

## Keeping and Breeding Firefinches in Portugal

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This article covers firefinch keeping and breeding based on personal observations and record-keeping by the author. Unless otherwise specified, all photographs used are copyrighted by the author, full credit being given to the original authors of loaned photos.

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### Introduction to Firefinches

**Firefinches** belong to the order of Passeriformes, family Estrildidae, genus *Lagonosticta* (from the Greek “*lagonos*” meaning flank and “*sticta*” meaning spotted) and are restricted to the African continent. There are 12 recognized species of Firefinches, but **only three will be covered in this article, namely: the Senegal or Red-Billed Firefinch (*Lagonosticta senegala*), the African or Blue-Billed Firefinch (*Lagonosticta rubricata*) and the Black-Bellied Firefinch (*Lagonosticta rara*).**

Firefinch species are all very similar in coloration and pattern. Most species present derivations of luscious bright-red, deep burgundy, brownish and mauve or black coloration and are often faintly speckled on flanks, breast and wings (ex. *L. senegala*, *L. rufopicta* and *L. nitidula*). Sexual dimorphism is obvious in some species (namely *L. senegala*, *L. larvata*, *L. rara*) and not so conspicuous in others (ex. *L. virata*, *L. rufopicta*, *L. nitidula*).

Firefinches are also small bodied birds, with an average of 10-12 cm (3.94-4.72 in) in total length (tail feathers included).

Firefinches are seed-eaters and frequent open grassland savanna-like habitats and often adventure in cultivation lands. All species are essentially gregarious in nature. In addition to their seed diet, Firefinches are also eager to take small insects during breeding time.

Firefinch nest architecture is very similar to the majority of African estrildid finches. The dome-shaped incubation chamber, accessed by a lateral (or frontal, Personal Observation) entrance, often presents (but not always) a decoy nest-like structure on its top (go to Nesting for more information and photos).

Firefinches lay between 3 to 6 pure white eggs per clutch which take about 14 days to hatch. Additional 14 days is the time that takes for the

nestlings to be weaned. Firefinch chicks are dark skinned, covered in scarce dark down and have conspicuous throats, palates and beak light reflecting nodes to aid their parents finding them inside the dark nest (these should be very easy to identify by Gouldian Finch breeders). Some parasitic species have taken advantage of such marking. With Firefinches, widowbirds or whydahs from the genus *Vidua* are common nest parasites.

Firefinches are not talented singers, in fact, most specimens do not sing at all nor have the ability to. Most species communicate through a series of quiet low *beeps*, *tweets*, *queet*, *swits*, *tsiu* and *pips*. Any person searching for a song finch should stay away from Firefinches. Personally I think Firefinches are great birds, with beautiful plumage and great personalities.

## General introduction to firefinch keeping and housing

Portugal forms with Spain the Iberian Peninsula in SW Europe. The climate is Mediterranean with not so cold winters and hot summers. During summer months, natural sunlight is available for 14-16 hours and the temperatures can rise to 40°C. During winter, the photoperiod is considerably smaller with 8-10 hours of sunlight. The temperatures can fall to 5-6°C and precipitation varies from scarce to moderate.

### The aviary

I kept my Firefinches in a 7m X 4m X 2,5m (long X wide X high) free flying outside aviary with a 3m X 4m (long X wide) covered area for nesting and sleeping. On the covered area the ground was made of cement with a ground embedded dead tree trunk and 2 potted ferns. There were 2 cement walls and two stainless steel mesh walls covered with lots of fresh olive-tree and acacia branches renewed every 4 weeks or when dry. This was the area where all the nest-boxes and wicker-type nests were placed. All the food and water trays were also placed inside it, including the live food dish. Directly connected to the secluded area was the “aviary” side. The ground was made of cement with a tick layer of earth and rocks and planted with *Ficus sp.* trees and bamboo. It also had a miniature pond with fresh water for the birds to drink and bathe. The foliage also provided seclusion, nesting sites and a live food stock of aphids and

small winged insects. The sides were all in stainless steel mesh supported by strong treated wood logs. The birds were kept year-long in this structure.

