

Breeding European starlings in captivity

By Robert Paul Naeff

Introduction

The European starling (*Sturnus vulgaris*) is a type of bird that is rarely held in captivity. The bird's low popularity is probably due to the fact that it occurs in large numbers in the wild. Everyone knows starlings and therefore people are rarely interested in looking at these birds in aviaries or in the wild. If the starling was rare, then surely more people would be interested in keeping it, as it can't be due to its looks or character that it is not held in captivity more often. Objectively spoken, the starling is a pretty bird.

When the sun shines on its iridescent feathers, you can see many beautiful colours and moreover starlings are intelligent birds. There are few European birds which get so familiar with their keepers and therefore sing practically all year round. Furthermore, they are brilliant imitators and some individuals have an enormous repertoire. Not only can they mimic a human voice, but they can also copy a ringing phone, sirens, car alarms, songs of different birds etc.

Starlings are very easy to look after. They have a quite high resistance to disease and in captivity they can live between 10 to 15 years.

I have been keeping starlings for 16 years. The breeding results were never fantastic, but in the 2011 season my luck changed. I had discovered a breeding stimulus, which is the reason why I decided to write an article about these beautiful and interesting birds.



Starling in the wild

Looks and sex differentiation

As said before, the starling is a very beautiful bird. The birds have dark, nearly black feathers which are speckled and lighter edged wing and tail feathers. Its feathers are very strong and completely different to that of other birds, e.g. a blackbird. By figure of speech, blackbirds can lose its feathers just by pointing at it. A starling however will rarely lose or damage its feathers, and therefore they are ideal for showing. The feathers make an oily, shiney impression and because of its iridescence you can see a purple, green or blue glow on them depending on the light. The differences between the cock and hen are small, but visible to a trained eye. The white dots on the feathers are larger on the hen and touch each other on the stomach, which sometimes make it look like the hen has a nearly white belly. The hen's iris has light brown ring around it, whereas the cock's eye is completely dark brown. In Spring, the colour of the cock's beak changes from light brown to bright yellow with a light blue edge around the base. By then, the dots on the edge of the feathers have become small through wear and tear and in many cases have disappeared completely, so that the starling cock seems to be completely black in the breeding season. Both starlings sing, but the cock sings more frequently and more passionately. The starling cock sings all year long except during the moult. There are quite a few

colour mutations, which will be further explored later on.

Care and housing

Starlings do best in a large aviary where they can stretch their wings: a flight more long than wide and sparsely planted. Sometimes it looks like they fly up and down just for the fun of it, in completely straight lines. Minimum size for a breeding flight is approx. 4m long, 1m wide and 2m high, the bigger the better. You will need a few solid perches or branches, and the ground should be covered in sand or soil. Better no concrete floor, as the birds enjoy poking their long beaks in the ground looking for larvae. This behaviour will prevent the point of their beaks from growing too long. A part of the flight should be covered with waterproof materials like corrugated plastic, so that the birds can stay dry if they want to. Bathing is very important for starlings and they will have a long bath everytime clean water is provided.

I feed my starlings on Orlux remiline pellets all year round, and once a week give them an apple and a handful of mealworms. The birds are wormed twice a year, by mixing Cydectin in their drinking water for one day. Cydectin kills all parasitic worms as well as mites and lice. Young birds or moulting birds can be sensitive to Atoxoplasmosis. This parasitic infection can be treated by Baycox or Esb3.

In the breeding season I change the birds' diet and they will get large amounts of live food when the chicks are born. Starlings are very tolerant of other birds and I therefore like to keep them with black birds, thrushes, magpies and jays. Small bird types like wag tails, dunnocks and bearded tits live well together with starlings. Because starlings breed in holes, their nests are never disturbed by the above mentioned large and smaller bird types.

Breeding requirements

In every breeding flight I hang 2 nest boxes for each starling hen, to give them a choice. The size of the nest box does not matter so much, but should be approx 8 inch square and 16 inch tall. It should have a sloping roof with an overhanging edge, so that the rain can run away easily.

