

George Washington's Golden Pheasants were sent to him from the Royal Aviary in Paris, by his old comrade-in-arms, the Marquis de Lafayette, in 1786. They did not do well at Mount Vernon, and started to die early in 1787. Today two of them may be seen at the Museum of Comparative Zoology at Harvard, where they have resided since 1914 (Barbour, 1946, Pick, 2004). With a handful of other specimens, they are all that remain of a grand collection of mounted birds that existed in Philadelphia more than 200 years ago.

Among many other achievements, Charles Wilson Peale (1741–1827) painted George Washington from life seven times. In 1784, he created a museum in Philadelphia, which was to exist until 1849. His intention was to display "everything that is curious in this country" (Sellers, 1979). By 1802 (the year he put on display the first mounted skeleton of a Mastodon), he had far exceeded this goal. His collection of preserved birds represented 1,800 species from around the world (Sellers, 1979).

Not everything in Peale's Museum was dead. In 1805, the first living Black-tailed Prairie Dog and American Magpie to be seen in the East arrived from a two-month stay at the White House, where Thomas Jefferson had received them (after a journey down the Missouri River from North Dakota, down the Mississippi from St. Louis, across the Gulf of Mexico, and up the Eastern Seaboard) from Lewis and Clark (Jackson, 1962, Kastner, 1977). That same year, in the company of a hippopotamus skull and "native artifacts", a collection of living birds arrived from Africa. Collected by a "Monsieur Soissons", they were catalogued as "scarlet ibis, crown heron, widow birds, Senegal finch" (Sellers, 1979, 206).

The presence of one or more Scarlet Ibises in a collection of African birds was, unfortunately, likely a result of the infamous "Triangle Trade" where New England trade goods were exchanged for African people, who were sold in the Caribbean, to provide sugar to New England. "Crown Heron" was a then popular name for Crowned Cranes (Thayer, 2005). Paradise and Pin-tailed Whydahs had been exported from Africa since the late 1500's (Chansigaud, 2007, Payne, 2010a), and were long familiar as "Widow Birds".

Of course there are lots of "finches" in Senegal. However, by 1805 the English name "Senegal Finch" had come to mean Firefinch. 1805 also saw the publication of the first part of a remarkable book (completed in 1809) by the French ornithologist, Louis Jean Pierre Viellot (1748-1831): Histoire Naturelle des Plus Beaux Oiseaux Chanteurs de la Zone Torride (Natural History of the Very Beautiful Song Birds of the Tropics). Produced at a time when the newly-crowned Emperor, Napoleon, was encouraging the publication of magnificent books to demonstrate the Glory of the French Empire at its height (St. Clair, 1979, xiii), this is one of the classic works



Gronvold (exhibits department).

of aviculture, a lavishly illustrated record of the numerous weavers, whydahs, estrildids and New World finches one could buy in Paris and other French cities more than 200 years ago (Viellot, 1805-1809, 1979). Viellot equates his "Senegali Rouge" ("Red Senegalese") with Linneaus' *Fringilla senegala* and Latham's "Senegal Finch".

Of course *Fringilla senegala* simply means "Senegal Finch" in Latin. The Swedish naturalist, Carl Linneaus (1707-1778) devised the system of scientific nomenclature we use today. The first modern scientific names of animals were the 4,400 presented in the 10th edition of his *Systema Natura*, published in 1758. (The previous editions had covered plants). *Fringilla senegala* made its appearance in the 12th edition, published in 1766. Today, the genus *Fringilla* is restricted to three species, the Chaffinches and Brambling. The genus *Lagonosticta*, in which all eleven firefinch species are placed today, was created by the German ornithologist, Jean Louis Cabanis in 1851.

John Latham (1740-1830) was an English physician who authored massive ornithological references (Walters, 2003). The three volumes of his *General Synopsis of Birds* were published from 1781 through 1785; and his *Index Ornithologicus* appeared in 1790. It was from these that Viellot got the English name he published in 1805. Latham (1823)



Wilson Magpie (exhibits department)

himself references page 461 of his *Index Ornithologicus* for "Fringilla Senegala" and page 312 of his General Synopsis for Senegal Finch.

It took John Latham from 1821 to 1828 to publish his tenvolume *General History of Birds* (Walters, 2003). The Senegal Finch appears in volume 6, which was published in 1823 (Latham, 1823, 109-107, Hopkinson, 1940). He provided some avicultural notes, to be discussed further on, and described how the Senegalese trap them "by means of a hollow gourd, supported with the bottom uppermost, on a stick, with a string leading to some covered place, and some millet being strewed beneath."

This technique had been described almost a century before by the Dominican priest Jean-Baptiste Labat (1663-1738) in his Nouvelle Relation de l'Afrique occidentale, which he published in 1728: "The banks of the [Senegal] river swarm with these little birds, which in beak and head somewhat resemble the Linnet; but the color in each species is respectively red, blue, or black, very bright and clear, so that the plumage looks almost as if polished. The native children catch them with inverted bowls or calabashes under which a few grains of millet are scattered as bait and to which a supporting stick and pull-string is attached, so that it can be dropped on any birds venturing below. The loss

of liberty does not upset these little things in the least...and they feed readily in a cage, coming up to whomever supplies their needs and repaying the attention with a little song or twitter, feeble but sweet, which is all one can expect from birds "no bigger than a nut" (Hopkinson, 1932).

The avicultural historian Emilius H. Hopkinson (1869-1951) was a Colonial Officer in the Gambia from 1901 through 1929. He comments that the three "little birds" Labat described are "the Cordon Bleu, Firefinch and Combassou, still the commonest cage-birds from West Africa" (Hopkinson, 1932). He goes on to observe: "Presumably, the author [Labat] never saw hens of either the Combasou or Firefinch, as probably then as now, the catchers only troubled to catch (or at any rate keep) the bright-coloured individuals."

Father Labat dismissed the assertion by Michel Jajolet, Sieur de la Courbe, who explored Senegal in 1685, that the birds thus caught lived only four days: "It is painfully obvious that he must have been relying entirely on hearsay, for it is well known the M. Brue brought to Paris and had the honour of presenting to the King in September, 1726, some of each of these three species, the survivors of which were still alive in M. Daguesseau's charge in 1726." (Hopkinson, 1932). Andre Brue, Director of the Royal Company of Senegal was then 72, and Louis XV was sixteen. While it is documented from the publications of the pioneering ornithologist, Ulisse Aldrovandi (1522-1605) and a painting by Jacopo Ligozzi (1547-1627) that Combassous or Village Indigobirds (Vidua chalybeata) were kept in the Medici's aviaries in Tuscany before 1600 (Chansigaud, 2007, Payne, 2010), Labat's account of Andre Brue's royal present in 1726 may be the first documentation of Red-cheeked Cordon Bleus (Uraeginthus bengalus) or Red-billed Firefinches (Lagonosticta senegala) arriving in Europe alive.

Around eighty years later, Viellot had much to say about Lagonosticta senegala in his Histoire Naturelle des Plus Beaux Oiseaux Chanteurs de la Zone Torride; but today's reader may encounter some initial confusion. The picture that accompanies his description of "le Senegali Rouge" is of Lagonosticta rubricata, the Blue-billed Firefinch (also commonly known as the African Firefinch, a rather silly name, as Derek Goodwin (1982) points out, since all eleven of the Lagonosticta species are found only in Africa, and L. senegala is found in more places there). The large dark beak and grayish crown are clearly shown (Viellot, 1805-1809, 1979). Only the second of the eleven species of Lagonosticta to be described to science, L. rubricata was not clearly recognized as a species distinct from L. senegala until 1823, when it was named by Martin Hinrich Lichtenstein (1780-1857), the Director of the Natural History Musem in Berlin. Around 1805, Viellot described this bird under the heading of Fringilla senegala, then went on to mention that "in Senegal, this species is quite rare."

