NEW YORK STATE WILDLIFE REHABILITATION COUNCIL

Release

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THE QUARTERLY NEWSLETTER OF THE NEW YORK STATE WILDLIFE REHABILITATION COUNCIL,

Important Dates:
NYSWRC Board Meetings are open to everyone. E-mail Kelly Martin, President (kmartink@midtel.net) to join us.

Seminar 2010: In Grand Island, NY (Niagara Falls) October 22-24, 2010 Registration flyer will come in mail to all members. Email: nisseq@aol.com

October 15 -17, 2010, **Wild in Vermont**, Inc. in Dixville Notch, NH Email: ncarey12@me.com or call 802-899-1027

President's Report, by Kelly Martin
2010 NYSWRC Seminar Planning Underway

Preeeesentiiiing! The finest, the best, the most talented, and the most informative, experts known to the world of wildlife rehabilitation … all together for one weekend in New York to train and teach those of us who share their love of wildlife and concern for the health and well being of animals in need of human assistance. Whether you are a caring person who wants to know what it takes to become a good rehabilitator, or a newly licensed wildlife rehabilitator yearning for more knowledge to increase your skill level, or a more experienced individual interested in learning a new tool or trick of the trade, there is something for everyone. It is also an opportunity to network with one another, swap stories and to also just have some fun. Our speakers hail from across the country and come with vast expertise in diverse species. Of course there will be vendors selling useful goods to aid us in our work and an opportunity to benefit NYSWRC by spending some money on great items in the raffle and silent auction. Returning again to the backyard of the natural wonder of Niagara Falls, NYSWRC welcomes you to join us on **October 22-Oct 24 on Grand Island.** Coming soon to a mailbox near you … your registration materials. Don't be late!

Read on for a sampling of what to expect at this year's seminar. *Continued on next page*

Our NYSWRC Mission:
NYSWRC, Inc. is a not for profit membership organization dedicated to the education of wildlife rehabilitators, improvement of the field of wildlife rehabilitation, and the protection and preservation of the environment.

Editor's note:
I welcome your articles, poems, information, questions and artwork. We are pleased to print articles from our members, but caution each reader that NYSWRC is not responsible for the accuracy of the content or information provided, and does not necessarily endorse the policies proposed. Submissions should be sent to: nisseq@aol.com, or to NYSWRC, PO Box 62, Newcomb, NY 12852.

Seminar Sampling continued:
NYSDEC Wildlife Rehabilitators Exam
Rabies Vector Species Course (required for handling bats, skunks, raccoons)
Animal **B**asic **C**are Course (beginner level)
Labs (pre-registration required):
Song bird splinting, fluid therapy, turtle care and handling, wound care
Field trips: Messenger Woods & Hawk Creek
Medical topics:
Fluid therapy, wound care management, anatomy, physiology
In-depth advanced fawn care
In-depth bat care
Public education for and with wildlife
Organization/center/administrative topics
Basic song bird care
Basic mammal care
Basic turtle care
Mammal species:
Mustelids, fawns, cottontails, woodchucks, beaver, skunks, raccoons, bats, fox, squirrels
Avian species:
Great horned owls, woodpeckers, killdeer, waterfowl, shorebirds
Plus a fun-filled Friday evening study of "cool cases"
Annual Meeting/Raffle/Auction/Vet of Year Award
And, last but not least, special guest appearances by the famous, or is that infamous, Professor Avian Guano and Dr. Loonacy.

Pictured above: **Your NYSWRC Board at Work!**

The NYSWRC board members, with lots of input from everyone, have been working hard to prepare new exam questions and study guide references for our project to help NYS DEC bring their wildlife rehabilitation materials up to date. This long term project is coming

Kestrel chicks

Nominating Committee presents Slate for Annual Election:
Five current NYSWRC board members are seeking reelection. They are Amy Freiman, Barb Hollands, Kelly Martin, Terri Murphy, and Matt Zymanek.

