rump and tail crimson; underparts grey barred with white; legs and feet red brown. Hen: browner than male with more wavy lines on the breast and belly. These birds are ground feeders and spend many hours on the aviary floor searching for insects and seeding grasses. If alarmed, it crouches on the ground with its tail raised vertically to hide the crimson wings. It is not known as a good songbird but the male will often find a sunny location and his soft, melodious little song can be heard for most of the day. They are very peaceful and more than one pair may be kept together even when breeding. Insects are essential if chicks are to be raised successfully. This bird is ideal for those fanciers who cannot resist to “peek” into the nest. They are hardly ever provoked or frightened into deserting by nest inspection. This is another of the species that I have bred successfully in a cage.

RED-CHEEKED CORDON BLEU
(Uraeginthus bengalis)

Four and three fourth inches long. Beak silvery pink; forehead, neck, back and wings brown; face and underparts sky blue; cheek patch red; lower breast and abdomen grey brown; legs and feet horn colored. The hen lacks the red cheek patch of the cock bird and is much duller. One of the most popular of all foreign seedeaters. The Cordon Bleu is so charming and pretty that it is always the first to catch the eye of newcomers and is responsible for kindling the first interest in many bird fanciers. They are very inquisitive and are usually the first birds to investigate any new additions to their aviary. Strange food is also sampled quite willingly. These birds frequently breed in captivity and will use a wooden box or wicker basket. Up to five eggs are incubated by both parents and hatch after 14 days. If sufficient livefood is offered, the chicks should develop well and will fledge after 19 days. I have always been able to sex the chicks as soon as they leave the nest. The young males have blue flanks while the females are brown. Several pairs may be kept together even when breeding. Whether you have one or several species of these beautiful birds, you will find them worthy of your attention. Some of them are a challenge to breed, but the results more than make up for the extra effort involved. •

From the Past:

Aviculture Institute's Finch Breeding Facility

by Dale R. Thompson
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In 1981, a large finch breeding facility was begun by Aviculture Institute of Southern California. It was privately owned. The finch species reproduced at this facility included the Lady Gouldian Finch (three head colors and the white-breasted), Owl Finch (Bichenos), Red-headed Parrot Finch, Tricolored Parrot Finch (blue face), Masked Finch, Chestnut-breasted Mannikin, Shaftailed Finch (normal and fawn mutation), New Guinea Blood Finch and the Pectorella Finch. The main emphasis was on the Gouldian and Owl Finches. They were housed in a large commercial building with controlled temperatures and humidity. Large skylights were placed in the roof. A temperature of around 80°F was maintained with several large heaters above the breeding units and weaning flights. The humidity was kept around 65% relative humidity. Swamp coolers were used, but due to the high content of bacteria that was built up in the filters (even with regular changes), the humidity was accomplished by using a steam generator that blew steam through the heating ducts.

In almost all cases, the fostering method of breeding was used. The Society Finch (Bengalese) was used as the foster parent. Parent reared exotic finches (non-Society) were used for future breeding stock. But it was found that there was equal success from breeding with fostered birds as with parent reared birds. The key was that baby exotic finches could be fostered under Society Finches during the rearing process but weaned with babies of their own species. For example, when baby Goulds were removed from their foster Society Finch parents in the breeding cages, they were only placed with Goulds (both young and old) in large weaning flights. This meant that they were weaned with other Goulds and there were no Society Finches around to socialize with. This way they could not identify with their surrogate parents. These Goulds stayed together until they were either set up for breeding for the following year or sold.

Almost all of the finches were bred in small cages and all eggs were removed from the exotic type finches when they were laid. They were then placed under Society Finches for incubation. Often non-incubated eggs were held at room temperature for one to five days before placing under a Society pair. This enabled the eggs to hatch at approximately the same time; so there would not be a clutch of decreasing sizes of babies where the smallest could be abandoned or not fed. The Societies were also kept in small cages. The only species of exotic finches that used larger cages or flights to reproduce were the New Guinea Blood Finch and the Red-headed Parrot Finch. The Red-headed Parrot Finches gained too much weight when cage bred in a small environment. The New Guinea Blood Finches, as with the Australian variety, should be bred in single pairs due to the fighting among the cockbirds. Aviculture Institute received the U.S. first breeding AVY award in 1981 for reproducing the New Guinea Blood Finch.

The cages for cage-breeding were made from a single mold and this material was a plastic poly vinyl chloride (the same as PVC pipe material). All parts of the cage were made in one piece except the front. The color used in the plastic was off-white. The fronts were made of wire (1-1/2 inch) and this wire was bent at the bottom to form a wire cage bottom within the plastic cage. This arrangement did not allow the finches to sit or eat from the refuse on the cage bottom. The wire was heat-treated and covered with a teflon coating which aided tremendously in the cleaning process.