A page later, Viellot (1805-1809, 1979) went on to describe and illustrate another bird: The Red-billed Firefinch (Lagonosticta

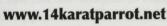
senegala) with which we are familiar today. He introduced it as "le Petit Senegali Rouge" (The "Little Red Senegalese"), but did not make any attempt to connect it with any of Linneaus' or Latham's names. Viellot tells his reader: "This Senegali is often mistaken for the preceeding species ["Le Senegali Rouge"] because their plumage is quite similar; this bird differs in that it is smaller and has a shorter tail, which is almost straight at its tip. On the True Senegali, the tailfeathers are tiered and the colors are shaded differently." Viellot notes that the male of "le Petit Senegali Rouge" "has yellow eyelids and a white iris; its beak, head, neck, throat, breast, and abdomen are red..." The eye and its yellow ring are clearly depicted in the accompanying picture, which, Viellot tells us, is of a bird "born in my aviaries". Thus we have the first documentation of Red-billed Firefinch hatched in captivity, more than 200 years ago.

Regarding *L. senegala*, the French Master Aviculturist, Aime Decoux (1956) wrote: "Viellot was probably the first to breed it. In his famous book, *Les oisuex chanteurs*, published in 1790 in Paris, he describes the display of the cock before the hen, the nest, the eggs, etc. He adds that the breeding season is during the winter months, and that a high temperature is necessary to bring up the young." 1790 is also given as a publication date for Viellot's songbird book by the great ornithologist and aviculturist, Derek Goodwin (1982). From 1780 until 1798, Viellot lived in the New World, in what is now Haiti, as well as some time in the US. It was not until 1802 that his first book (on birds

This beach towel and more great 'Parrotphernalia' from

The 14 Karat Parrot - since 1982

Hundreds of gifts & accessories for exotic bird lovers!



Ask for 10% member-to-member discount!





with iridescent feathers) was published. (Chansigaud, 2007, St. Clair, 1979, Walters, 2003). There is evidence Viellot's breeding occured by 1805. While the installations of *Histoire Naturelle des Plus Beaux Oiseaux Chanteurs de la Zone Torride* appeared from 1805 through 1809, the Introduction, where Viellot lays out the basics of finch aviculture, is dated 1805, timeline Paris. Here, while discussing nesting material, he cautions that "Feathers are necessary for the Senegali Rouge, for when the female cannot find feathers, she plucks them from her mate and any other bird in the aviary." (Viellot, 1805, St. Clair, 1979).

The rest of Viellot's observations of "le Petit Senegali Rouge" in aviculture are in the form of a species account, and run as follows:

"These gentle, tame little Senegalis have such a strong affection for their kind that they constantly seek each other's company, and are not happy unless they are perched quite close to one another, especially at night. This circumstance changes drastically during mating season, for then both male and a females engage in such animated strife with members of their own sex, that one must keep them isolated in pairs, unless they are in an extremely large aviary.

The male pays a great deal of attention to his mate. Before uniting with her, he perches next to her, and like the Mariposa [Red-cheeked Cordon Bleu], engages in a dance of courtship. While holding a blade of grass in his beak, he sidles up to her by a series of small hops; then, while stamping both feet alternately on the perch, he sings his lively song in a strong voice. As soon as the female has responded to his affection, he helps her to build a nest. However, if the female decides not to occupy herself in this endeavor, the male quickly becomes master and tyrant, pursuing her ceaselessly and forcing her to work. They employ the same nesting materials as species before described ["downy feathers, moss, thin weeds, chopped cotton, and lint"], but when feathers are not available, the female will quickly slide her beak under the abdomen of nearby birds in order to obtain them.

These Senegalis almost always choose a small birdhouse that has one opening on the side placed in the rear of the aviary. In their natural state, however, they construct their nests in bushes. These nests are the size and shape of an ostrich egg, with an entrance in the middle of one side. The nests are expertly shaped with moss interwoven with grass, and lined inside with feathers and the silky down of plants. Here the female deposits four or five dull white eggs, a bit smaller than those of our native wren. The male shares the labor of the thirteen-day incubation. The young are born covered with a brown down; and the parents rear them with great care and attention, regurgitating half-digested seeds for them in the manner of canaries. To this diet they add insects, particularly caterpillars and larva of which they are particularly fond. These insects are indispensable for the young, especially in the first days after hatching. [In the above mentioned Introduction, Viellot thusly



Nick's male with millet Close Up.

discusses mealworms: "The larva of the wheat Tenebrion, commonly known as the meal worm, is quite suitable. They are presented whole if small, cut in half if large, as one does for nightingales."]

A temperature of 88F is necessary for the females when brooding. This degree of heat is even more important, because they lay during our winter. It is possible to delay brooding until May by separating the males from their mates; but then one can only hope for two broods — one in May, the other in September. These birds, which molt from June to July, change feathers only once a year. As adults, their colors do not vary... In order to breed the birds described in this work, especially Bengalis [Strawberry Finches, Timor Zebras, and Cordon Bleus], Senegalis [Firefinches, St. Helena Waxbill, Gray Singing Finch] Grenadins [Violet-eared Waxbill], and Loxies Fasciees [Cut-throats], one should procure more females than males in order to replace those that die during the laying season" (Viellot, 1805-1809, 1979).

Aside from the suggested temperature of 88F, I find Viellot's observations consistent with my own from several years' work with *Lagonosticta senegala*.

Almost twenty years later, in England, John Latham wrote that the "Senegal Finch was familiar, and when once used to the climate, will frequently live five or six years in a cage. They have been bred in Holland, by the fanciers of birds." (Latham, 1823, 107, Hopkinson, 1940). By 1870, the great German aviculturist, Karl Russ (1833-1899) wrote that it "has often been bred", crediting Viellot with the first captive breeding (Hopkinson, 1926). The Suez Canal had opened in 1869; and while that would not affect the shipment of birds from West Africa, coupled with the proliferation of steamships and

railways, it did promote an overall boom in the commercial shipment and subsequent availability and resulting popularity of foreign cagebirds. However, it was not until 1898 that the British first breeding was achieved.

The person who achieved this is described by David Seth-Smith (1875-1963), who served both the Avicultural Society and the Zoological Society of London in various capacities for decades:

"The Rev. C.D. Farrar was Vicar of Micklefield, in Yorkshire, and possessed a very large garden aviary in which he seems to have bred almost everything he tried, and he managed to winter even the smallest success without artificial warmth. He was a prolific writer, but his articles often led to heated controversies, to the distraction of the Editor. When I was Editor later on [1901-1909], I had trouble with Mr. Farrar, and he wrote asking me if he might call and see me, to which I readily agreed. From his previous writing one might have thought this burly Yorkshireman, standing over six feet tall, might be quite dangerous, but, on the contrary, he was as gentle as a lamb, and, in fact, quite charming. We parted the best of friends" (Seth-Smith, 1954).

The Reverend Farrar's account of the first UK breeding of the Red-billed Firefinch in 1898 is uncharacteristically brief:

"Sir – Most people find that it takes them more than all their time to keep Firefinches alive, let alone anything else; and therefore I venture to think that these few notes on the nesting of the species may be of interest to our members.

I bought ten Firefinches in the summer of 1897, and was so fortunate as to lose none of them. They wintered with my other birds in a perfectly cold indoor aviary, and seemed to care nothing for the weather. They are in lovely plumage, the cocks like little rubies for splendour.