Nominations will be accepted from the floor during the Annual Meeting. Members attending the conference will have the opportunity to vote in person. If you wish a proxy ballot, please contact the editor at: PO Box 62, Newcomb, NY 12852 or email your request to: nisseq@aol.com

We've all done it, or had it done to us.
Rehab Tip from SEH Burns
That favorite wool sweater got laundered in hot water somehow and turned into a thick "felted" garment that might fit a small child. Once the mourning period is over, recycle the item into a snuggly blanket for some critter. If it's really small, cut off the arms and sew them closed. It can be a sleep pouch for your next Squirrel. If you haven't lost a sweater this way but wish to experiment with recycled wool, simply buy a few 70 -100% wool sweaters at a rummage sale. Wash them in hot water in a washing machine. Use a little unscented castille soap (like Dr. Bronners) to clean and condition the wool. You can air dry them or use an electric dryer. The resulting felted wool is sturdy and the small mammals I've rehabbed seem to prefer it to fleece. It washes well and doesn't cost much.

Foxes — Did you know?
Safe vaccines for Red and Gray fox are very different. Red foxes, only get vaccinated for rabies at 4 months of age, (if you still have them.) Gray foxes are vaccinated with Purevax Distemper at 6 and 10 weeks, and rabies at 4 months (if you still have them.)

Renesting Success Story, by Amy Freiman
Recently I acquired orphaned hatchling American Kestrels from nearby rehabilitators. I hydrated, then fed, the babies and they grew quickly. Fearing imprinting, I kept them in a covered incubator so they saw nothing but themselves and a photo of an adult. Thankfully our network paid off! Two other rehabilitators offered their education birds as foster parents and a bander who runs a kestrel nest box network, of over 140 boxes, all responded to my call for help. The bander, Mark Manske found a box with one young bird and moved it to another box with appropriately sized young. Into the now empty box he placed my larger, banded babies. Both sets of parents accepted the new youngsters. Two weeks later Mark called to tell me they are all doing well and ready to fledge. I love a happy ending!

Pigeons, by Barb Cole

"They're nothing but rats with feathers!" How often have you heard that phrase in connection with pigeons? Indirectly, and certainly without meaning to, the people who say that are actually complimenting the birds! Like rats, pigeons are smart, hardy and adaptable; like rats they are the survivors in this world. And while more fragile species are going extinct around us left and right; doesn't it say something about an animal, when they are so successful that we humans think of them like that?
I bought a book the other day just because the first page I turned to was a picture of a nicobar pigeon. This bird looks like something drawn after ingestion of a hallucinogen. (Not that I would know personally, of course.) The primarily gray bird had long, curling feathers down it's neck like a horse's mane. And they were colored like a rainbow! I was enchanted. And anyone who has really looked, at even our ubiquitous rock dove, must admit they have glorious colors. Pigeon species around the world, both native and those bred by people, are amazingly beautiful and variable birds. (Although, as always, breeders have also taken the bird to extreme and sometimes grotesque levels.)

Pigeons and humans have had an intertwined history going back for thousands of years. In Europe many castles and monasteries still have standing dove cotes, some hundreds of years old, because the birds were raised as a food supply. At one time, pigeons could make the difference between having something to eat and starvation. It may be that pigeons here in the US are still reproducing year round (not a good idea here in the Northeastern wintertime!), because they are descended from European stock, bred for centuries to do just that. The ability of pigeons to home is well researched and still not entirely understood. National Geographic published an article that included information on the bird's ability to navigate over long distances. Pigeons have a time-compensating solar navigation system. This is complemented by magnetite in their brains and an ability to use the earth's magnetic fields for homing. There is research to suggest that they carry "sound maps" in their brains that help them use low frequency sound to navigate. A pigeon flying down the Mississippi River can hear the sound of the oceans on both coasts. They can hear a volcanic eruption in Java, or the wind rushing over the mountains in South America. How can we not hold in regard an animal that can do that? Of course, recent data has shown that when pigeons are released within a ten mile radius of their roost, they find their way back – using roads. These birds are both remarkable *and smart!*

The Duke of Wellington had a homing pigeon that flew 7000 miles in 55 days to home. It is said that the fortune of the Rothchild family was founded with a killing on stock markets (or that day's equivalent) when a homing pigeon reported the results of the Battle of Waterloo before the news was commonly known. There is a bird named Cher Amie mounted in the Smithsonian Museum in Washington D.C. This bird flew 60 miles in 60 minutes to call off friendly fire during WW1 and was credited with saving the Lost Battalion. Cher Amie flew like that with a bullet in it's breast and it's leg shot off, and in fact the bird died of it's injuries, so the medal it earned had to be awarded posthumously.