I must emphasize the importance of a thickly planted aviary when keeping Firefinches. These birds are rather secretive in nature (particularly *L. rara*) and easily frightened. If you don't keep your birds with proper seclusion and quietness it will be considerably harder for them to breed. Finches are not destructive birds so it is safe to keep them in plated aviaries. Nonetheless, one must choose non-toxic plant species, just in case.

I've found that Firefinches are very attracted to planted enclosures and spend much time hidden among vegetation. *L. rara* were particularly fond of bamboo thickets. All my Firefinches nested on the planted areas of the aviary.

Firefinches are not for the novice keeper. They require special care and knowledge before you even try to breed them. Many do poorly or perish very rapidly in captivity.

## Quarantine

All my Firefinches were imports bought from retail pet shops and ALL were very stressed some even with clear signs of feather picking. **My advice, especially for the novice keeper, is to buy captive bred birds whenever possible.** *L. senegala* is readily available, the other being much rare. In fact, my first *L. rara* male was bought mixed within a batch of *L. rubricata*.

Quarantine is particularly important when dealing with imports. I kept all my new birds in a show cage with newspaper covering and some millet spray and exotic finch mix placed on the ground and a fresh water container. You must be somewhat familiarized with avian sickness signs such as general condition and dropping coloration and consistency. If your bird appears sleepy, keeping its eyes closed, sneezing, missing a large amount of feathers, presenting puffed up and incapable of perching do not buy it! If you buy it, please take it urgently to a vet for treatment. It won't kill if you add some vitamins to the drinking water (a common electrolyte balancer such as Ulcermin® is a reasonable choice, Personal Communication with my Vet).

I kept my birds in quarantine for about 2 weeks inside my home where the temperature never fell below 22°C. If the bird presented itself healthy then I

would introduce it to the aviary. I would closely observe it for the following weeks just to make sure it was doing ok.

My Firefinches were always healthy specimens, even those which were apparently unhealthy when bought did ok and NOT A SINGLE specimen died. On other hand, I had a pair of captive bred Violet Eared Waxbills (*Granatina [Uraeginthus] granatina*) which were perfect and died unexpectedly 2 months after purchase. Strangely enough, I have found that imports (namely Firefinches, Purple Grenadiers, twinspots, *Pytilia sp.*, cordons and *Estrilda sp.* waxbills) always did better for me than some captive bred birds (violet ears and crimson finches)...go figure! However, this should NOT be the rule. Remember, in bird keeping, prevention is the best way to go.

## Feeding

All my estrildid finches were kept on a specific diet. Most of their food was exotic finch mix available in almost any pet store. As supplementary diet I usually offered them (and according to availability) millet spray (which Firefinches loved) suspended from the aviary ceiling or directly on the ground; egg food; insect mix food and fresh herbs on the stalk (namely wild millets). I was really amused watching the daintily little Firefinches and *Estrilda* waxbills playing and balancing from the thin stalks of millet.

Live food in form of aphids and flying insects was available year round. I trusted these because the aviary was placed on a non-treated field area.

On breeding season I offered all the usual supplements and live food in forms of mealworms and buffalo worms. For Firefinches I advise using smaller mealworms or buffalos, even fly maggots purchased from your local bait shop. Once I had the fortune of finding an ant colony with TONS of pupae and larvae which I collected, washed and then present to my birds. The Firefinches, cordons and grenadiers were DAZZLED and started a feeding frenzy, truly a delightful sight.

If you keep your fires in a mixed aviary like mine (they were housed with 10 different estrildid finches species) you must offer the live food several times, because some birds are more aggressive and eager to first take the worms (cordons and grenadiers), leaving the shyer Firefinches starving. First I would

offer the larger mealies for the hungry blue waxbills and then introduced the smaller buffalos for the Firefinches and the waxbills.

Additionally, I offered all my birds grit.

### **Behavior, compatibility and curious habits**

Firefinches are shy than, let say, *Uraeginthus*, *Granatina* and *Estrilda* species. They are also much faster when flying. They were always darting from side to side.

Firefinches are neither sociable nor aggressive. Usually they wander around with their mates or in mixed firefinch species groups. For instance, *L. rara* were usually in male-female pairs and *L. senegala* and *rubricata* were usually together or in same species groups.