This summer a pair set their hearts on reproducing their species. They built a snug nest in a cocoa-nut husk hung low down, the said nest being composed of hay and feathers. Two eggs were laid, fairly large for the size of the bird, and the hen sat most steadily. One egg was hatched, the other being infertile. The youngster has now flown: and is a very vigorous little thing; it is brown all over with just a little patch of dull red on the rump; no eye marks, black beak, darkish legs, and without any of the distinguishing marks of the old birds.

I have never heard yet of a case of firefinches rearing young, so I thought I would send you this account" (Farrar, 1898).

Familiarity

The Reverend Farrar was not long alone in breeding Red-billed Firefinches in Britain (Hopkinson, 1926). In 1899, another West Yorkshire aviculturist, Gustave Le Carpentier Grace, in Wakefield, West Yorkshire also disproved Viellot's contention that "a temperature of 88F was necessary" for breeding Firefinches:

"Sir—I think the few following notes on the successful nesting of the African Firefinch, in an unheated gardenaviary (a mere shed, fully exposed at its southern side, and with an open wire flight) will not be uninteresting to many of our members.

I have had a pair of these birds for the past two years, and last season they spent most of their time out of doors, and, whilst there, built, laid eggs, but did not incubate. They were brought into the house on October 15th, and were not put out again until April 3rd, of this year [1899]. They went to nest again, but it was not until July 19th that a fully-fledged young one left the nest; it was then exactly nineteen days old, and in plumage it resembled the adult female, with a black beak and dark legs, but showed considerably more red on the rump and tail than she did, but less than its father; from this I concluded it must be a young cock—which it eventually proved to be. Today, as I write (October 14th) it is almost in full colour, and has the red beak.

The parents again nested, and brought off another young one on Sept. 17th [1900]. This last one differed considerably from its elder brother, in being much greyer in colour and having less red on the rump and tail, than its mother. It appears, therefore, that the sexes are easy to distinguish, even when quite young.

It is worthy of notice, considering the hot-house treatment this species is supposed to require, that the maximum temperature during the day-time, when this last young one left the nest, was a low as 42 Fahr, and fell during the night to 36. The cold weather we have had recently seems not to affect them in the least; they are out at the time of writing, and temperature, on more than one occasion, has been as low as 26. This speaks well for the hardiness of the species, when once acclimatized.

The size of the aviary is 12 feet by 6 feet and rather more than 6 feet, and contains, besides a score of other small birds, six Red-rump Parakeets" (Grace, 1899).

(It should be noted that Derek Goodwin (1982), an authority on the natural history of Estrildid finches, as well as their aviculture, considered it "unwise and unkind to attempt to overwinter it in an unheated room, much less in an outdoor aviary" in Britain or Western Europe, and recommended temperatures now lower than 65F.)

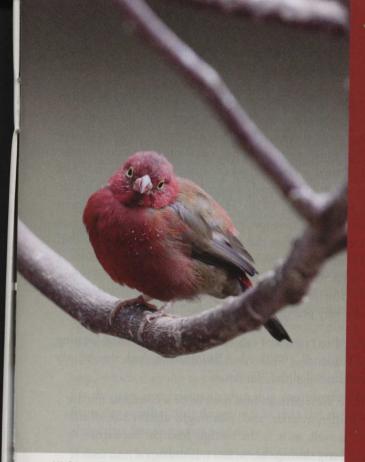
Another English aviculturist who achieved early success did have initial difficulties with the English climate. L.W. Hawkins, who lived in the South London neighborhood of Dulwich, wrote:

"The African Fire-finch is a bird with a strong inclination to breed. The great difficulty is to get it acclimatized. I bought four pairs last January [1900], of which two pairs and a cock died within a fortnight [two weeks]. The surviving pair and odd hen are still in my possession. The pair have nested three times. The first time they line a cocoanut shell on the wall with hay and feathers. They had three eggs and sat well, but all the eggs were clear. The second time they selected a cocoanut shell on the roof. This time they had four eggs from which three young were successfully reared. The third time they built a nest in a German canary cage, and from four eggs reared two young ones. The young fire-finches, when just hatched, are rather pretty to look at when opening their mouths. The roofs of their mouths have black spots, and at each corner of their mouth are two milk white glands with a deep blue spot between them. When they leave the nest, both sexes are brown. The cock sits alternately with the hen in the day time. At night they both sit together." [Cuban Melodious, Owl, and Masked Grassfinches all bred in the same aviary that same season.] (Hawkins, 1900).

Dr. Hopkinson (1926) lists other English breedings from more than a century ago: W.E. Teschemaker, who reared two in Devon in February, 1908, and Dr. L Lovell-Keays, who hatched "7 or 8" in Sussex in 1914, the year World War I began.

In the years between the First and Second World Wars, this species remained well known and widespread in Britain and Continental Europe. By 1923, Aime Decoux, who lived in Aixe, in Central France noted it was "very commonly imported, and delicate at first. It is desirable to put it in a cage well sheltered against cold winds and draughts, and get it used gradually to fresh ant cocoons and avoid dampness in the cage. Once acclimatized, it is a hardy bird. It is the best nester of all waxbills, and quite easy to rear" (Decoux, 1923). Thirty-three years later he reiterated: "In my opinion it is the easiest to breed of all the Waxbills, and the most charming" (Decoux, 1956).

Robert Morgano (1935), in Britain, parent-reared both Redbilled Firefinches and Gold-breasted Waxbills in one season in an outdoor flight only 6ft by 4ft by 6ft high, attached to a



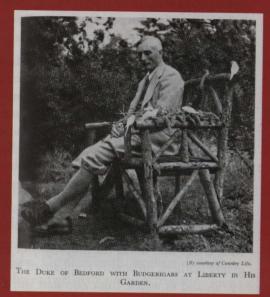
Nick's male on twig head on.

4ft by 4ft by 7ft high shelter. Along with a pair of Firefinches and Gold-breasts, there were two pairs of canaries and a pair each of Red-eared Waxbills and Strawberry Finches. He noted: "These birds are fed on the stock millet mixture, with an armful of grass seed, chickweed, etc., gathered fresh daily and strewn over the floor of the aviary. I leave this to rot on the ground, and rake it over occasionally for the birds to reach the insects breeding in it. They are also very keen on grasshoppers, which I catch alive and turn loose into the aviary."

W. Ferrier Brown (1930), in Coventry, West Midlands, provided a rather lengthy account of a 1922 indoor breeding from a pair housed in a cage 20 inch by 12 inch by 18 inch. The four eggs all hatched and three were fully parentreared. He wrote: "On hatching out a variety of food was offered, including biscuit and egg, dried flies, ant's cocoons, Indian and white millet, and canary seed. The hen fire finch took a little of the egg food on the first three days, or seemed to be picking it over, but after that the young were fed on seed only, and green food consisting of seeding grass and chickweed." Brown concludes by noting the "temperature of the room varied between 55F and 62F during the breeding period. As was common practice at the time, he referred to his birds as "The African Fire Finch".

Duke of Bedford

Like his friends Boosey and Brooksbank, Hastings William Sackville Russell (1888-1953),Marquess of Tavistock and (from 1940) 12th Duke of Bedford, is chiefly remembered today as a psittacine specialist, but he was always fond of passerines as well, both softbills and seed-eaters. He was obsessed with maintaining



"Hastings William Sackville Russell, His Grace, the 12th Duke of Bedford, whose pursuit of liberty for cagebirds was eventually to be his undoing." Courtesy of Country Life.

birds at liberty and, from his childhood, experimented with establishing populations of free-flying birds (Anon, 1969). This eventually proved fatal:

"The tragic death of the Duke of Bedford on his Devonshire, England, estate near Tavistock, discovered on October 11, 1953, shocked the avicultural world...

