

= Chestnut sparrow =

The chestnut sparrow (*Passer eminibey*) is a species of passerine bird in the sparrow family Passeridae . It is the smallest member of the sparrow family , at about 11 cm (4 @. @ 3 in) long . The breeding male has deep chestnut plumage and the female and juvenile are duller in appearance . Like its closest relatives in the genus *Passer* , the Arabian golden sparrow and the Sudan golden sparrow , it is gregarious , and is found in arid areas . Ranging through the east of Africa from Darfur to Tanzania , it is found in dry savanna , papyrus swamps , and near human habitation . Adults and juveniles both feed mostly on grass seeds , and fly in flocks , often with other species of bird , to find food . It nests in trees , building its own domed nests , and also usurping the more elaborate nests of weavers .

= = Description = =

Like the other members of the sparrow family , the chestnut sparrow is a small , chunky songbird with a thick bill suited to its diet of seeds . At 10 @. @ 5 to 11 @. @ 5 cm (4 @. @ 1 ? 4 @. @ 5 in) in length , it is the smallest member of the sparrow family . It weighs between 12 grams (0 @. @ 42 oz) and 17 grams (0 @. @ 60 oz) . Wing length ranges from 6 @. @ 0 to 6 @. @ 5 cm (2 @. @ 4 ? 2 @. @ 6 in) in males and from 5 @. @ 7 to 6 @. @ 0 cm (2 @. @ 2 ? 2 @. @ 4 in) in females . The tail , bill , and tarsus lengths are about 4 cm (1 @. @ 6 in) , 1 cm (0 @. @ 39 in) , and 1 @. @ 5 cm (0 @. @ 59 in) respectively .

The plumage of the breeding male is mostly a deep shade of chestnut in colour with black colouration on the face , wings , and tail . The chestnut colour is used descriptively in the common name . The breeding male is not easily confused with any other birds except the chestnut weaver , which is substantially larger and has white on its wings . The breeding male 's legs and feet are horn (pale grey) in colour . The non @-@ breeding male chestnut sparrow has white flecking on the upperparts , and much of its plumage is buff or whitish with chestnut crescent markings , until the bright chestnut of the breeding plumage is exposed by wear . The non @-@ breeding male 's bill fades to a dusky @-@ tipped horn , similar to that of females , but without dusky tones on the cutting edge of the mandible (lower portion of beak) .

Females have the same plumage pattern as males , though with somewhat duller colouration . The female has a grey head ; buff supercilium , chin , and throat ; black and warm brown upperparts ; and off @-@ white underparts . The bill of the female is pale yellow with the tip and cutting edge of mandible dusky . Juveniles are dull grey with a brown back , a pale yellow supercilium , and a pale horn bill . Females and juveniles have hints of chestnut on their supercilium , shoulders , and throat , by which they may be distinguished from other sparrows , such as the Kenya sparrow and the other rufous sparrows , which are common in much of the chestnut sparrow 's range ; or the house sparrow , which also occurs in parts of its range .

The basic call of the chestnut sparrow is a subdued chirp , with two recorded variations : a scolding threat call , rendered chrrrrit or chrrrreeerrrrrrrr and a chew chew flight call . Displaying males give a high twittering trill , rendered as tchiweeza tchiweeza tchi @-@ tchi @-@ tchi @-@ tchi- see @-@ see @-@ see @-@ seeichi .

= = Taxonomy = =

This species was first described in 1880 , by Gustav Hartlaub in the *Journal für Ornithologie* , as *Sorella Emini Bey* . Hartlaub gave it the specific name *Emini Bey* in honour of the explorer Emin Pasha , who collected the type specimen in modern South Sudan or Uganda near Lado , and it is occasionally given the eponymous common name *Emin Bey 's sparrow* . Hartlaub 's unusual spelling of its specific epithet as two words led some to spell the name *emini* or *emini @-@ bey* . No subspecies are recognised , but one was described by British ornithologist George L. G. Van Someren in 1922 from Archers Post in central Kenya , as *Sorella eminibey guasso* .

Hartlaub considered the chestnut sparrow 's colouration and morphology to be distinct enough to

allocate it to its own monotypic genus , *Sorella* . Although several authors have followed Hartlaub 's treatment , it is usually placed in the genus *Passer* . It is very similar to the two golden sparrows , from which it may have once been only clinally different . The male Arabian golden sparrow is almost entirely gold @-@ coloured , the male chestnut sparrow is mostly chestnut , and the male Sudan golden sparrow is intermediate . British ornithologist Richard Meinertzhagen considered these three species to be conspecific ; however , the range of the Sudan golden sparrow overlaps with that of the chestnut sparrow without any known interbreeding in a small area of Sudan . These species are similar in their behaviour , which is adapted to the unpredictable conditions of their arid habitat . In particular , they and the Dead Sea sparrow share a courtship display in which males quiver their wings above their body . This intense display is probably an adaptation to nesting in a clump of trees surrounded by similar habitat , where such an intense display may serve important purposes in keeping a colony together .