I have not witness any territorial displays among my firefinch males.

They were not aggressive toward their own kind or other species. They were also not bullied by larger species.

They were easily scared and suspicious of me whenever I entered the aviary. *L. rara* were almost invisible to me. Some of my *L. senegala* and *rubricata*, especially younger birds, would venture near me and would pick a buffalo right from my hands.

Strangely, and though I do not encourage hybridization, an overly eager *senegala* male copulated with a *rubricata* female. Fortunately the eggs were not viable and the female abandoned her nest.

### **Other notes**

Firefinches are not suitable for novice or inexperienced keepers. A novice keeper must familiarize itself with bird keeping and breeding using hardy, straightforward species such as Zebras (*Taeniopygia castanotis*) or Societies (*Lonchura* cf. *domestica*). If a waxbill is absolutely mandatory then I would suggest a Red Avadavat or Strawberry (*Amandava amandava*) or a Red Cheeked Cordon-Bleu (*Uraeginthus bengalus*). Although many *Estrilda* sp. waxbills may be readily available these are often difficult species to breed though easy to care for, particularly St Helena's (*Estrilda astrild*), and could be a good candidate for entering the tricky yet challenging waxbill world.

## Senegal or Red Billed Firefinch

(*Lagonosticta senegala* Linnaeus 1766)



One of the smallest Firefinches, this 10 cm bird is truly delightful to keep. Some authors attribute this species to its own sub generic category of *Rhodopyga*. Males have overall deep blood red coloration with buff to brown wing coverts. The tail is blackish brown with a red uropygium. The male's bill is carmine colored. Yellow periophtalmic rings and ivory colored legs and feet are present in both sexes. The female is overall buff brown with a red bill and conspicuous red supraocular (brow) stripe. Both sexes were faintly speckled in white on flanks and breast. Together with *Lagonosticta rara* and *larvata*, this species presents notorious sexual dimorphism.

According to subspecies, the red intensity may vary as well as particular markings such as flank spotting (absent in some subspecies). The subspecies may be really difficult to sort out in import birds, but it should be great if you could find out where your birds did come from. My birds were (supposedly) *Lagonosticta senegala ruberrima*, the brightest ssp. In this ssp., males were deep red, the brown markings were circumscribed to the primary coverts and the vent area was creamy brown instead of the deep brown of other ssp. *L. senegala* is heavily parasitized in the wild by *Vidua chalybeata*.

Senegal's are the hardiest of all Firefinches. They are very adaptable and after a good acclimatization they should be able to spend the winter outside. They are also eager to breed, unlike many other species.

## African or Blue Billed Firefinch

(*Lagonosticta rubricata* Lichtenstein, 1823)



African Firefinches are beautiful birds which present faint sexual dimorphism. There are many ssp. but I'm only going to present the subspecies I kept, *L. rubricata polionota*. The males presented deep dark crimson faces, breasts, vents and tails. The wings, dorsum and nape were dark grey. The flanks were strongly suffused in white speckles. The females were very similar to males, but the difference between the red and grey areas was really faint. Where males present a deep crimson color, the females were more brownish. Where the males were deep grey, the females were also browner, giving the impression of a brownish red bird. In the wild, this species is parasitized by *Vidua funerea* and *Vidua camerunensis*.

Africans are also hardy birds but much more suspicious than Senegals. My original group of 4.4 was very eager to breed, producing 10 fledglings in their first year.

Together with *L. senegala*, I consider *L. rubricata* to be a good firefinch species for the novice keeper of African exotic finches.