On October ninth, His Grace, who had previously travelled down to his home with some Budgerigars he planned to add to his group of homing Budgerigars, went out with his shotgun to hunt a Sparrowhawk which was menacing his flock of one hundred birds. While forcing his way through some bushes he seems to have stumbled and the gun accidentally fired, inflicting fatal wounds.

When his disappearance was reported, commandos, police, and volunteers scoured the moors of Devon. Commandos from a near-by Royal Marine school used walkie-talkie sets and mine detectors. In all, two hundred men joined in the search. Saturday night, October tenth, workers drained a large pond on the duke's twelve thousand acre estate.

A gamekeeper's hunch finally led to the body. Estate workers found the Duke laying in undergrowth near a favorite beauty spot. Death was believed to have been instantaneous.

Both at Endsleigh and Woburn it was the Duke's practice to release his homing Budgerigars early in the morning where they could fly at liberty in the garden and return to the aviary to roost, feed, and breed." (Anon, 1969).

Another English aviculturist who kept her Firefinches indoors was Mrs. Christine Irvine (1932, 1933), in Cheshire. Her indoor flight was a converted bedroom, which, without artificial lighting, could be very dark:

"I managed to rear a Firefinch, which left the nest on the 3rd November [1932]. This mite war reared to a great extent by electric light! I turned on the light between 5:30 and 6 o'clock, as soon as I saw the parents feeding. One day it was very stormy and the birds were in bed before 3:30 in the afternoon. It was useless lighting up in the evening; they never took the food and only got disturbed. The November baby was a hen, and she and her mother sat together this month [?July 1933] and produced between them a baby which left the nest last Saturday. Both hens think it's their own and both feed it with the cock!" (Irvine, 1933)

Mrs. Irvine who noted the propensity of nesting Firefinches to gather feathers, previously emphasized by Viellot (1805-1809, 1979), and of which Tulsa Zoo staff working with this species are also acutely aware: "The cock knew I could provide feathers and he would take them off my shoe. He was so insistent that my pillow is quite thin" (Irvine, 1932).

In total contrast to British aviculturists who kept their Firefinches indoors were the ones who turned them loose.

Three well-known avicultural personalities of their time wrote extensively and enthusiastically about this now forbidden English past-time.

Edward Boosey and Alec Brooksbank established the Keston Foreign Bird Farm in the London Suburbs in 1927, and ran it until Mr. Boosey's death in 1961. While it is especially remembered today as a propagation center for Budgies,

Another English aviculturist who kept her Firefinches indoors lovebirds, and many other, rare psittacines, Keston also featured was Mrs. Christine Irvine (1932, 1933), in Cheshire. Her a great array of seed-eating birds and softbills (Boosey, 1956).

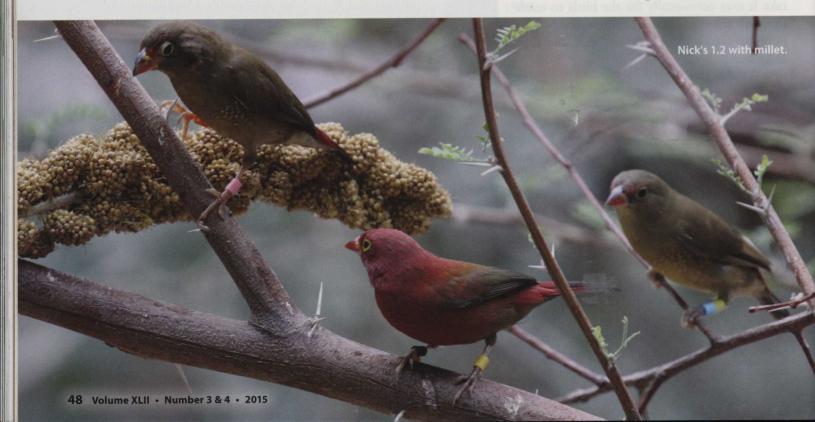
Earlier in the 1920's, Edward Boosey had bred what he called "Common Firefinches" in a 40ft long aviary with a unused cow shed as a shelter (Boosey, 1956,4). He found it, "a very free breeder – so much so that on one occasion I put two or three pairs in a planted aviary, and was not even aware that they had gone to nest, until I saw newly-fledged young ones sitting beside their parents." (Boosey, 1959). He then liberated Firefinches in his garden: "... the first foreign birds I ever tried at liberty at my old home where they did extremely well and I used to find their nests among the sweet-pea sticks and raspberry canes. I can vividly recall finding a pair with their newly-fledged brood sitting in a row on the back of a garden seat in early morning sun—and a very pretty sight they made." (Boosey, 1956).

In 1949, when post-war austerity still made bird-keeping difficult (Yealland, 1949) Alec Brooksbank had this to say about what he called the "Firefinch":

"This little West African bird used to be a common inmate of our garden aviaries, and, one might almost say, of our gardens as well, as it is the foreign bird par excellence to keep at liberty during the summer months.

In the wild state it frequents the neighbourhood of a dwelling house, and if liberated over here it never strays far from human habitations, being particularly partial to a nicely kept garden lawn where it will pick about happily all day, apparently enjoying human company rather like our own robin.

Not only, therefore, is it extremely easy to keep at liberty but it will also breed with the utmost regularity, choosing all kinds of odd corners for its nesting" (Brooksbank, 1949).



As an example of "odd corners", Brooksbank cited a letter his partner Boosey wrote to the *Avicultural Magazine* in 1926:

"SIR,—I thought it might possibly be of interest to other members of the Avicultural Society to hear of the rather odd nesting site chosen by a pair of Firefinches I have had at liberty during this summer. Although they had an abundance of trees and shrubs of every kind to choose from, they elected to build their nest in a bundle of peasticks which had been tied up and put with two similar bundles in a wheel-barrow, in an open-fronted shelter adjoining a potting shed.

When the nest was completed, and while I was away for a few days, one of the gardeners who had occasion to use the barrow removed the bundle of peasticks containing the nest and laid it on the ground. He was eventually told it contained the Firefinches' nest, and a few days after replaced it in its original position in the barrow. The Firefinches, nothing daunted, returned to their nest and laid four eggs, which they are at present incubating. The site chosen for the nest is excellent in that it is completely protected from the weather, but dangerous in that the shelter is not altogether free from rats and mice.

If their nest is successful it will be the second time I have bred Firefinches at liberty, as I was lucky enough to have a brood of four young successfully reared two years ago, but in that case the site chosen for the nest was a large low growing bush close to the aviary in which they were fed. It is a noticeable feature with Firefinches at liberty, that whereas with most of the small Waxbills, etc. it is advisable to keep them in the aviary from which they are going to be liberated for at least a week or more, in order to get used to the surroundings, Firefinches may be quite safely let out almost immediately, without much fear of them straying" (Boosey, 1926).

Like his friends Boosey and Brooksbank, Hastings William Sackville Russell (1888–1953), Marquess of Tavistock and (from 1940) 12th Duke of Bedford, is chiefly remembered today as a psittacine specialist; but he was always fond of passerines as well, both softbills and seed-eaters. He was obsessed with maintaining birds at liberty and, from his childhood,

experimented with establishing populations of free-flying birds (Anon, 1969). This eventually proved fatal:

"The tragic death of the Duke of Bedford on his Devonshire, England, estate near Tavistock, discovered on October 11, 1953, shocked the avicultural world...

On October ninth, His Grace, who had previously travelled down to his home with some Budgerigars he planned to add to his group of homing Budgerigars, went out with his shotgun to hunt a Sparrowhawk which was menacing his flock of one hundred birds. While forcing his way through some bushes he seems to have stumbled and the gun accidentally fired, inflicting fatal wounds.