The diameter of the opening should be approx. 6cm. A perch underneath the opening is not necessary, but if it's there then the cock bird will always use it when singing. You should hang the nest boxes with the opening facing east. The starling cock bird starts inspecting and cleaning the nest box weeks in advance of the breeding season and usually I start providing nesting materials at the end of March or beginning of April. The nesting material consists of various plant based materials. My birds seem to prefer hay, dry broadleaved species of grass and bamboo leaves. They also like various types of feathers. When using a deep nesting box, the amount of nesting material used by the starling can be impressively large. This is because the starling will attempt to construct its nest at a certain height below the opening. The deeper the nest box, the higher the nest. Apparently the starling cock bird tries to increase the height of the nest to such an extent that he can fly easily in and out of the opening. Nearly all starlings in the Netherlands breed synchronously, meaning that they will start to build a nest at nearly the same time and lay the first egg on the same day. Usually this countrywide egg laying occurs in the last week of April. The tactic of synchronous nest building and egg laying has several advantages. All young birds fledge at nearly the same time, causing a flood of available food to predators, who can't keep up with the amount of available prey, which means that a lot of young starlings manage to survive. Anyway, most people have seen the huge flocks of young starlings and their recognisable begging call in the Summer. In aviaries, the breeding season is also largely synchronous to the wild birds. From mid-April we can expect to find the beautiful light blue eggs, which will be mainly sat on by the hen (if the hen leaves the nest the cock bird will more or less guard the eggs). The hen usually lays between 4 to 6 eggs, which hatch after 12 days. The young will leave the nest after 3 weeks and will start to eat for themselves 3 days after fledging. The adult starlings will sometimes start a second breeding cycle and in exceptional circumstances even a third one.



Cinnamon Hen

Problems during the breeding season

In contrast to their normal care, breeding starlings in captivity is not straight forward or easy. First of all, starlings are not gentle lovers. Preceding the mating, the cock birds will chase the hen forcefully. Sometimes such a chase will end in a struggle on the floor or nest box. This looks alarming, but in my experience you won't get any fertile eggs unless such behaviour is shown. The chase is part of the mating ritual and can also be observed in the wild. Strikingly, when the hen starts sitting on the eggs and sometimes leaves the nest box, the cock bird will start chasing her as if to get her back on the eggs.

A starling kept in an aviary has a few obnoxious habits. One of which is that the cock bird likes to throw the eggs out of the nest box. Usually the egg is taken in the beak and laid on the floor completely intact, but it also happens that the bird will break the shell and eat the contents. Once learnt this behaviour is very difficult to break. Even if the hen has been sitting on the eggs for several days, the cock may still manage to remove the eggs, sometimes even shortly before the eggs are due to hatch. It may be that the cocks that show this behaviour have a very strong mating instinct and by removing the eggs, are trying to instigate a new mating/breeding cycle. Sometimes it seems that the cock had not yet finished building the nest, and wants to carry on, but is hindered by the eggs in the nest. The funny thing is, that a cock bird which has removed eggs in one breeding cycle, may not show this behaviour in another. We can only guess at the exact cause for this often displayed behaviour. In any case it is sensible to supply the birds early with plenty of nesting materials, so that the cock bird has the possibility to build a fine and well filled nest box. This will prevent the eggs being laid on a small nest, which the cock bird may want to enlarge once it finds more nesting materials.

It is possible that this behaviour starts because the cock bird is bored. Boredom is especially an issue in a small aviary. In that case it could be beneficial to house another bird kind in the flight. These can distract the starling cock. Thrushes are a good example.

You can also stop boredom by giving the birds a tub filled with sand or wood shavings, in which you have hidden a handful of mealworms. Another way to distract the cock is to give it two hens. The cock will then have to divide its attention between the 2 hens and won't constantly chase one bird. It is remarkable to notice that a cock will have a favourite hen. It will mate with both, but will only help 1 hen with guarding or sitting on and looking after the young. Even if the nest boxes are only 1 meter apart.

Throwing out the eggs is a behaviour seen, not just with European starlings. I have bred several other types of starlings and have spotted this behaviour with, rosy pastors, spotless, white-shouldered, brahminy and silky starlings.

Some starling breeders put the removed eggs in nests of wild starlings and take the young a week after hatching and then hand raise them. This is a very successful but illegal breeding method....

Another problem you can encounter with captive starlings is the raising and feeding of the young. Usually there

is no problem in the first few days after hatching. Both the cock and hen bird continuously feed with buffalo worms, pinkies and mealworms, but at a certain point it stops. Apparently the birds get bored with the offered food and start searching for something that is obviously not available in the aviary. You can see the parents restlessly walk on the floor. They search in all corners and impatiently drill into the ground with their beaks. Live food that is offered in tubs is completely ignored at this stage. The young starlings will weaken quickly and are inevitably thrown from the nest after a few days. By using artificial means we can prevent this stop this feeding problem for a while. Just spreading the live food on the floor of the aviary can sometimes trigger the adults to start feeding again. Or offering a different type of live food like white mealworms, crickets or wax worms can also stimulate the parents to keep feeding the young. In any case starlings greatly prefer soft white larvae to feed their young.