## Black Bellied Firefinch

(*Lagonosticta rara* Antinori, 1864)



From a personal point of view, Black Bellied Fires are one of the most beautiful of all Firefinches and also one of the most challenging. They are a treat when it comes to distinguishing males from females but female *L. rara* are very similar to other species' females. There are two subspecies. The one I kept was *Lagonosticta rara rara* from Cameroon which description follows from an article by Ian Hinze (1999):

"...overall length is 10 cm (4 in) and the sexes differ. *L. r. rara*, from northern Cameroon and the Central African Republic to northern Democratic Republic of Congo (Zaire), southern Sudan, northern Uganda and western Kenya (Malaba, Bungoma, Busia, Mumias, Kakamega and Siaya districts), has the entire upperparts, including the face, chin and throat deep mauvish wine-red. The breast and flanks, which have no white spots, are very dark mauve-pink. The lores and immediately around the eyes is slightly darker and a less mauvish shade of red, with the rump and upper tail coverts normally a touch brighter than the back. The wings, which have the outermost primary slightly emarginated, are dark dull brown, except for faint wine-red fringes to the lesser and median coverts. The underwing coverts and much of the undersides of the

primaries are silvery buff. The tail is black with some wine-red on the fringes of the central feathers. The centre of the extreme lower breast, the belly and the under tail coverts are black. The irides are dark brown to blackish. The eye rims are greyish. The bill has the upper mandible black and the lower mandible mainly pink, red or whitish from the base, with the remainder black. The legs and feet are slate grey to blackish. The female, apart from a dark wine-red loreal stripe from the bill to the eye and a paler, brownish grey to a buffish throat, has the head, nape and hind neck of a dark and slightly brownish grey. The mantle and back are dull earth brown, usually heavily washed with dull wine-red, and shading to a wine-red rump and upper tail coverts. The wings are not quite as dark as the male's, otherwise they are similar. The tail is as the male's but of a less intense, browner, black. The breast and flanks are a dull, but light, pinkish carmine, occasionally washed with buff. The centre of the lower breast and belly are buff, becoming dull black on the ventral area and under tail coverts. The juveniles are dull brown, paler on the bellies and buffish on the under tail coverts. The upper tail coverts are dull carmine. Male juveniles may have the brown parts suffused with dull red."

Black bellied fires are very difficult captives, especially when one faces with import birds. My original male was bought mixed in a batch of African Fires and my original female was given to me by a fellow finch breeder.

They were very shy and nervous birds and inconsistent breeders. They were very hardy after a whole summer acclimatization period. They were one of my high prized species, and certainly of the most rewarding to keep.

## **General introduction to firefinch breeding**

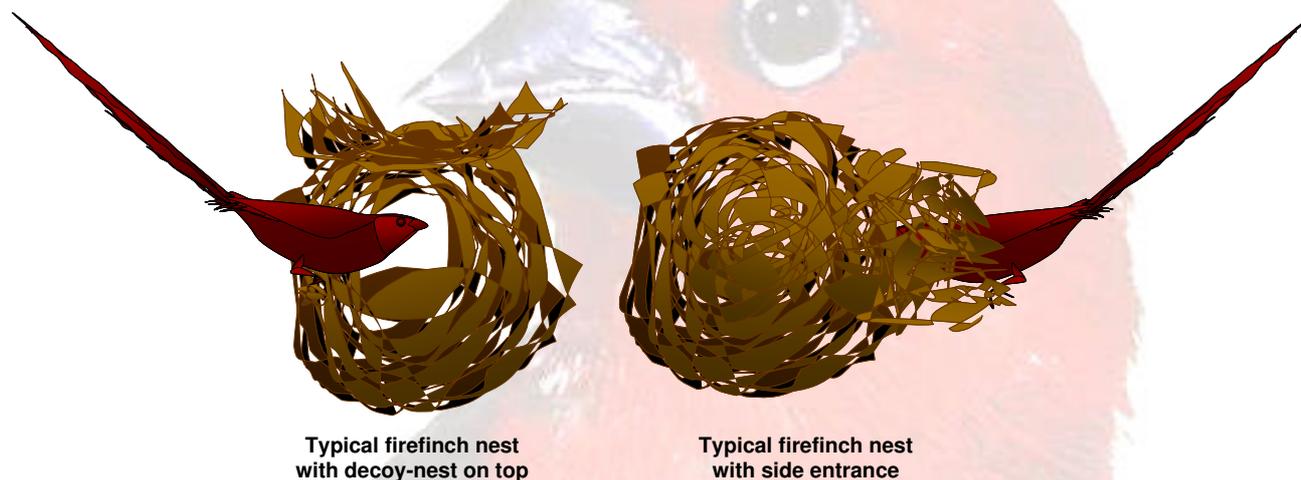
### **Courtship rituals and nesting**

From all the species I've kept, only the *L. rara* were bold enough to court when I was around. The male was on the aviary floor and would hop around with a tail sweeping movement. It carried a white feather on its beak. Shortly after, both partners would enter the nest where, I believe, they copulated.

