

Using Society Finches To Raise Other Estrildid Finches & Whydahs

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Because of the current stringent laws on bird importations, the prices of birds have, as you all know, soared sky-high. It could get still worse! Importations may be prohibited altogether!

We all grumble at the current bird prices. However, some good has come out of all this. For one, the dime stores no longer carry large stocks of exotic birds. Most individuals, therefore, who are willing to pay \$75 (or whatever) for a pair of Cordon-Bleus will occasionally give some thought to their investment and give their birds the special kindnesses and care they require. Your ordinary parlor-birdkeeper usually finds only Zebra Finches and Parakeets available to him or her so that the rarer species are purchased by more serious individuals — and that is the way it should be! The extravagant prices and fear that bird importation will stop altogether has stimulated zoos and aviculturists to take captive breeding programs more seriously. That too is the way it should be! This distinguishes aviculturists from the ordinary pet-keeper. Aviculture is an art, and aviculturists (hopefully), are that special class of people who keep birds because they enjoy their beauty and companionship. Part of that art is (should be) the skill in propagating birds in captivity. Professional scientists, myself included, who keep captive bird colonies for research purposes have learned much from the patient efforts of aviculturists. But I digress, the purpose of this essay is to share with you my experiences with using Bengalese Finches as foster parents.

I would welcome any comments on my article. I hope, also, that this article will encourage others to relate their experiences using fosterers, e.g. Bourke's Parrots for *Neophema* species, or Budgerigars for *Agapornis* Lovebirds, or various Doves, etc. It is imperative that we continue our breeding efforts, build up good stocks of birds, even if it means sometimes using the "less challenging" method of foster parents. I hope I have not been misunderstood: I do not advocate giving up breeding using natural parents altogether, I merely wish to point out that there is absolutely no danger in

using foster parents as an auxiliary technique.

Over the past four years I have spoken to a number of bird clubs and have become acquainted with many aviculturists. I was surprised to discover even among some of the more skilled members, a number of misconceptions regarding the use of Bengalese Finches as foster parents to raise the more delicate species, e.g. Gouldian Finches. A number of people have pointed out to me, and correctly, that Gouldian Finches from Japan are often useless as breeding stock. These Gouldians were raised by Society Finches and were irrevocably imprinted on the latter; which is to say that these Gouldians would only seek out Society Finches as companions and mates. Many aviculturists, therefore, refuse to use Society Finches as fosterers. There is actually no danger in using Societies as fosterers provided one bears in mind a few simple rules of ethology (the branch of biology devoted to the study of animal behavior). Indeed the use of fosterers may help you to build up large breeding stocks of the rarer and more delicate finches. Hopefully, the day will come when there will be enough domestic breeding stock of all captive forms (rare and common species alike) so that we will have to rely less on importations to improve our blood lines. Large pools of domestic breeding stock are, of course, an insurance against the prohibition of importations altogether.

Principles of Sexual Imprinting. Professor Klaus Immelmann has published a detailed account of his experiments on sexual imprinting [see *Watchbirds*, 2(4), 1975]; I refer readers to that article if they wish to know more about this fascinating field of research. His work was based mainly on Zebra Finches and Societies which are readily bred in laboratory situations, providing the large sample sizes required for statistical testing. His ideas, however, may be extended to other captive species. Two of the principles he outlined are germane to a discussion on the use of foster parents: (1) Zebra Finches raised by Societies are irrevocably sexually imprinted on Societies if they