These days it has been claimed that the highest paid animal athlete in the world is the winner of a pigeon race called the Snowbird Classic. That bird earns $600,000 dollars, more than the winner of the Kentucky Derby! (Or the Boston Marathon, for that matter.) Not bad for a feathered rat.

So, if you do decide to care for pigeons, and I do fully acknowledge that there are some rehabilitators who have decided to only care for native species: what are the essentials to keep in mind? Remember that if you are an avian rehabilitator, you will be taking calls on native mourning doves, which are also columbids, even if you are not accepting pigeons.

As always, the basic rehabilitation principles should be applied. Make sure the animal really needs your help. If it does, make sure it is warmed up and transported in a dark container with something in the bottom of the box that keeps the bird from slamming into the walls if the light turns red quickly. Let it rest 20-30 minutes after intake unless there is a life-threatening condition (copious bleeding, blocked airways etc.). Do a complete physical exam, using your normal exam pattern, making sure not to overlook problems while distracted by the obvious. (Maggots in the ears or cloaca that are missed, while you carefully wrapping a broken wing, for example.) If the bird is starving, use the standard emaciation protocols: rehydration, then easily digested nutritional supplements, then a gradual introduction of normal diet.

Pigeon and dove babies, born only two at a time, will not gape for you even after they have been properly warmed up. They are columbids, not passerines. This means that the parents produce a substance called crop milk and the babies feed by sticking their heads down the parent's throats. There are a number of techniques that mimic this feeding behavior. Some are a lot messier than others. You may put their formula in the bulb of a large eye dropper, and the babies will stick their beaks in the opening to feed. Some people use a small sandwich bag, twisting all the formula into one corner, and then cutting a small slit for the baby to insert it's beak. The idea is to provide them with an opportunity to feed naturally, but this can be really sloppy. I gavage (tube feed) the babies, this is an easily

Continues next page

Pigeons, continued

learned skill. It is not a natural method of feeding the little guys, but it is quick and easy; especially if you factor in all the time you will have to spend cleaning formula off their faces (and it must be done to prevent skin irritation and infections).

People have used a variety of diets successfully for raising babies, I personally use a diet developed by Diane Winn. The Winn diet (see p. 5) consists of a crop milk substitute that can be used as a tubing mixture and gradually introduces a seed-replacer formula, such as Exact, according to the age and weight of the baby. Her recommendation is to feed crop milk substitute from hatching until eyes open and pin feathers appear (for doves this is around 30 gms., pigeons about 75 gms.) Then you begin to mix in Exact (by Kaytee), gradually increasing the proportions over several days until the bird is at about 65 gms., (or 200 gms for pigeons), at which point the diet will totally consist of Exact. Mourning doves fledge at around 80 gms., pigeons at around 275 gms. And your feeding schedule will vary according to the bird's age and weight from 2 cc's of formula every 2 hours for a 15 gm dove; to 8-9 cc's 3 times a day at 90 gms. They should start self feeding around 75 gms., so you may need to adjust for this. Once they start picking up regular bird seed you will be able to feel it by *gently feeling the crop.*

Pigeons are fed 5 cc's every 2 hour at 25 gms. Again this amount will increase and the feeding intervals will decrease as they grow. They will start self feeding at approximatel 225 gms. At 300+ gms they can be fed 20 cc's at a time, twice a day. And again, this may need some minor adjustment if and when you feel seeds in their crops.

Pigeons are social birds so I very rarely release a single bird or use hard release techniques - unless it is an adult, I am sure of where it came from, and it is a safe place for the bird. No sense in releasing a bird back where it got shot! Or if the building where the baby was found has been torn down. The pre-release cage used is 8' by 16' and has a small release door cut high in the side of the cage. Once the birds aretotally self-feeding, acclimated to outdoor temperatures, are waterproof, and have been exposed to the "flock" of other birds, I soft release; and recommend this if you can release this way.

