S T U R N U S

STURNUS - Vol. 1, No. 1 (Fall-Winter 1992) - North American Starling Fanciers Association

EUROPEAN (COMMON) STARLING *(STURNUS VULGARIS)*

HABITAT GENERALIST: LIVES AND BREEDS IN OPEN FIELDS, WOODLAND, SUBURBIA, CITIES.
INTRODUCED INTO NORTH AMERICA: SUCCESSFULLY INTRODUCED IN 1890. FIFTY PAIRS OF STARLINGS WERE RELEASED IN NEW YORK CITY'S CENTRAL PARK.
DIET: IN THE WILD, INVERTEBRATES AND BERRIES (PRIMARILY).
EGGS: PALE BLUISH OR GREENISH WHITE, MARKED WITH BROWNS. 1.2" (30 mm).

THE FAMILY STURNIDAE CONTAINS ABOUT 110 SPECIES.

HISTORICAL NOTE: THE EUROPEAN STARLING WAS VERY FAMILIAR TO THE GREEKS AND ROMANS. IT WAS KEPT AS A CAGE BIRD IN GREEK HOMES AS EARLY AS THE FIFTH CENTURY BC [PLINKY WROTE ABOUT A STARLING WHICH HAD BEEN TRAINED TO SPEAK GREEK AND LATIN PHRASES!]

THE GERMAN MUSICAL GENIUS, MOZART, KEPT AND DEARLY LOVED A MEMBER OF STURNUS (A COMMON STARLING). IT IS WIDELY BELIEVED THAT MOZART'S PIANO CONCERTO IN G MAJOR IS BASED ON THE WHISTLES PRODUCED BY HIS PET STARLING.

DIFFERENTIATING THE SEXES: COMMON STARLINGS CAN BE SEXED WITH CONSIDERABLE RELIABILITY BY NOTING THE COLOR OF THE EYES - DARK IRISES IN MALES, PALER ONES IN FEMALES.

DURING BREEDING SEASON, MATURE STARLINGS CAN BE SEXED BY CHANGES IN THE COLOR OF THE BASE OF THE BILL: MALES TURN STEEL BLUE, WHILE FEMALES SPORT A PALE PINK. BLUE FOR MALES, PINK FOR FEMALES!

THE MAJORITY OF YOU WHO ARE READING THIS NEWSLETTER CAME TO FIND OUT ABOUT NASFA VIA A BLUR WHICH APPEARED IN THE JUNE 1992 ISSUE OF BIRD TALK (SHOW NOTES COLUMN) . FOLLOWING IS A BRIEF REPRODUCTION:

More About Starlings

A LETTER FROM Dr. Anthony G. Payne told me, "Your starling-loving reader might be interested in knowing that I have formed an informal association of starling caregivers/ companions:
The North American Starling Fanciers' Association (tentative name). Basically I function as a clearing house for information on the care and breeding of European starlings. There are no dues or fees.

Dr. Payne says he has developed some unusual nutritional and naturopathic formulas for birds, as well as simple and effective first-aid techniques. His oldest starling is a 7 year-old male named Calypso. According to Payne, Calypso has an impressive vocabulary and sings several tunes. "He uses the phrases he has learned in context--a testimony to the intelligence of this avian wunderspecies."

THE FOLLOWING WAS SUBMITTED BY A WOMAN WHO READ ABOUT NASFA IN THE JUNE '92 ISSUE OF BIRD TALK. UNFORTUNATELY, SHE DID NOT IDENTIFY THE SOURCE - THUS MAKING IT A WEE BIT DIFFICULT TO GIVE CREDIT WHERE CREDIT IS DUE.

STARLINGS
are
NO DARLINGS

By Bill Lawren

Gang assaults, house thievery, murder, promiscuity;
It's just another day in a colony of these rowdy birds

THE NEST BOX hangs unobtrusively about a third of the way up a light pole in a suburban parking lot. Rutgers University graduate student Phil Stouffer sneaks a ladder up underneath the box, lifts the lid and gently places an unhatched starling egg in the otherwise empty nest inside. The light blue egg is an "orphan", an intruder in the nest (the technical term is "parasite"), placed there as part of an experiment in starling behavior.

By surreptitiously putting the parasite egg in a nest where it does not belong, Stouffer and his advisor, sociobiologist Harry Power, hope to answer an important question about the behavior of starling "housewives". When the female bird returns to her nest, how will she

respond to the presence of the parasite egg? Will she simply adopt it and hatch it as her own? Or will she do something that from a human point of view would seem to be almost unspeakably cruel?

Five minutes later the researchers have their answer. As they watch, the female starling returns and dives out of sight into the nest box. Then, she emerges seconds later carrying the egg in her beak. When she is a few feet away from the nest, she casually drops the egg from an altitude of about 15 feet. The rejected egg shatters on the pavement below.