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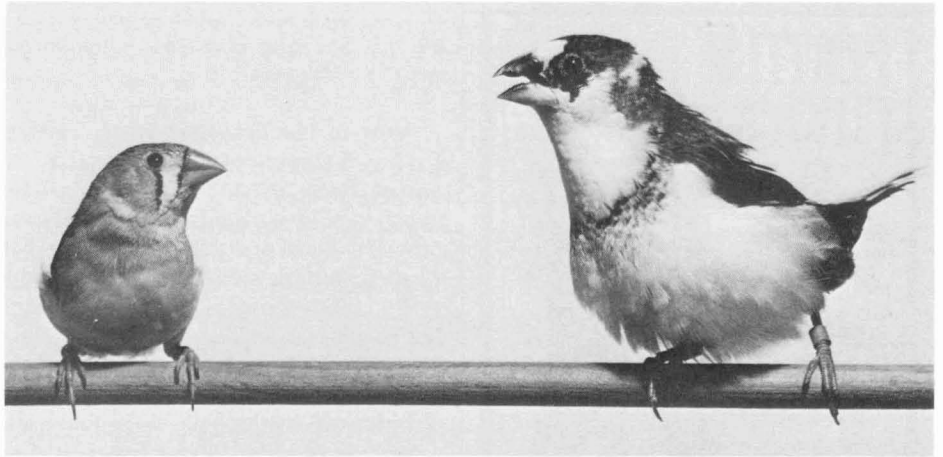
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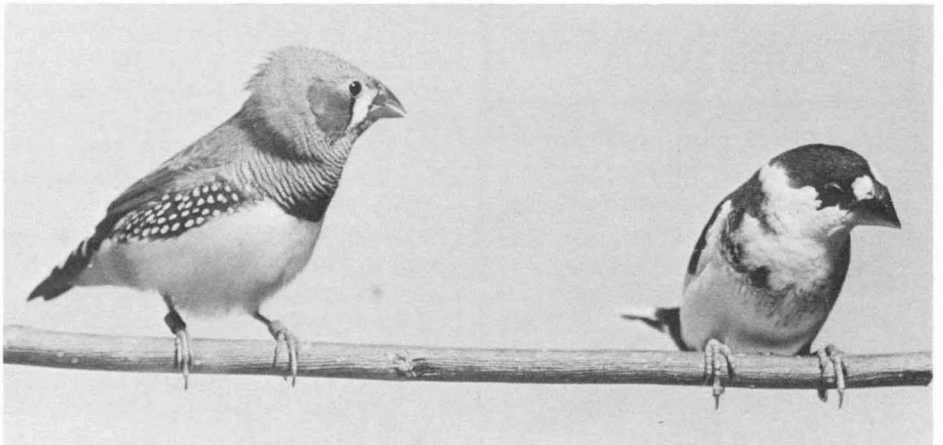
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are left with Society foster parents for 80 or more days; (2) if Zebra Finches are raised by Societies, but removed from the Society foster parents as soon as weaned (i.e. when they can feed themselves) and are immediately placed with Zebra Finches, the effects of imprinting on the wrong species may be cancelled. The experimental Zebra Finches will thereafter select as mates females of their own species and ignore female Bengalese. It is imperative that the weaned Zebra Finches be placed with other adult Zebra Finches. This step ensures that the fledglings socialize with their own kind. This social interaction will ensure that the Zebra Finches imprint on their own species.

One could thus place Gouldian Finch eggs under Society Finches. Once the Gouldians are successfully fledged and weaned, they should be placed with other adult Gouldians. My Societies successfully raised a male Gouldian in 1971. That male is still living and has fathered several broods of Gouldians. He has shown no interest whatever in Society Finch females. My Societies raised six Pearly-headed (= grey-headed) Silverbills (*Odontospiza caniceps*). When the six Pearly-heads were adults I tried placing Societies into their cage. The Pearly-heads either ignored or attacked the Societies,



Photos above and below show strong signs of imprinting. Society (Bengalese) male, above, is courting a Zebra hen. Zebra male, below, is courting a Society hen.



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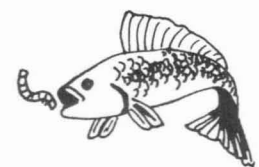
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clearly indicating that no sexual imprinting on Societies occurred. They mated only with their own kind.

How to Use Bengalese Foster Parents. Having, I hope, convinced you that the use of foster parents does not alter the breeding ability of cross-fostered finches, provided they are "unimprinted" when weaned, we may now proceed to a discourse on techniques. If you look into the palate (roof-of-the-mouth) of nestling Silverbills or any other Mannikin (*Lonchura* spp.), you should see a black horseshoe line against a pink or yellow background. Bronze Mannikins and their close relatives have two such horseshoes. The palates of nestling *Poephila* species (including the Zebra, Shafttail, Parson and Masked Finches) are decorated with three black dominoes. In addition to palate spots, Waxbills and Melba Finches or Aurora Finches may have reds, blues, yellows, purples on their palates. The colors and patterns enable the parent birds to recognize young of their own species. Thus, if young with palate colors or markings that are different from those of the foster parents are placed in nests of the latter, they are normally thrown out of the nest.

Bengalese Finches are a domesticated form of the White-rumped Mannikin (*Lonchura striata*). Besides selecting for individuals that are easily bred in captivity, the patient Japanese have selected for a bird that will feed nestlings with the wrong palate patterns and colors and wrong begging calls. It should be pointed out that if given a choice, Societies will often feed their own young in preference to foreign nestlings placed in the same nest. Thus it is a good policy to remove all Bengalese nestlings or eggs if these Bengalese are being used as foster parents. Most of you probably know there are exceptions to this rule — I had a pair of imported Bengalese that would raise both their own and foreign nestlings placed in the same nest again and again.