So, even if you have made a decision not to rehabilitate non-native species, I think we might all agree that pigeons deserve our admiration. They are truly beautiful, well-designed birds. And if you dislike them simply because they are an introduced species that came over from Europe, was amazingly successful and has replaced, or crowded out natives in large swaths of the countryside; and can have a negative impact on their environment when they live in large gatherings..... well, maybe you haven't looked in a mirror lately. The comparison is quite enlightening.

For Even More on Pigeons—go to the web and read about the bacteria that pigeons carry and that may be harmful to humans: http://biomedme.com/general/pigeons-carry-bacteria-which-can-cause-gastro-intestinal-diseases-in-humans-research_8583.html

A Poem sent to us by Eve Fertig, in memory of her son Lance Alden Fertig:

I Saved a Life Today, by Carol Hardee

Poor little newborn raccoon babe was starving, skin and bone.
How frightening at such an age to be left all alone.
A few weeks passed, and there he sat, content in every way
I whispered softly as I walked by, "I saved a life today."

Flying squirrel fell from nest onto the cold, hard ground.
I did not know if you were dead because you made no sound
But soon your tiny eyes were bright as your fears slipped away.
I knew the words that come to mind, "I saved a life today."

The gray fox caught inside a trap and left in the woods to die
Was so exhausted from the stress, he could not help but cry.
In just a few weeks, the fox was strong, and looked as if to say,
"I wish to thank you for the help. You saved my life today."

Newborn pup, not house trained yet, was left alone and sad
Without kind words to comfort him,
he thought that he'd been bad
Oh, tiny one, when I saw you, my heart knew right away.
You looked to me with melting eyes,
"Please save my life today.'

I love this life I've chosen, although the days are long
To help the many needing me, I must stay well and strong.
So as each moment closes, and the light fades for that day
"I am so deeply satisfied – I saved a life today."

Gulf Oil Spill

We know you are as distressed as everyone by the current tragic BP spill. Some of us have asked how we can help. Currently the bird cleaning is being handled by USFW and Tri-State Bird Rescue and Research who has been contracted by BP. "While many wildlife organizations and individuals have expressed interest in providing their assistance, all rehabilitation efforts must be coordinated through the Service and Tri-State. They have designated a Paraprofessional Coordinator (PPC) to compile a list and organize scheduling of potential responders providing the information requested below. Paraprofessionals located within the states of Louisiana, Mississippi, Alabama, Florida and Texas will have first preference in scheduling and will be scheduled for efforts located within their home state. If you are located outside of these states and are interested in providing wildlife assistance, go to http://www.nwrawildlife.org/page.asp?ID=285 for directions."

Please let Avian Haven know if you use this formula, and how it worked for you.

Formula for Columbiform Hatchlings (Crop Milk Substitute)

Diane Winn and Mark Finke

Background

The original version of this recipe was developed in 2001; since then, periodic revisions have been made to accommodate changes in product composition as well as more information about the nutrients in natural crop milk. Previous versions of the formula have been used for hatchling pigeons and mourning doves at Avian Haven, circulated privately, and presented at conferences since 2002. So far in the 2010 season, the current recipe has been used to raise three pigeons from the egg, including the two shown in these photos. The authors welcome feedback on the formula; Diane Winn may be contacted at dwmp@avianhaven.org.

Columbiform species (pigeons and doves) are different from virtually all other birds in that they feed their hatchlings a substance created by (not regurgitated from) their own crops (Levi, 1986). "Crop milk," is similar in appearance and consistency to curd; it is produced by both male and female birds. The dry matter contains about 50% protein, about 45% fat, and virtually no carbohydrate (Baer 1999; Mirachi 1993; Levi 1986; Leach et al 1971; Shetty et al 1992). The amino acid profile of crop milk protein appears to be similar to avian muscle meat, possibly because crop milk is sloughed epithelial tissue (e.g. Bharathi et al 1997). Mineral composition of crop milk has also been described (e.g., Shetty et al 1990). To simulate natural crop milk, Baer (1999) recommends protein levels between 45-55% and fat levels between 38-48% (dry matter basis). "MacMilk" (MacLeod & Perlman 2002) is one home-made substitute for crop milk. Another, Formula for Columbiform Hatchlings, is described below.