Last breeding season I made an interesting discovery. By offering live and frozen food in a large bathing dish covered with 1 inch of water, I found that the starlings remained stimulated to feed their young. Unfortunately this way of feeding has the disadvantage that I was unable to powder the food with its usual mineral and vitamin mixture. However, as I hand rear the young, usually after 8 days this issue is easily countered. Any growth arrears can usually be compensated for with proper hand rearing. This will be further explored in the next section.



Young cinnamons during hand rearing

Practical experiences

In the middle of the 2010 breeding season, I saw a pair of starlings for sale in the north of the country. The cock was supposed to be a split/carrier for both cinnamon and satinette and the hen was a cinnamon mutation.

As I also live quite northerly and the price for the pair of birds was reasonable, I decided to purchase these starlings. The birds looked well, even though the cock bird turned out to be fairly old. The seller caught the bird and looked passingly in the nestbox, which turned out to contain 5 newly laid eggs. He grabbed the eggs (one broke), handed them to me and then carefully wrapped them in kitchen tissue for me to take home.

I still had a starling at home which had been sitting for a week on infertile eggs, and it seemed a good idea to give her the 4 remaining eggs to sit on. The starling hen continued to sit on the eggs and after a week I checked the eggs. It turned out that there were two fertile eggs. They hatched, and to cut a long story short, the hen fed them for a week, after which I hand reared them. They turned out to be 2 brown colour mutations: a cock and a hen. I had basically bought 4 birds for the price of two! And the story does not end there. The following year, breeding season 2011, I put the brother and sister in a spacious flight and the birds had a fantastic season.

The first nest contained 6 eggs and they were all fertile. The parents fed the chicks exemplary. I gave them frozen buffalo worms and pinkies in a dish with water and next to it I offered a tub with powdered mealworms. Every now and then I sprinkled some live food and when the young starlings were 8 days old, I removed them from the nest to handrear them. There were no signs of inbreeding (brother x sister), as they were all large, beautiful birds.

A week after I had removed the young from the nest, the hen started laying eggs again. This time out of the four eggs three were fertile. These chicks were also well fed by the parents and hand reared once the feathers started showing.

If you want to hand rear starlings, you need to remove them from the nest quite early. The best time is from 8 or 9 days. It is tempting to keep the birds in the nest box for as long as possible as it takes 3 weeks before the starlings fledge. However, the problem is that if they are already fully feathered, it is very difficult to get them to take food from your hand. The beak of a starling which has been taken from the nest too late appears to be deadlocked and only by force feeding them, can you eventually get them to take food again. Thrushes are, in that respect much easier to hand rear. They don't mind taking food from a human foster parent a day before fledging or even after fledging.

I raise young starlings successfully with Avian hand rearing food alternating with water soaked Eukanuba puppy kibble and fattened, powdered mealworms. The powder I use to enrich the live food is Aves insect powder. This is odourless and tasteless, so that it is easy for the birds to take in with the live food. This diet of hand rearing food, puppy kibble and mealworms results for large robust birds without leg abnormalities and such like. In the end the free eggs have so far resulted in 11 cinnamon colour mutants...

Simultaneously, I bred five split/carrier birds from an old white starling cock after many failed attempts in previous years. From these 5 birds and the white father I hope to breed a few white starlings next year. And that takes us to the subject of colour deviant starlings.

Mutations

There are quite a few mutations within the European starling bird type. A few of these mutations are pictured on the BEC website and in the book 'Breeding and showing European birds' written by Alois van Mingeroet. The following mutations are still regularly encountered: cinnamon starlings, satinette and phaeo starlings, isabels, pastels and cinnamon-pastel starlings. I also have a white black eye, but have not seen this type for a while with other fanciers. Maybe they still exist and I just do not know about it. I have also seen white starlings with red eyes. I understand that these are not real albinos, but a combination of 2 different mutations.

Unfortunately, we have already lost a few beautiful colour deviations. I have not seen the opal starlings anywhere anymore: gorgeous bright birds, which still show the dots, but whose black feathers have been replaced by shiny, iridescent silver grey.

My experience with the inheritance of variant coloured starlings is with:

- White black eye and phaeo – autosomal recessive
- Cinnamon and satinette – sex-linked