The nest question is when can foreign eggs or nestlings be introduced into Society nests? Ideally, eggs should be introduced when the foster parents are themselves incubating. Nestlings should be introduced when the foster parents are themselves feeding nestlings. Again, there are exceptions. I have known aviculturists who possessed Bengalese that would incubate any time they saw an egg placed in their nest box, or feed a nestling any time they saw one in their nest. These are rear and, of course, worth their weight in gold. Some aviculturists have even reported success using two males in a cage as foster parents.

Food. When raising finches I believe strongly in the use of soaked seeds as food for nestlings. I should emphasize that there is a difference between **SOAKED SEEDS** and **SPROUTED SEEDS**. Soaked seeds are seeds placed in a pan or bottle of water. Within an hour germination begins at which time **DIASTASE** is produced. **DIASTASE** dissolves the starch in the seed to dextrine which is easily digestible and quickly assimilated by the blood stream. Dextrine is, in fact, one of the ingredients in many prepared baby foods (see W. Watmough, *The Cult of the Budgerigar*, Cage Birds Press, London). Sprouted seeds are seeds with sprouting rootlets. This usually takes place after about three days of soaking. The parent birds still enjoy feeding their babies with this seed, but the food value is now lessened.

Mealworms ensure robust nestlings! Not all Societies will eat whole mealworms. I usually chop three or four mealworms and then place them on top of the soaked seeds (which all Societies relish!). In no time these finches will learn to eat the mealworms. You can then increase the number of mealworms.

My German colleagues keep colonies of Societies that will readily eat egg foods (such as those canary breeders use). Egg food could be mixed with chopped hard-boiled egg. Societies fed these mixtures may raise some of the most delicate (more insectivorous) finches. Egg foods may not be always necessary. The Pearly-headed Silverbills I spoke about earlier were raised on soaked seeds, chopped mealworms and greens.

Green foods and mineralized grit are, of course, another necessity which need no further elaboration. In Southern California, winter rains (when we have any) are usually followed by good stands of wild oats (*Avena* spp.) in open areas and the introduced chickweed (*Stellaria*) in more shady areas. My birds consume huge quantities of these when available. In the wild, Grassfinches feed their young mainly on half-ripe seed.

Other Fosterers. In 1971, I tried placing eggs of Societies under a pair of Pearly-headed Silverbills. The foster parents incubated and hatched young but threw them out of the nest one day after hatching. In 1974 I repeated this experiment and to my surprise the same pair of Pearly-heads raised three Societies to maturity. This was the more surprising to me as Pearly-heads are reputedly one of the most insectivorous of estrildid finches. These birds were given the usual soaked seed and greens, etc., but

only a few mealworms. That year I also placed three Society Finch eggs under two Strawberry Finches, and to my surprise these too were successfully hatched and raised. Obviously, these are exceptional cases.

There are a few cases of fostering known from wild birds. For example, my friend Dr. Robert Payne found a Bronze Mannikin nestling in the nest of a Firefinch in Africa. The Mannikin was quite healthy and well cared for. This is probably a case of egg-dumping. The female Mannikin may have had her nest destroyed and not having a place to put her egg which may have been in her oviduct (if you gotta go you gotta go!), layed it in the Firefinch's nest. Those of you who keep mixed collections of finches in aviaries have probably experienced eggs being laid in the wrong nest, hatched and successfully raised by these foster parents. These are all probably unusual cases. Derek Goodwin (*Aviculture Magazine*, 77:26-31, 1971) reports on Blue-cap Waxbills and Cordon Bleus raising each other's young in a mixed collection.

Society Finches are the most regularly used and best foster parent species. However, I have met several aviculturists who reported that they had Zebra Finches that were better foster parents than

Society Finches in their possession. The more usual story with Zebras is that they incubate and feed nestlings to a certain stage and then desert.

Setting Up a Collection of Good Fosterers. There is a great deal of individual variation in Societies in their disposition to feed foreign nestlings — some will feed any estrildid placed in their nest at any time while others will feed only nestlings of their own species. Clearly then, the aviculturists would want to identify the good fosterers in his or her collection. I would suggest setting up pairs of Society Finches and pairs of Zebra Finches in single cages to breed. As soon as eggs are laid, replace the Society eggs with Zebra eggs. The bad fosterers will either desert, eject newly hatched nestlings, or feed them for awhile and then desert. Once you locate a good pair that feeds Zebras you are in business and can try fostering other species.