When his disappearance was reported, commandos, police, and volunteers scoured the moors of Devon. Commandos from a nearby Royal Marine school used walkie-talkie sets and mine detectors. In all, two hundred men joined in the search. Saturday night, October tenth, workers drained a large pond on the duke's twelve thousand acre estate.

A gamekeeper's hunch finally led to the body. Estate workers found the Duke lying in undergrowth near a favorite beauty spot. Death was believed to have been instantaneous.

Both at Endsleigh and Woburn it was the Duke's practice to release his homing Budgerigars early in the morning where they could fly at liberty in the garden and return to the aviary to roost, feed, and breed." (Anon, 1969).







While the Dukes of Bedford are associated with Woburn Abby (and its Pere David's Deer), due to political disagreements with his father, the future 12th Duke lived elsewhere between the wars. At the end of the 1920's, his address was Warblington House, in Havant, Hampshire. In 1928 he wrote: "I have now bred at liberty all the freely imported waxbills except the St. Helena – viz. Common, Orange-cheeked, Orange-breasted, Avadavat, Firefinch, Lavender Finch, and Cordon Bleu. Of the seven, the Lavender Finch has given the best all-around results" Tavistock (1928a).

The Marquess summarized his management of free-range waxbills thusly:

"People who are attracted by tiny and dainty forms in a summer garden, should buy, as soon as the nights frosts of May are over, a number of imported pairs of the cheap and freely imported Waxbills — Fire Finches, Lavender Finches, Common Waxbill, Orange-cheeks, Avadavats, Cordon Bleus, and Orange-breasts. Of these the first two are very good stayers, the second two usually good stayers; Avadavats stay well through the summer, but may leave in October; while Cordon Bleus and Orange-breasts are a bit uncertain, though delightful, when they do decide to settle down. The birds should be kept for a fortnight [two weeks] in an aviary with a cozy shelter and an outside flight and trained to feed on Indian Millet from a dish over which is a kind of dish cover of inch mesh wire netting, which admits

Birdjewelry.com,
Exquisite Handmade Avian Art

Unique Gifts * Custom Orders * Wholesale Welcome

Birdjewelry by Dawn
Phone: 707 845-5211
birdjewelrybydawn@gmail.com



them but excludes British Finches... Four or five feeding places should be arranged about the garden in situations inaccessible to mice and not within springing distance of an ambushed [sic] cat. About the middle of October, the feeding places should be converted into trap-feeding places and all the birds caught up and sold as acclimatized specimens, a new lot being bought the following spring" Tavistock (1928b).

At the end of the 1928 season his Firefinches surprised him. In a letter dated 11th November, 1928, the Marquess wrote:

"Sir - About a fortnight ago, believing that they had finished breeding, I caught up all my hen Firefinches and put them in an aviary with the young birds bred at liberty. I also made the usual winter arrangements for shopping the cocks up at night, but one succeeded in find his way out again through the inward pointing wire funnel and continued to roost in the garden. The day before yesterday to my great surprise he appeared with three young ones which he must have attended to for some time singlehanded. Two, at least, were still alive this morning in spite of a severe frost, and I have great hopes of catching them up. Until recently, of course, the weather has been extraordinarily mild, but even so it is rather remarkable that in spite of the long nights and the absence of his mate the little tropical Finch should have accomplished his difficult task successfully" (Tavistock, 1929a).

Sadly, the Marquess's Firefinches proceeded to surprise him some more, this time unpleasantly:

"I had very bad luck with my Firefinches, of which I bred quite a number last autumn. The hens in winter I shut up with the Common Waxbills, while the cocks were treated as day-liberty birds. In late May I had seven or eight hens in lovely condition and about the same number of cocks. When the nights as well as the days were warm I let out the hens and within a week all but one were picked up dead in the garden or in the aviary shelters, to which they still had access. Some miserable half-plucked new arrivals, fresh from the dealers, kept perfectly well, and are now breeding!" (Tavistock, 1929b).



Along with producing hundreds of Zebra Finches and thousands of Budgies every year (Boosey and Brooksbank, 1932) the Keston Foreign Bird Farm became a reliable source of acclimatized imported finches in the 1930's. David Seth-Smith, who was then both Editor of the Avicultural Magazine and Curator of Mammals and Birds at London Zoo, described how this was done:

"But when one has seen all these aviaries with their varied and rare occupants, there is still the most interesting house of all to inspect – the Acclimatization House, a brick building some 36 by 30 ft., lighted by skylights fitted with Vita-glass, and warmed in winter by a very modern type of radiator, heated by an anthracite stove which is thermostatically controlled. This house contains five aisles, each 6 by 30 ft., and has room for 100 cages which are 2ft. 6in. by 2ft. by lf.6in. These are of metal, and any two can, by moving a partition, be thrown into one, making a cage 5 feet long, which is very useful for such birds as Parakeets.

"Owing to the [Psittacosis-incited] Parrot ban the Keston Foreign Bird Farm is, of course, precluded from selling any but British-bred Parrots, but this does not apply to the Finches and Waxbills. These have a nasty way of dying when newly imported, and there is a demand for acclimatized specimens. This is being met by a careful system of acclimatizing. The Acclimatizing House and a series of aviaries have made full use of this, and the Keston

Farm is able to guarantee that only birds thoroughly used to the vagaries of the English climate are offered for sale by them. The price of these is necessarily higher than for newly-imported birds, but there is far less risk of their dying" (Seth-Smith, 1933).

Both the Keston Partners were quite confident of the results of their "careful system of acclimatizing" Red-billed Firefinches:

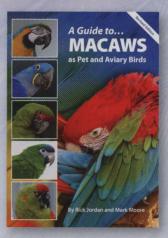
"...In the old days Fire Finches were considered extremely delicate. In fact the late Dr. Butler in his well-known old book "Foreign Finches in Captivity" [1899] warns his readers that if the temperature drops to 50 degrees it will kill them. In the light of modern knowledge, of course, this seems sheer nonsense, though Dr. Butler undoubtedly believed it when he wrote it. In those days it was generally considered that all birds coming from a tropical climate would wilt and die immediately unless kept at hothouse temperatures. And it was not realized until comparatively recently that such birds as Fire Finches, once properly acclimatized, would not only live and breed in a naturallyplanted aviary during the summer, but could also safely pass the winter in it. That they can do this, I am sure, is due to the stamina built up by their living under seminatural condition as opposed to the enervating hot-house existence once considered essential to keep them alive in this country" (Boosey, 1956).



A GUIDE TO MACAWS AS PET AND AVIARY BIRDS—REVISED EDITION

By Rick Jordan and Mark Moore

Soft Cover • 214 Pages • 330 Colour Photos US Orders from the Authors \$60 including shipping



KEY FEATURES

- Selecting Macaws for Breeding or Companion Birds
- Housing and Furnishings
- Nutrition and Diet
- Breeding—Compatible Pairing, Parent-rearing, Artificial Incubation, Handrearing, Chick Development, Mutations, Hybrids
- Macaws as Pet and Companion Birds—What Species are Suitable for Your Situation?, General Management, Enrichment, Behaviour, Taming and Training, Behavioural Problems
- Health and Diseases in Macaws
- 19 Species Featured in Individual Chapters

CONTACT Rick Jordan/Mark Moore 111 Barton Bend RD Dripping Springs, TX 78620 Email: Hatch111@earthlink.net



The Vost Trusted

Hand Feeding Formula NOW comes in

High Fat

- exact[®] High Fat formula is designed to nurture baby birds through the most critical stage for optimal growth and development
- exact is the <u>only</u> hand feeding formula on the market with DHA Omega-3 for critical development of neonates
- exact includes ground sunflowers and peanuts, both rich in protein and fat, like parents would feed

Visit us online for your copy of the exact Educational Reference Guide at kaytee.com/exact-reference-guide.htm

PROUDLY MADE IN THE USA . KAYTEE.COM . 1-800-KAYTEE-1

ET WT 5 LB (2.27 kg)

NEW!

eding Brand with

Hand Feeding

ALL BABY BIRDS

"... It is true that they are inclined to be a little delicate on arrival and need careful acclimatizing, but when once hardened off they may be kept out of doors in an unheated aviary the whole year round" (Brooksbank 1949).