Formula for Columbiform Hatchlings (Crop Milk Substitute)

1 (71 gm) jar Beech-Nut Stage 1 Chicken & Chicken Broth® Baby Food
1 ½ tsp corn oil
1/8 tsp active culture plain yogurt
0.3 g calcium carbonate
2 100-125 mg scoops Avi-Era® Avian Multiple Vitamins
0.2 ml Kirkman Liquid Iron
1.5 ml Lambert Kay Avimin® Liquid Mineral Supplement for Birds

Blend above ingredients until smooth (small amounts of additional water may be added to achieve tubing consistency). Egglets may benefit from the addition of Pancrezyme® or Pancreatin. As is analysis: 78% Moisture, 11% Protein, 10% Fat, 0.20% Calcium, 0.11% Phosphorus; Metabolizable Energy 1.20 kcal/g. Dry weight analysis: 51% Protein, 44% Fat, 0.92% Calcium, 0.49% Phosphorus; Metabolizable Energy 5.48 kcal/g.

About the Ingredients

Beech-Nut Chicken & Chicken Broth® Baby Food: All brands of chicken baby food differ in their fat and protein contents. Though other brands could be used in a crop-milk substitute, this formula assumes the macronutrients in Beech-Nut.

Corn Oil: Any oil can provide fat; however, corn oil helps the formula approximate proportions of the particular fatty acids most prevalent in natural crop milk.

Yogurt provides live beneficial gut bacteria.

Calcium Carbonate ($CaCO_3$): You will need a scale accurate to a tenth of a gram to weigh the amount that is added to this formula.

Kirkman Liquid Iron and Lambert Kay Avimin® provide trace minerals. (The trial size of Liquid Iron available at http://www.kirkmanlabs.com/ViewProductDetails@Product_ID@122.aspx will provide plenty for most practices.)

Vitamins: The target amount of vitamins in a crop milk substitute can be provided with two of the 100-125 mg scoops that come with Avi-Era®. Do not substitute another brand of multiple vitamins; its vitamin amounts may not be comparable to those of Avi-Era®.

Pancrezyme® or Pancreatin: These products contain digestive enzymes that may be useful for egglets (newly-hatched birds). About 15-20 minutes before the next feeding add a *tiny* amount to the formula that will be used in the next feeding and mix well; discard any unused formula. Alternatively, Pancreatin may be added to a small amount of water and tubed as a "chaser" to formula.

Formula for Columbiform Hatchilings, continued

Water: Natural crop milk has a thick, almost cheese-like consistency; however, more water should be added if the crop is slow to empty. For egglets, add at least ½ tsp. water to the basic recipe (or add water proportionately to the amount for each feeding).

Transition from Crop Milk to Seed in Wild Columbiformes

At first, crop milk is produced only while the parents' crops are empty of seed; it is the sole food of hatchlings for the first few days. Research described in Johnston (1992) indicates that seeds are mixed with crop milk after day 4 in Rock Pigeons. It remains the primary food of the young pigeon for the first week to 10 days (Baer 1999), during which time the parents introduce and gradually increase the proportion of adult foods such as regurgitated seeds. According to work summarized in Johnston & Janiga (1995), full transition from crop milk to seed occurs during the juvenile's second week. Similarly, in Mourning Doves, feedings consist almost entirely of crop milk for the first 3-4 days; by 5-6 days, parents are feeding more seed and decreasing quantities of crop milk (Otis et al 2008).