I provided my birds with several kinds of nesting material. Coconut fiber, dead leaves, white chicken feathers, wild millet stalks and shredded paper.

All my fire species used wicker nests or built their own nests. When in wickers they would build a simple spherical nest, whose entrance was disguised by a “door” feather which kept the incubating parent occult.

When natural nests were built, they were one of two types (see schematic below).



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Most nests were built within a 1-2 day period and were mainly composed of coconut fiber and feathers. Each pair used the same nest for every egg clutch.

### Oviposition and incubation

Most clutches consisted of 4-6 pure white eggs. *L. senegala* usually laid 6 eggs, from which only four would usually hatch. Each egg was laid with a one day interval from another. Firefinches are not nest roosters, but both parents incubated the eggs. The incubation period took an average of 14 days.

My birds would easily abandon their incubation task whenever I approached the nest too close, but would usually return after 5-10 minutes. I advise keepers to not disturb incubating Firefinches because they CAN and WILL abandon their eggs!



## Nestling development and identification

Firefinch nestlings are all dark skinned with few dark down and conspicuous throat and palate markings. They also present fleshy projections around their beaks to aid parents finding them inside the dark nest.

All my 3 species presented similar throat/palate markings as well as tubercle positioning.



The throat/palate pattern consisted of three black palatal spots immediately followed by two smaller spots. The tubercles were grouped in pairs, forming a red pair and a bright blue pair. *L. senegala* presented the same 5-dot pattern but blue and white tubercles, similar to *Uraeginthus bengalus* chicks.

I was never able to accurately photograph my chicks because I was afraid of parents abandoning them, only *L. rubricata* were friendly enough letting me do it. It's best to have happy birds than beautiful photographs and no babies.

Additionally, on one occasion I did witness *L. rara* pushing their chicks out of their nest, probably because the parents were really stressed! It didn't matter if I put them back in again, they would simple throw them out again. In this case I had to rely on Zebra foster parents.

## Close banding and weaning

I must emphasize the importance of close banding. African exotic finches are still rare as captive bred birds, so breeders must keep good records and, most of all, band all their CB birds. This, not also identifies your bird as of being CB, but will also encourage new keepers to buy them and not contribute to the devastation of natural populations.

All my fires were close banded around their 8th day, using 2,3 mm rings. I also must stress out that you should only band your bird if the parents are comfortable enough in your presence, to prevent them from abandoning the chicks.



Most firefinch chicks were weaned on their 14th day. The parents would still care for them for about 3-4 weeks. All would leave their nest as really dark feathered birds and were VERY noisy, always asking their parents for food. Live food is still very important at this stage. Many of the chicks were not even able to fly after leaving their nests so it is important to keep the aviary or cage floor clean and dry.

After the chicks were weaned and their adult plumage started to grow, I would transfer them to show cages to increase their strength and endurance, as you can see from the above photos.

## Fostering

I only fostered two of my firefinch species. *L. senegala* were fostered under the care of Societies which were accomplished fosters. *L. rara* were fostered on one occasion under the supervision of a very active Zebra pair. This particular Zebra pair was also successful at fostering *Uraeginthus bengalus* and *Estrilda melpoda*.

## Mutations

Firefinch mutations are not unheard of. Personally, I did not keep any mutations nor I saw them for sale. The only mutations I'm familiar with are albino and fawn/pastel forms of *L. senegala* (pictured below).

## Firefinches as captives – Final considerations

Firefinches are one of the most beautiful of all exotic African finches. Their biology is truly amazing, including the parasitic relationships with widowbird and whydah species.

Many species are well established in international aviculture, especially in northern Europe, mainly Senegal Firefinches, others are still rare to find or absent from collections.

Firefinches are demanding birds but make excellent captives when properly cared for and should be considered by every exotic finch keeper. They are still one of my all time favorites.

**Good bird keeping!**

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