The commonplace status of Red-billed Firefinches in English Aviculture ended when war was declared between England and Germany in 1939. Ten years later (when WWII had been over for four years) Allen Brooksbank wrote: "Most of this book was written in 1939 and was due for publication during the autumn of that fateful year. Since then, owing to lack of importations, seed scarcity, and so on, foreign bird keeping has been reduced to a minimum. In fact, one looks back on the old day, on one's avicultural triumphs and disappointments, as one might on a dream almost too good to be true... Some of the seeds and soft food ingredients for insectivorus birds are now, alas, almost unprocurable. During the war many substitutes were tried, some successfully, others with doubtful results..." (Brooksbank, 1949, ix).

Edward Boosey reminisced:

"When World War II started there were many Firefinches among the birds we liberated, fearing we should no longer be able to obtain food for them. I had had previous experience of small numbers of these birds kept at liberty, but their behavior when let out in a large flock was interesting. They usually kept together, and like all the waxbills, disliked high flying, always staying on or near the ground.



Nine males.

Most of the other Waxbills, however, roosted in hedges and bushes, though a few, I think, roosted in their aviaries, which we left open and in which we continued to feed them. The Firefinches, however, showed their preference for man-made dwelling houses, or what they doubtless imagined to be man-made dwelling houses – or what they doubtless imagined to be a dwelling house – by roosting in our carpenter's shed. Here, of all unlikely places they chose to sleep in a tight-packed row on the thick perches of some empty parrot cages that were stored there!" (Boosey, 1956).

Regarding that same WWII situation, Allen Brooksbank had a slightly different recollection: "At Keston, we once let out a flock of Firefinches and they went to roost every night in the roof of the carpenter's shed. If you entered the shed towards dusk you would be closely watched by a long row of tiny red and brown heads tightly packed together in a straight line along one of the beams. They used to return to their aviary for food, as required, flying in through a window that was purposely left open" (Brooksbank, 1949).

W.H. Potter (1941, 1942), who maintained a collection of finches in the Northeast-London suburb of Harold Wood, (1941,1942) published accounts of aviculture in the middle of the London Blitz, which consisted of 71 air raids from September, 1940 until May, 1941. In the earlier he noted: "I have found the little Waxbills, which I have bought at different times cannot stand bomb or land-mine blasts. Yet all the waxbills I have bred stand up to it well" (Potter, 1941). Just how well, he described in a later article, where he told the story of five Firefinch chicks successfully parent- raised despite being "blasted out of the nest" while "still bare of feathers" by a "heavy bomb exploding nearby [which] blew off part of the roof of my house, smashed a number of windows and caused the ceilings of three bedrooms to come down." The explosion had occurred at night, but after the chicks were replaced in the nest, the parents carried on as before (Potter, 1942).

While it would be years after the War ended, in 1945, before private aviculture recovered, London Zoo at once made up for lost time by dispatching the talented field collector Cecil Webb to Kenya that year. When he returned in 1946, seventeen "Kenya Firefinches" (Lagonosticta senegala ruberrima) were the most well represented among the 34 species of birds in his collection (Webb, 1954).

Establishment

In 1948 Australian aviculture had its own crisis to contend with. Twenty-four years before the US imposed any sort of Exotic Newcastle's disease importation restriction, Australia imposed a total one, which largely remains in effect today. While the result has been a much smaller range of birds for Australian aviculturists to work with, it has also had some remarkable effects. The establishment of a self-sustaining population of Red-billed Firefinches is especially admirable.



Nick's male in dish.

In the 1930's, the Australian captive population was far from established. H.S. Sewell, in Toorak, South Australia, wrote these notes on Firefinches:

"Although these are quite common, I know of many birds easier to breed. These tiny finches had the nasty habit (at least the cock bird had) of gathering up the offspring one by one, usually when a few days old, and placing them at the far end of the aviary in a heap, where, if not seen in time, the ants would quickly kill them. I believe this procedure is adopted by most finches and waxbills form time to time, and that incorrect feeding or interference with their nests is usually the trouble. However, I finally reared two birds which turned out to be hens" (Sewell, 1938).

The Melbourne aviculturist, John Schorer, had been keeping birds since before the Second World War. In 1975, during a presentation on African birds in Australia, for the Aviculture Society of Australia, he had this to say:

"Probably one of the most common around and again a very attractive bird is the African Firefinch. I have had them for years. The hens tend to be a bit on the soft side and they will decide to build a nest in June or July [the Australian Winter] and if you have a heavily planted aviary they build quite a small nest in out of the way corners and half the time you do not even know they are nesting. They are particularly subject to egg binding and this creates a problem when they tend to breed during the winter months. I have always found that the only way you can succeed with Fire finches is to keep four or five pairs and if you lose a hen you just hope that in the Spring you make up for what you lose in the Winter and make a bit of a profit in the Summer or the Autumn. If you go in for Firefinches you have to be prepared to lose the odd one or two. When they breed they breed well and you get clutches of three or four out of them. They have been here since before the [Second World] War and there has been no addition of new blood to them during that time... and for this reason they are now pretty well established in the aviaries. Thus we have been breeding them for more than 30 years so that we are now reaching the stage where we have an aviary bred strain" (Schorer, 1976).

In 1975, the Aviculture Society of Australia published a list of suggested prices for birds. Firefinches were appraised at the same price as several native Australian estrildids: White-rumped Parson Finches, Heck's Shaft-tailed Finches, and Black-headed Gouldian Finches. Red-headed Gouldians cost more (Anon, 1975).

Forty years later, the Red-billed Firefinch remains firmly established in Australian Aviculture. Nick Atchison, Curator of Birds and Reptiles at Featherdale Wildlife Park, in Western Sydney, and Simon Degenhard, publisher of *Australian Aviary Life*, both assure me they are one of the most available exotic finches in Australia. Simon found them "one of the easiest foreign finches to obtain and breed". Nick informed me that "through a private breeder you would expect to pay about \$40 (\$US 30) per pair. At a bird dealer/pet shop they would be \$60 (\$US 45) to \$80 (\$US 60) per pair... Parsons are probably more expensive and less available in Australia than Fires!" Nick also told me that the breeder's price for the native Crimson Finch is currently about 250 Australian dollars.

After more than 60 years in Australia, there appears to be no decline in fecundity. Nick continued: "I had them at home when I lived in Alice Springs. I could not stop them breeding!" While a comparatively ready availability of termites in Australia was a factor in initially establishing African finches in Australia, Nick informed me that the Red-billed Firefinch" breeds prolifically on mealworms and [doesn't] really require termites".

More than thirty years ago, the US finch specialist, Terry Dunham, (1986) imported several pairs of Australian-bred Firefinches and had at least one pair rear chicks with no live food at all.

Today, captive-bred Red-billed Firefinches are also reliably available in both the United Kingdom and Continental Europe.

In the 1950's, it began to regain its status as a popular finch in Britain. Ian Harman, who published a book on finches in 1955, profiled the "Fire-finch (Rhodopyga senegala) thusly:

"This is one of the most popular of the waxbills, but newly imported birds are very delicate. However, when properly established it is not a difficult bird to breed. Birds received in winter should be kept at about sixty degrees in a cage. Established birds housed in garden aviaries are fairly free breeders. The nest is mostly built by the efforts of the cock bird and he will use a finch nest box, or brushwood in the aviary shelter. Three to four eggs are laid, incubation being shared by both birds. The young birds are independent when about a month old.