Watering, weed, food (commer-
These cages were 30 inches wide, 13 inches in height and 12 inches in depth. They were placed in frames and were stacked four high. Long aisles of cages were formed and all alike species of finch were kept in separate aisles. The Societies were kept in separate aisles away from all the exotics. Vitalights were used directly above the aisle as a supplement of light to the skylights in the ceiling.

The exotic type of finches were not set up for breeding until they were around one year of age. The only species with some difficulty sexing was the Owl Finch. But with the differences in facial color intensity, behavior and trial and error, success was relatively achieved. A minimum of four cages of Societies were used for every cage of exotic pair of finches. This meant that there was a minimum of four to one ratio of Society pairs to exotic pair. Depending upon the species of exotic finch, twelve to twenty eggs were removed in a row and then the pair was allowed to rest for six weeks. The nest boxes were removed to stop the pair from laying further eggs. This system was not adhered to rigidly since all species and individual pairs did not act the same. This was only the average number of eggs removed. Eggs were removed from when the first egg was laid. Seldom were artificial eggs used. The goal was to get each Society pair to feed only four young exotics as it was thought that more would defeat the purpose for rearing large, strong birds. There was a definite effort made to try to keep each individual Society pair raising the same type of exotic young every time as then they became used to it. With the extremely large numbers of exotics hatching at this facility, it was not always possible to keep a single exotic species under one pair of Societies and often two different species of exotics would be placed under a single pair of Societies. This was generally successful with proven pairs of Societies. (Proven meaning that the Society pair had successfully reared exotics before). It was not unusual to see one Gould, one Tricolored Finch and two Shaftails under one pair of Societies. The babies were so different in their actions. Those Society pairs that reared different exotic babies within one nest consistently received very valuable to this operation.

The individual pairs of Societies were not always male and female. Often two males were used. These male pairs were triggered to incubate by placing infertile eggs in the nest and when the pair began to incubate them these eggs were replaced with fertile exotic eggs. They then did a good job of incubating and rearing the young. The best success was with pairs that had successfully reared their first clutch of Societies and thereafter only exotic types of finches were used. This allowed them to learn on their first clutch. Although Societies can lay eggs at three months, they were very poor parents at this age. The Societies were allowed to wait at least six months before they were given a chance to lay their first clutch.

With the hundreds of pairs of exotic finch breeding, it was very important that records be kept in exact form. Dates of laying and hatching, number of eggs and timing the Societies working were only the beginning of record keeping. Keeping good records cannot be stressed too highly.

All finches were weaned in large (4'W x 8'H x 2'L) flights. They were given plenty of exercise and were kept in these flights until they were completely through the molt. Those that were to be sold were acclimated to lower temperature. The flights had plenty of perch space and, to simulate the breeding cages, were covered on the sides with an off-white color.

The diets used for this finch operation included a seed mixture of 50% White Wonder Millet, 25% Canary seed, 12-1/2% Golden German Millet and 12-1/2% small Red Millet. Spray Millet was used for the young exotics during the last week in the breeding cage with the Society parents and also in the weaning flights just after being weaned to them. This helped them through the weaning stage. Sprouted seed was an excellent food source for both adults and babies, but one must be ever so careful with soaked and sprouted seed mixtures as molds can occur very quickly in them. Egg food was fed and this was a mixture put together of Whole Wheat Bread crumb base, powdered vitamins and crushed, hard-boiled egg. All of the egg, including the shell, was used and it was boiled over 20 minutes. The egg food was fed to the exotics three times a week while
laying and fed to the Societies just before hatching of the exotics under them and all through the feeding stage. Shredded carrot was also fed to weaning fledglings and in small amounts to exotics.

When this facility was at its maximum output, it contained 120 pairs of Gouldian Finches, 80 pairs of Owls, 30 pairs of Shaftails, 20 pairs of Tricolors, 20 pairs of Diamond Sparrows, 16 pairs of Red-heads, 12 pairs of Masked and 10 pairs of Chestnut-breasted Mannikins. Every one of these pairs produced fertile eggs. Many pairs were tried and these pairs were the top breeders. To facilitate these exotic pairs, approximately 3,000 pairs of Society finches were set up. These, too, were all good parenting pairs. An example of the number of babies produced in one year was the Gouldian Finch which produced over 4,000 babies in 1984. The credit for managing such a large operation must go to John Vanderhoof and Renata Decher. Even though a facility of this magnitude may not ever be done again in the U.S., we can learn from the management techniques used at this facility.

The commercial finch facility run by Aviculture Institute in the early 1980s contained hundreds of PVC cages for breeding Australian finches. John Vanderhoof managed this large finch facility which was automated as much as possible to save labor.

Each breeding unit contained a two-way nest box, seed container, water and containers for egg food and grit.

Each nest had two entrances. The inside one was used by the birds and the outside one was used by the keepers to check or remove eggs and/or babies. Society Finches were used as foster parents.

John Vanderhoof, now noted for his lorises and lorikeets, and Renata Decher were responsible for the enormous finch breeding operation.