In human society, this would be something akin to finding a baby on your doorstep, then dropping it from a ten-story window. But to Power, who has been studying starlings for more than a decade, it's simply one more aspect of the starling's behavioral repertoire--a repertoire that includes not only the sort of "ovicide" that he has just witnessed, but also house-stealing, gang terrorism, rampant promiscuity and even murder. In fact, says Power, when seen in all its conflict, drama and sturm und drang, starling society "makes Peyton Place look like a Sunday School".

Harry Power is a compact, square-jawed outdoorsman in his mid-forties. He looks like a young George C. Scott, but thinks and talks with the speed of a machine gun. His interest in bird behavior dates back to early childhood, when as a five year old he spent long afternoons running around his Los Angeles neighborhood with a salt shaker, trying to catch birds by salting their tails. Later, as a Montana high school student, he won a National Science Fair ecology award for pioneering work in the life history of mountain bluebirds--work which he continued to pursue as a postdoctoral student.

But simply observing and cataloging bird behavior was not enough for Power. He wanted to know how that behavior evolved, how it helped the creatures survive and whether or not there were general principles underlying that behavior that might be applied to other species, even people. To get at those bigger questions, he needed large populations of essentially tractable birds as subjects for what he calls "crash-bang experiments"---experiments in which the seamy side of bird behavior can be revealed by, he says, "getting the animal to do something you wouldn't otherwise see.

Power found bluebirds less than suitable for this kind of experiment. But in starlings---a European bird introduced to the United States in the 1890's which has since spread to 49 states, northern Mexico and southern Canada---he found the innate "nastiness" he was seeking. He also found the naturally dense populations and the durability that made for more complex experiments--and, perhaps, closer analogies with human society. "Starlings are much more like us than bluebirds are," he says. "In fact, when we look at them, to some extent we're looking at a morality play of ourselves."

To better understand this morality play, Power began in 1978 to construct what amounted to his own personal starling colony on the Rutgers campus. Over the next ten years, he and his students augmented an existing colony by building more than 125 new next boxes and hanging them on light stanchions and telephone poles all over the suburban New Jersey campus. As the starlings took up residence and built nests in the man-made

boxes, the scientists kept careful track of the birds by marking and banding them, and even by dyeing each embryo a different color just before it hatched so that they could tell exactly which egg produced each hatchling.

To make a precise determination of which parents had sired which offspring, the researchers did hundreds of detailed biopsies, including sophisticated genetic tests to help establish family lines. And they augmented all this by keeping the nest boxes under steady observation. Over the years these exhaustive procedures enabled Power and his students to compile a virtual encyclopedia of data, information which has allowed them to paint the most detailed picture available of life among the starlings. And as it turns out, it is a very difficult life.

Among starlings, as in many other birds, the nest is cornerstone of society--home, nursery and status symbol rolled into one. Just prior to breeding season in the spring, competition among male starlings for nesting sites reaches proportions more intense than anything seen among humans, even in the great American land rushes of the nineteenth century.

"The male birds get in knock-down, drag-out fights," says Power. "They'll get down on the ground and stand on one another and just "pound." The winners of these battles gain not only the nesting site, but the right to crow about their victory to the females.

Like people, starlings appear to have a discriminating eye not only for the best homes, but also for the best neighborhoods. On a tour of his far-flung colony, Power points out a string of some seven light poles with nest boxes that comprise a sort of starling Beverly Hills. "Those boxes always attract the oldest and the most productive birds," he says. "In fact, they'll kill to retain those boxes."

The reason for the desirability of this "neighborhood," however, remains a mystery. "What's so great about those particular boxes?" asks Power. "It could be that they're closer to best food supply, or it could be something social that's not apparent to us. We just don't know."

While the most successful birds establish their claims to Beverly Hills and others settle for different boxes, the least successful starlings simply run out of acceptable nesting sites. They are left to wander the area as homeless "floaters". But floaters are no less interested in reproducing than their more successful counterparts. Consequently, Power learned, these outcast nestless birds resort to a number of wily strategies to provide home and hatching for their offspring.

In the absence of a nest of their own, for example, female floaters often will try to slip their own eggs into another bird's nest. Such egg parasitism rests on a curious perceptual disability that characterizes not only starlings but most birds: females frequently cannot tell their own eggs from those of another bird of the same species. (Only when the nest is empty and an egg suddenly appears, as in the manipulated experiment that began this article, does the female recognize it as that of a stranger and discard it.)

Once a female has laid her own eggs, she can be victimized easily by a floater that sneaks into the nest when the resident female is out and adds an egg of her own to the clutch. The unknowing resident then hatches the egg and raises the chick as if it were her own. By marking eggs in nests and watching for the appearance of unmarked floater eggs, Power has found that this parasitism occurs with astonishing frequency: one in three starling nests contains at least one parasite egg.