When rearing, the birds require seeding grasses, any insects available, live ant eggs, gentles [maggots], aphids and sprouted seed. Pieces of sponge cake may be offered. Many successful breeders with large, open flights place a tin of rotten fruit, or horse dung in the aviary, to attract small insects, which these little finches will quickly secure. In cold spells the hen must be carefully watched when about to lay, as these birds are somewhat prone to egg-binding.

Fire-finches are not very long-lived birds, about three or four years being their average allotted span. They generally agree with other small birds, but some cocks may prove vicious to others of their own kind. One pair to an enclosure is the best rule" (Harman, 1955).

A year later, with the Keston Foreign Bird Farm back to its Pre-War levels, Edward Boosey, 1956) observed: "This charming and most confiding little bird is one of my favourite Waxbills, and it always seems to me to have rather more character than some of the others". His very first contribution to the Avicultural Magazine had been his 1926 letter describing the nest his liberty Firefinches had made in the peasticks. His final contribution to the Magazine was "Breeding results at the Keston Foreign Bird Farm during 1960", a very interesting account of a variety of psittacines, softbills, and finches, published in 1961.

"In 1959 we received among a consignment of Common African Fire-Finches a male which was rusty-orange in colour instead of red, and a female which was equally distinct, the beak in both cases being orange instead of red. The pair spent the winter in an aviary to themselves and went to nest in the spring rearing two in their first brood and four in the second, all of which take after their parents in colour. On their arrival we sent a description of them to Mr. MacDonald of the British Museum and he replied that

he did not know of them at all and that they had no similar skins at the Museum. He thought they were probably a colour mutation, but that as we had received a pair and not, as is much more usual, just a single specimens, there might be a small colony of these unusually coloured Fire-Finches established and breeding apart from the others.

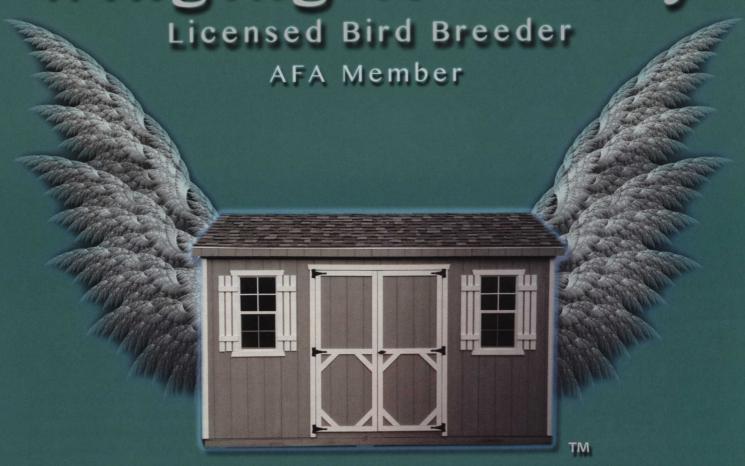
That this may be so, or that they may even be a hitherto unrecorded local race, has been rather interestingly borne out by the behavour of ours. All six young ones, which have turned out to be five cocks and one hen, are in an aviary together with two normal-coloured hens. Yet, although all the orange cocks are interested in the orange hen, they ignore the two normal colored hens completely. In any case I mentioned in a letter to Mr. Macdonald that at the place where a new colour variety of a bird was first propagated is so soon forgotten, it might be desirable to incorporate Keston in their name, and he replied that he thought they might be suitably called the Keston Fire-Finch; so, adding a word to denote their colour, we propose to call them the "Keston Orange Fire-Finch" (Boosey, 1961).

Sadly, Edward Boosey died in 1961. I have not found anything subsequent regarding Alan Brooksbank, but it appears the Keston Foreign Bird Farm did not long survive Mr. Boosey. I have heard nothing further regarding the "Keston Orange Fire-Finch". (The British Columbian aviculturist, Grant Rishman (1992) wrote he "had heard of pied mutations with.... Fire Finches", but I am not aware of any mutations of this species are currently being propagated anywhere).

In 1968 Rosemary Low published her first book, Aviary Birds. (The American edition appeared two years later). Those familiar with the many books she has subsequently written on parrots may be surprised that this one devotes considerable space to passerine birds, both softbills and seed-eaters. She presented the "Common Firefinch" as a "very popular waxbill due to its vivacious character and attractive colouring." As had others before, she emphasized this species "is often very delicate when first imported" and strongly recommended the availability of heat during an English winter, especially if kept in garden aviaries. She also recommended a "regular supply



Winging It Aviary™



Handfed Cockatiels,
Cockatoos, African Grey
Congos, Hybrid Macaws, Green
Wing Macaws,
SI Eclectus, and MANY other
exotic birds

10% Discount on bird food and supplies to AFA members

Call: (516) 229-1702

Visit: www.Wingingitaviary.com

of small live-food if they are to be maintained in good health for any length of time", suggesting "Greenfly, ants' eggs and mealworms". She of course pointed out the importance of live insects for successful chick-rearing. Regarding juried bird shows, she remarked: "Firefinches make good exhibition birds and it is not unusual for a pair to take the 'Common Seedeater' award." (Low, 1970).

An interesting account of a 1970's UK breeding was presented by A. McEwen (1976), who achieved success in a not especially large outdoor aviary shared not only with other finches, but Elegant Grass parakeets, Pekin robins, Red-legged Honeycreepers and a variety of tanagers as well.

In response to the discovery of Bird Flu at an English quarantine station, the commercial importation of birds to the UK, and the rest of the European Union was banned in October, 2005. This ban was made permanent throughout the EU 1 July, 2007.

Eight years later, the Red-billed Firefinch appears established as a self-sustaining population in the United Kingdom. An English aviculturist, Mark Eaton, informs me "there are good numbers being bred in the UK. Prices vary from £80-£120 (\$125-187) a pair but you could pick up odd cock birds for around £25 (\$39)". Another English breeder, Peter Collins informs me young captive-bred specimens can be expected at monthly bird sales and the meetings of the Waxbill Finch Society. One breeder he knows maintains several pairs, fledging two to three nests each year from each, with four to six chicks per nest.

The UK-based Waxbill Finch Society (http://www.waxbillfinchsociety.org.uk/) documents that during the period 2010-2014, 630 Red-billed Firefinches were reported bred by its membership, making it the third most-bred African Estrildid in Britain (after the African Silverbill, with 1314 and the Bluecapped Cordon Bleu, with 813).

In Continental Europe, even before the ban, aviculturists were working to establish a captive-bred population. In the early 1980's the German ornithologist Christa Koepff (1985), author of the still widely read New Finch Handbook, was already urging her readers "to be sure... to buy birds that are

already acclimated or born in captivity." This was reiterated by the Dutch aviculturist, Esther Verhoeff-Verhallen (1999), who wrote the very detailed Complete Encyclopedia of Cage & Aviary Birds advised: "Imported birds are not recommended since 'new' imports are not only very shy, but often weak and extremely sensitive to illness. You can save yourself and the birds a lot of problems by only purchasing bred birds."

The Wuppertal Zoo, in Germany, is recorded as having fledged 56 Red-billed Firefinches from 1975 through 1980 (Table I) (Zoological Society of London, 1960-1998). Until Tulsa Zoo commenced hatching this species in 2013, this was the public zoo record for sustained propagation. Considering Wuppertal's astounding record for breeding difficult passerines such as Vermillion Flycatchers, Pale-legged Ovenbirds, Barn Swallows, and four species of Cotingas (Lindholm 2008), it is not that surprising that zoo should have done so well with a rather easy-to-breed bird, but that record stood unique for more than 30 years.

