , roots , and other plant materials , and are lined with feathers , fur , and soft plant material . The nest is mainly built by the female , though the male may actively take part in building . Typical clutches have five or six eggs , and two clutches a year are normal . Eggs are broad and ovular , slightly pointed at an end . They are glossy , coloured white and shaded with rusty grey or yellowish brown . In some clutches , one egg is noticeably paler than the others . Four eggs collected by Zarudny from Transcaspia had an average size of 1 @. @ 9 cm × 1 @. @ 4 cm ( 0 @. @ 75 in × 0 @. @ 55 in ) . Females play the main part in incubating eggs , and males can often be seen guarding the nests during incubation . Males and females share in feeding their young , which they do every 4 to 12 minutes . Young that have left their nest remain nearby until well after their moult , before departing for winter flocks , followed later by the adults .