Since it is obviously not in the resident female's interest to expend energy and resources in raising someone else's young, how does she defend against being victimized by floaters and their parasite eggs? Power has a theory: resident females defend against parasitism, he thinks, by taking out a sort of insurance against it. "Our studies," he explains, "show that the most productive clutch size--the size that produces the most surviving chicks---is six. But the most common clutch size is five. Why the discrepancy? Well, if you start with six eggs and then a parasite egg comes along, the clutch size goes to seven, and at that size the number of surviving chicks falls way off. But if you only have five eggs and are parasitized to six--you achieve the size that produces the most survivors. I think the birds are in effect leaving space for parasite eggs, not because they want them, but because they want to make sure they don't get pushed off the productivity cusp."

Although egg parasitism may provide floaters with at least some opportunity to perpetuate their genes, most of these birds would be much more successful if they had nest sites of their own. As a result, many homeless starlings will try to actually steal an already established nest. The technique is simple. "The floater bird invades the established nest, throws all the eggs out and just takes it over," says Power.

Attempts at this dual crime--house-stealing and mass "ovicide"--occur in about 12 percent of all the nest boxes under Power's observation, and are sometimes the work not of lone birds but of gangs of up to 13 members. In fact, in one particular group of nest boxes at Rutgers, a sort of gang warfare has been rampant for years. "But the success of these gangs," notes Power, "is very low. They'll come in, lay a few eggs and then some other starling pushes them out."

Obviously, the ongoing struggle for real estate is the source tremendous amount of conflict in starling society. But the same is true, Power has found, of sexual politics. He illustrates his point by showing a visitor a rich lawn where hundreds of starlings are feeding.

"When you look at the birds carefully," he says, "you realize that they're feeding in male-female pairs, with the male and female not more than a foot apart. In these pairsit's always the female who leads and the male who follows. What the male is doing is literally protecting her rear--and, of course, his genes. If the female gets too far away, or if the male gets distracted, other males will display at her, lunge and attempt to mount her. So the male wants to make sure that she doesn't pick up any sperm that isn't his."

<>Starlings rarely stay with a mate longer than one season, and the females are not the only ones with roving eyes. "Once the couple gets back to the nest, and the male is sure the female is secure, he might fly over to the next next box and try to mount his neighbor's

wife," says Power. The scientist believes that the female's coquettish availability to other males is an evolutionary strategy designed to keep the male so busy guarding her he has little time for sexual adventuring of his own.

These stratagems do seem to keep rates of successful cuckoldry surprisingly low. By conducting genetic studies of parents and their chicks in 95 nests, Power determined that only 2 to 8 percent of the offspring were illegitimate. Attempts apparently are legion. "If we had the same frequency of cuckoldry attempts in our society," he says, "you couldn't trust your wife or husband to go to the market."

Needless to say, however, cuckoldry is relatively inoffensive compared to another common aspect of starling behavior: the killing of their own kind. In winter, for example, starlings will kill for the chance to roost in a nest box, locking their legs around one another and stabbing at each other's faces until one of the combatants is dead. In fact, one female starling under Power's observation seemed to have an ongoing propensity for this kind of violence. "Sometimes when we came up to do a nest box census," he recalls, "there she'd be, locked in mortal combat with yet another bird. We must have 'saved' her four times in two years."

Because starlings disperse as far as 50 miles after they leave the nest, it is virtually impossible to tell how many of them eventually are killed. But the bodies of dead starlings with telltale beak marks on their faces turn up often enough that Power infers a murder rate among starlings of as much as 10 percent.

Power is quick to note that none of this seemingly violent behavior is unique to starlings. Wood ducks often practice parasitism, for instance, while cuckoldry is common among bobolinks and egg removal occurs frequently among cliff swallows.

What's more, there are reports of lethal fighting in a variety of bird species. For all its turmoil and strife, starling society has its gentler and more cooperative side. Power notes, for example, that starlings are "very good parents. They're not easily frightened away from their young, and they take good care of them."

In the end, then, Power tries to avoid making sweeping value judgments. "Nature," he says, "is neither moral nor immoral. To have a realistic view, you have to have an amoral view."

Some critics have argued that Power's "crash-bang" experiments might produce starling behavior that is something other than the "natural" acts that occur in the wild. But, says the scientist, "we're not changing the birds' behavior by giving them things like drugs. We haven't even increased their natural population densities, so the behavior we see is not the result of overcrowding.

These birds are doing exactly as they please. Whether or not its 'natural' is one thing. But it sure as heck is wild!"