Cross-fostering Whydahs. The various species of Whydahs and Combassous (viduine finches) are brood parasites and promiscuous. The first term indicates that they never build their own nests or raise their own young. Like Cuckoos or Cowbirds, they lay their eggs in nests of



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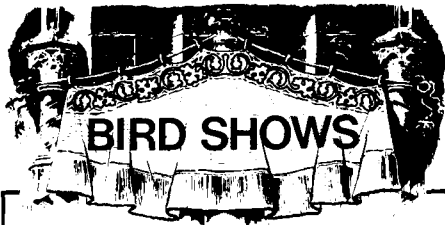
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Table 1. List of Viduine Finches and their Respective Hosts

| Whydah Species | Host(s) |
|--|--|
| Straw-tailed Whydah (<i>Vidua fisheri</i>) ¹ | Violet-eared Waxbill (<i>Uraeginthus granatinus</i>) |
| Queen-Whydah (<i>V. regia</i>) ¹ | Grenadier Waxbill (<i>U. granatinus</i>) |
| Pintail Whydah (<i>V. macroura</i>) ² | Red-eared Waxbill (<i>Estrilda astrild</i>) Bronze Mannikin (<i>Spermestes cucullata</i>) |
| Broad-tailed Paradise Whydah (<i>Steganura obtusa</i>) ¹ | Yellow-back Pytelia (<i>Pytelia afra</i>) |
| Paradise Whydah (<i>S. paradisaea</i>) ¹ | Melba Finch (<i>P. melba</i>) |
| Combassous (<i>V. chalybeata</i>) ³ (<i>V. hypocherina</i>) ³ | Senegal Firefinch (<i>Lagonosticta senegala</i>) (<i>Lagonosticta erythronotus</i>) |

¹From Nicolai, *Zeitschrift fur Tierpsychologie*, 21:129-204, 1964.

²From Friedmann, *Bulletin of the U.S. National Museum*, No. 223, 1960.

³The list of Combassous is incomplete and is taken from Payne, *A.O.U. Monograph*, 11, 1973. This monograph is available from Dr. Glen E. Wollfenden, Treasurer of the A.O.U., Dept. of Biology, University of South Florida, Tampa, Fla. 33620. Cost \$10 plus 50c handling.

other species. They are promiscuous in that no pair bonds are formed in the wild. Males space themselves on conspicuous singing posts and sing and display, females then come and select the more studly males to mate with them. The female then goes off to lay her egg(s) in the nests of a host estrildid finch.

Knowing the above about the biology of viduine finches, one can then set up one male with several (up to 6?) females in an aviary along with their host species (Table 1). Pintail Whydahs seem to be more variable in their choice of hosts. Dr. Friedmann has recorded this Whydah laying in nests of at least seven hosts in the wild. The Red-eared Waxbill and Bronze Mannikin appear to be the most common hosts, but records are also known of this Whydah laying in nests of Cape Firefinches (*Lagonosticta rubricata*), Yellow-bellied Waxbill (*L. melanotis*), Red-bellied Firefinch (*L. senegala*) and others. In captivity this Whydah has been known to lay in nests of Cutthroat Finches. Paradise Whydahs have been known to parasitize Zebra Finch nests in captivity.

The story of viduine finch parasitism is a fantastic one! Thanks to the efforts of Drs. Friedmann, Nicolai and Payne we know quite a bit about their behavior in the wild now. Each viduine species tends to select a particular host species' nest to lay in. The nestlings of each viduine species have mouth markings that match almost perfectly those of the host. Thus the purples and blues in the palate of Melba Finch nestlings are matched by the parasitic Paradise Whydah nestling. The three black dominoes and red spots on the palate of a Senegal Firefinch are matched by its Combassous parasite (*Vidua chalybeata*). Each parasite also twists and waves its head while begging in the manner of an estrildid finch. Each

parasite uses all the begging calls and learns other vocalizations of its host. Thus, an aviculturist with a good ear can easily deduce the host of a particular viduine finch by the song it sings. A Queen Whydah, for example, would be expected to sing the song of its Grenadier Finch host, etc.

The reader probably sees why the presence of the correct host species in the aviary will increase his chances of breeding each Whydah species albeit possible that in an aviary situation Whydahs may lay in nests of the species not found with them in the wild (e.g. Zebra Finches). It is, therefore, a great challenge to breed Whydahs in aviaries using their natural hosts, and there have been some successful aviculturists.

Since nestling Whydahs beg with their head twisted in the manner of an estrildid finch, Society Finches have no trouble feeding them. Aviculturists, therefore, may increase their chances of success by fostering Whydah eggs or nestlings under Societies. In their studies, Drs. Nicolai and Payne have raised many Whydahs and Combassous using this technique. I would not be surprised if aviculturists could develop eventually studs of viduine finches that would regularly lay in nests of Bengalese, having been fed by the latter.

One final word about Combassous. This is a very difficult group of birds to identify; slight difference in color of bill, feet, or plumage distinguish different species. The one most commonly imported is *Vidua chalybeata* which parasitizes the Senegal Firefinch (*Lagonosticta senegala*) which fortunately is the Firefinch most commonly found in collections. The identification and hosts of the other Combassous must await another paper (see Payne, A.O.U. Monograph 11, 1973, on identification).



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