The chestnut and golden sparrows have been seen as highly primitive among the genus *Passer* , only distantly related to the house sparrow and the related " Palaeartic black @-@ binned sparrows " . In recognition of this they are sometimes placed in a separate genus or subgenus *Auripasser* . The courtship display of the Dead Sea sparrow was thought to have evolved separately in a similar environment from that of these species , in an example of convergent evolution . However , studies of sparrow mitochondrial DNA indicate that the chestnut and golden sparrows are either derived from or are the closest relatives of the Palaeartic black @-@ binned sparrows .

= = Distribution and habitat = =

The chestnut sparrow is found in East Africa in mostly lower country from Darfur through Kordofan , South Sudan , Somalia , Uganda , and Kenya to north @-@ central Tanzania . Its range also extends northeast into the southwest and Great Rift Valley of Ethiopia . Like the golden sparrows , it is sometimes nomadic when not breeding . Vagrants have been recorded as far from their breeding range as Dar es Salaam . It is found mostly in dry savanna and in fields and villages , but unlike its relations the golden sparrows , it is sometimes found in swamps of papyrus (certain *Cyperus* spp .) . Its population has not been quantified , but it appears to be common across a very large range and it is assessed by the IUCN Red List as Least Concern for global extinction .

= = Behaviour = =

Chestnut sparrows are gregarious , and are only occasionally found away from flocks . They frequently associate with queleas and other weavers . Adults feed on grass seeds , and those near human habitations will also eat crumbs and other household scraps . Nestlings are fed mostly softer grass seeds , and small beetles are also recorded in their diet .

= = = Breeding = = =

The nesting behaviour of the chestnut sparrow chestnut sparrow has been the subject of confusion . Early reports described the chestnut sparrow 's nest as being a typical sparrow nest built in a tree ; later it was reported that chestnut sparrows had elaborate nests like those of weavers . In 1967 , the ornithologist Robert B. Payne studied chestnut sparrows in a grey @-@ capped social weaver colony in an acacia grove near Lake Magadi in southern Kenya , and in 1969 he reported his findings in the ornithological journal *The Ibis* . Payne found that chestnut sparrows only nested by usurping the nests of the social @-@ weavers . After reporting this , and noting that the distribution of the chestnut sparrow closely coincides with that of the social @-@ weavers of the genus *Pseudonigrita* , Payne suggested that the chestnut sparrow was an obligate nest parasite (not a brood parasite , like many Old World cuckoos and cowbirds) . Payne also noted in his paper that " Nest parasitism is generally thought to have been a stage in the evolutionary development of brood parasitism " , an idea that remains accepted , and suggested the chestnut sparrow could be evolving towards obligate brood parasitism . However , it is known that besides parasitising the nests of

weavers or using their abandoned nests , the chestnut sparrow also builds its own nests . Nests built by the chestnut sparrow , like most sparrow nests , are untidy domed structures which are made of grass and lined with feathers . Its breeding season varies between different regions , following rains , and the breeding seasons of its hosts in areas where it parasitises nests ; as a result it has been recorded breeding in every month of the year across its range .

At Payne 's study locality the breeding season of the chestnut sparrow lagged behind that of its host . The sparrows began courting when the weavers started constructing their elaborate nests . Once the breeding season began , " the first impression was of the sparrows nesting and the grey @-@ capped social weavers unobtrusively skulking nearby " . Males displayed around the new weaver nests , crouching , raising and quivering their wings in a shallow V , and giving a high , twittering trill . The males were chased by the social @-@ weavers , but returned persistently , until joined by females . When a female came near a displaying male , the male would increase his rate of wing quivering , spread and depress his tail , and bow down his head , until his body formed an arc . This exaggerated display may be an adaptation related to pair formation in the absence of male nest @-@ building , and it may also serve to focus attention in breeding colonies and keep the birds in a colony together , as colonies are in clumps of trees surrounded by similar habitat .

During Payne 's study , copulation was seen only in the acacias , around the social @-@ weaver nests . Females would fly to displaying males and solicit copulation in typical sparrow fashion , crouching , quivering , and drooping their wings . When males saw displaying females , they would fly to them and mount them immediately . Males continued their wing quivering during copulation , and females would crouch , quiver , raise their head , and hold their tails horizontally . After a copulation the female would fly off and the male would continue displaying . During this courtship and afterwards , males and mated pairs would interfere with the social @-@ weavers ' nest building , until they drove the social @-@ weavers out . During Payne 's study period , " Chases and fights between the two species were seen nearly every minute of observation " , and the male sparrows spent about a fifth of their day annoying the social @-@ weavers . Little is recorded of incubation and fledging periods in the wild . In captivity the incubation period lasts for 18 to 19 days . Clutches typically contain three or four eggs , which are ovular , mostly coloured white or bluish @-@ white . Some observations indicate that nestlings are fed by the female alone .