END

THE FOLLOWING ARTICLE WAS SUBMITTED BY GAIL STAHLMAN - ORIGINALLY APPEARED IN THE NEWSLETTER OF THE COLORADO CAGE BIRD ASSOCIATION. A TEXAS-SIZE THANK YOU TO GAIL! (Ed.) CCBA MAY 1992

LIFE WITH JEDHA
BY GAIL STAHLMAN

I WOULD LIKE TO UNDERSCORE SOMETHING GAIL STAHLMAN SAID IN HER ARTICLE ABOUT JEDHA. IF YOU COME INTO POSSESSION OF A WILD BIRD - BE IT A HATCHLING, BABY, JUVENILE, OR ADULT - MAKE SURE YOU HAVE AN AVIAN VETERINARIAN [D.V.M.] PERFORM THE APPROPRIATE TESTS FOR ENDOPARISITES, I.E., WORMS, AND THE MORE COMMON AVIAN DISEASES.

SUSAN HARTZELL, WHO IS AN ANIMAL HEALTH TECHNICIAN EMPLOYED BY AN AVIAN/EXOTICS VET, TELLS ME THAT SHE RECENTLY CAME INTO POSSESSION OF AN INJURED MALE STARLING (SHE SUBSEQUENTLY NAMED "GOOD SAM"). SHE PERFORMED A TRACHEAL/SLIT CULTURE, A CBC AND BLOOD CHEMISTRY [CBC = COMPLETE BLOOD COUNT], AND A FECAL AND PSITTACOSIS TEST. THE PSITTACOSIS TEST CAME BACK POSITIVE - AND SHE PROCEEDED TO IMPLEMENT THE APPROPRIATE TREATMENT. AT THE CONCLUSION OF GOOD SAM'S COURSE OF THERAPY, SHE RETESTED HIM - AND "HE CAME BACK CLEAN". (FROM A LETTER DATED 5-6-92)

THE FOLLOWING IS FROM PAGE 216, THE BIRDS AROUND US (ORTHO BOOKS) ADAPTED FROM HOMES FOR BIRDS. DEPARTMENT OF THE INTERIOR. U.S. FISH AND WILDLIFE SERVICE.

DIMENSIONS OF VARIOUS BIRDHOUSES

BIRD	FLOOR	DEPTH OF HOUSE	DIAMETER OF ENTRANCE HOLE	HEIGHT OF ENTRANCE ABOVE FLOOR	HEIGHT ABOVE GROUND
BLUEBIRDS	5" X 5"	8"	1 1/2"	6"	5' to 10'
CHICKADEES	4" X 4"	8" to 10"	1 1/2"	6" to 8"	6' to 15'
FINCH, HOUSE	6" X 6"	6"	2"	4"	8' to 12'
FLICKER, NORTHERN	7" X 7"	16" X 18"	2 1/2"	14" to 16"	6' to 20'
KESTREL, AMERICAN	8" X 8"	12" X 15"	3"	9" to 12"	10' to 30'
NUTHATCHES	4" X 4"	8" X 10"	1 1/4"	6" to 8"	12' to 20'

SCREECH OWLS	8" X 8"	12" X 15"	3"	9" to 12"	10' to 30'
STARLINGS	**6" X 6"**	**16" X 18"**	**2"**	**14" to 16"**	**10' to 25'**
SWALLOW, TREE	5" X 5"	6"	1 1/2"	1" to 5"	10' to 15'
TITMICE	4" X 4"	8" X 10"	1 1/4"	6" to 8"	6' to 15'
WOODPECKER, DOWNY	4" X 4"	8" X 10"	1 1/4"	6" to 8"	6' to 20'
WOODPECKER, RED-BELLIED	6" X 6"	12" X 15"	2 1/2"	9" to 12"	12' to 20'
WOODPECKER, RED-HEADED	6" X 6"	12" X 15"	2"	9" to 12"	12' to 20'
WREN, CAROLINA	4" X 4"	6" X 8"	1 1/2"	4" to 6"	6' to 10'
WREN, HOUSE	4" X 4"	6" X 8"	1" to 1 1/4"	4" to 6"	6' to 10'
WREN, WINTER	4" X 4"	6" X 8"	1" to 1 1/4"	4" to 6"	6' to 10'

CURIOSITY CORNER

Ms. Patricia Hicks (McClean, VA) wants to know how long starlings can live in captivity -- I've checked several sources - and they all agree that the Common Starling (Sturnus vulgaris) can live as long as 16 to 25 years in captivity. (In the wild S. vulgaris is lucky to live 2 to 7 years!)

If you haven't already done so, you would be pleased to read this book by Margarete Sigl Corbo,
"ARNIE ,THE DARLING STARLING" COPYRIGHT 1983. PUBLISHED BY BALLANTINE BOOKS.

End of Vol. 1