Johannes Pfleiderer, a remarkable scholar of captive animals informs me that "captive-bred Lagonosticta senegala should be regularly available in Germany. Many breeders focused on African finches after the import ban and you even see species like Cryptospiza salvadorii offered. Prices increased tremendously after the [2005] import ban, but already dropped a lot again in many species, due to good breeding results. I checked availability and prices on the most popular German bird exchange website and there were quite a few L. senegala offered. Prices ranged from $70 \in (\$78)$ per pair to $50 \in (\$56)$ for a single bird, so much less than the 70 and $100 \in \text{per bird I}$ had estimated."

The history and current status of the Red-billed Firefinch in America will be discussed in Part II.

References:

Anon. (1969). In memoriam. In Bedford, Duke of (1969). Parrots and parrot-like birds. TFH Publications

. (1975). Prices of birds. Australian Aviculture. 29:113-114.

Barbour, T. (1946). A naturalist's scrapbook. Harvard University Press Boosey R.J. (1926). Firefinches at liberty. Avicultural Magazine 4 (Series 4): 345.





- _. (1956). Foreign bird keeping. Cage Birds
 - _. (1959). Some old favourites. Foreign Birds 25:219-222.
- . (1961). Breeding results at the Keston Foreign Bird Farm during 1960. Avicultural Magazine 67:63-66.
- Boosey, R.J. and A. Brooksbank (1933). Breeding results at the Keston Foreign Bird Farm, Season 1932. Avicultural Magazine 11 (Series 4): 13-19.
- Brooksbank, A. (1949). Foreign birds for cage for garden aviaries. Cage Birds
- Brown, W.F. (1930). The African Fire Finch. Avicultural Magazine 8 (Series 4): 277-278.
- Butler, A.G. (1899). Foreign finches in captivity, second edition. Brumby and Clarke, Ltd.
- Chansigaud, V. (2007). All about birds A short illustrated history of ornithology. Princeton University Press
- Decoux, A. (1923). Waxbills, manikins, and Australian finches (I. Waxbills) (Estreldinae) Avicultural Magazine 1 (Series 4): 190-198
- . (1956). Breeding of the Senegal Fire Finch (Lagonosticat senegala) in captivity. Avicultural Magazine 62:198.
- Delacour, J.T. (1937) American aviculture III. California. Avicultural Magazine 2 (Series 5): 125-139.
- Farrar, C.D. (1898). Nesting of the African Firefinch. Avicultural Magazine 4: 212.
- Flower, S. S. (1925). Contributions to our knowledge of the duration of life in vertebrate animals - IV. Birds. Proceedings of the Zoological Society of London. London: 1365-1242.
- Goodwin, D. (1982). Estrildid Finches of the World. Cornell University
- Magazine 6: 34.
- Hanson, E. (2002). Animal attractions Nature on deplay in American zoos. Princeton University Press.
- Harmon, I. (1955). Finches. All-Pets Books, Inc.
- Hawkins, L.W. (1900). Breeding experiences in 1900. Avicultural Magazine 7: 29-33.
- Hopkinson, E. (1926) Records of birds bred in captivity. H. F. & G. Witherby.
- (1932) "Senegal Finches". Avicultural Magazine 10 (Series 4):295-296.
- . (1940) Latham as a bird-fancier. Avicultural Magazine 5 (Series 5): 129-134.
- Irvine, C. (1932). Breeding Firefinches Avicultural Magazine 10 (Series 4): 188-190.
- (1933). Success with Fire Finches and Cordon Bleus. Avicultural Magazine 11 (Series 4): 234-235.
- Jackson, D. (Ed.) (1962) Letters of the Lewis and Clark Expedition with related documents. University of Illinois Press
- Kastner, J. (1977). A species of eternity. Alred A. Knopf, Inc.
- Koepff, C. (1984). The new finch handbook. Barron's.
- Latham, J. (1823) A general history of birds Vol. VI. Jacob and Johnson
- Lindholm, J.H. (2008) Birds in Germany, Part I. AFA Watchbird. 35(No.2):12-22.
- Livingston, B. (1974). Zoo Animals, People, Places. Arbor House.
- Low, R. (1970) Aviary Birds. A.S. Barnes and Company, Inc.
- McEwen, A. (1976) Breeding season 1976. Foreign Birds 42: 115-118.
- Morgano, R.D. (1935). Waxbills Avicultural Magazine 8 (Series 4): 264-265.
- Payne, R.B. (2010) Family Viduidae (Whydahs and Indigobirds). 198-233 in: del Hoyo, J., A. Elliott, and D.A. Christie, (2010). Handbook of birds of the world Volume 15. Weavers to New World Warblers. Lynx Edicions.

- Payne, R.B. (2010) Family Estrildidae (Waxbills). 234-377 in: del Hoyo, J., A. Elliott, and D.A. Christie, (2010). Handbook of birds of the world Volume 15. Weavers to New World Warblers. Lynx Edicions.
- Pick, N. (2004). The Rarest of the rare: Stories behind the treasures at the Harvard Museum of Natural History. HarperResource
- Potter, W.H. (1941). Sitting back. Avicultural Magazine 6 (Series 5): 38-41.
- . (1942). Wondering. Aviculture [ASA] 12 (Series 5): 198-200.
- St. Clair, P. (1979). Louis Jean Pierre Viellot, 1748-1831 xvi-xviii in: Viellot, L.J.P. (P. St. Clair, Ed.) (1979) Songbirds of the Torrid Zone. Volair Limited.
- Schorer, J. (1976). Some Africans I have known. Australian Aviculture. 30:4-8.
- Sellers, C.C. (1979). Mr. Peale's Museum. W.W. Norton & Company
- Seth-Smith D. (1933). The Keston Foreign Bird Farm: A successful experiment. Avicultural Magazine 11 (Series 4): 364-367.
- (1954) The foundation and early days of the Avicultural Society. Avicultural Magazine 60:104-109.
- Sewell, H.S. (1938). Summary of breeding results in South Australia. .Avicultural Magazine 3 (Series 5): 109-112
- Tavistock, The Marquess of (1928). Waxbills at liberty. Avicultural Magazine 6 (Series 4): 252.
- . (1928). Foreign birds at liberty: A neglected garden ornament. Avicultural Magazine 6 (Series 4): 262-267.
- (1929). Cock Firefinch rearing young. Avicultural Magazine 7 (Series 4): 19.
- . 1929). Notes on the 1929 season. Avicultural Magazine 7 (Series 4): 232-240.
- Grace, G. le C. (1899). Breeding of the African Firefinch. Avicultural Thayer, S. (2005). A history of the traveling menagerie. in: Thayer, S. and W.L. Slout (2005) American circus anthology: Essays of the early years. (www.circushistory.org/Thayer/Thayer2b.htm)
 - Verhoef-Verhallen, E.J.J. (1999). The complete encyclopedia of cage and aviary birds. Rebo Publishers.
 - Viellot, L.J.P. (1805-1809). Histoire Naturelle des Plus Beaux Oiseaux Chanteurs de la Zone Torride. J.E. Gabriel Dufour.
 - . (P. St. Clair, Ed.) (1979). Songbirds of the Torrid Zone. Volair Limited.
 - Walters, M. (2003) A concise history of ornithology. Yale University Press.
 - Webb, C.S. (1954). The odyssey of an collector. animal Longmans, Green, and Co.
 - Wright, L. (1994). Experiences with Finches. African Watchbird. AFA 21(No.4):4-7.
 - Yealland, J. (1949). Avian imports. Avicultural Magazine 55:40.
 - Zoological Society of London (1960-1998). Birds bred in captivity multiple and generation births. International Zoo Yearbook. 1-36.