Suggested Transition from Crop Milk, Feeding Amounts and Intervals

For pigeons and doves in rehabilitation, a commercial hand-rearing formula for psittacines such as Kaytee Exact® or ZuPreem Embrace® may substitute for regurgitated seed. If the hatch date is unknown, it may be estimated via the transition from closed to open eyes. In Rock Pigeons, eyes open at 4-5 days (Johnston, 1992), about the same age at which the parents begin to mix regurgitated seed with crop milk. In Mourning Doves, eyes are partially open at 4-5 days and fully open at 6-7 days (Otis et al 2008), again coinciding with the introduction of seeds by the parents. Therefore, a guideline is to begin mixing the crop milk substitute with Kaytee Exact® or ZuPreem Embrace® when the bird's eyes begin to open, gradually increasing the proportion of the latter over the next few days. Columbiform species have a greater crop capacity, and are fed less frequently, than Passerines. A rough guideline for feeding amounts is 10-12% of the body weight, with the formula delivered directly to the crop. Younger birds may be fed 4-5 times per day, and older birds 2-3 times. Allowing the crop to empty between feedings ensures that the hatchling/ nestling is processing the food. Before each feeding, gently palpate the crop. If it is not empty or nearly empty, consider waiting longer before feeding again. If formula remaining in the crop feels hard, tube a small amount of warm water and massage the crop very gently. Add additional water to formula fed subsequently.

Offer older nestlings a seed mix formulated for columbids, such as Hagen Pigeon and Dove VME Seeds Mix or Blue Seal Pigeon Feed, and also a small amount of appropriately-sized grit. Discontinue tubing when palpation of crop reveals the presence of self-fed seed.

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Pigeon photos by Diane Winn

Pigeons, by Donald Jenner

Pigeons: Environmentalists hate them ("invasive species"). New York City council members loathe them ("Oy! Such poop!"). There's even a contingent of ostensibly serious rehabilitators who take the view that they aren't wildlife and aren't worth dealing with (these are people who have not read their licenses?).

That said, pigeons are (with rats, followed by feral cats and dogs) the most ubiquitous of urban wildlife, and of them all the most visible.

The ubiquity is evident from treatment records; New York's Wild Bird Fund, the largest wildlife treatment facility in town, saw 1,146 birds in 2009; the vast majority of these were sick or injured pigeons according to WBF principal Rita McMahon.

The visibility is more complex: It is not just you see them everywhere; it's that pigeons actively and willingly share our human habitat. The pigeons we encounter are *feral*; they descend from domesticated pigeons; they embody a 5,000-generation adaptation to living with people in one way or another. Perhaps surprisingly, they even like us and will seek to be with us given the slightest encouragement. Even more surprising: Pigeons will do this as much for motives that may strongly resemble human feelings of companionship, as for a desire to get a snack.

Successfully caring for pigeons — like any caring worth calling that — begins in appreciation; the mechanics of rehabilitation follow from that. I think that is best accomplished in two ways. There is formal study: It is really amazing how much interesting information is available about pigeons. Some of it is even pretty decent science (and some is, well, apparently dictated more by who gives grants than scientific inquiry).

Pigeons are remarkably adaptable survivors. They live in temperate areas, tropical areas and almost-arctic areas. Given access to sufficient calories, they survive quite well even in difficulty climates (cf: Johnson & Janiga, *The Feral Pigeon*). Given how they always seem to be eating, it's surprising to discover that the actual per-pigeon consumption is only about 50-70 grams a day. That means in temperate areas, a good-size flock (~150 *visible* birds; add 25 percent for the ones you don't see...) eats about 20lbs. (half again more in a cold winter) of *something* a day (Johnson & Janiga, *op cit.*). [Among other things, this means that in most instances, concerns about people putting out a few ounces (or even a couple pounds_ of seed or crumbs for the birds are misplaced; most of what pigeons — and sparrows and many other "pests" — eat is the stuff we drop in our rather messy ways. They fill a useful ecological niche.]

Despite the common view that pigeons proliferate without restraint, the evidence is that only about a third of the adults mate and beget, and of course, not all eggs hatch, nor do all nestlings survive to maturity (cf: Murton *et al.*, "Ecological Studies of the Feral Pigeon *Columba livia* var, I" in *J. appl. Ecol* **9**, 835-74).

Unlike most birds, pigeons can survive with some gram-negative bacteria and other nasties in their guts — do so commonly (many sources). These are hardy critters, and not zoõnotically dangerous, taken altogether. The hardiness includes resistance to some avian diseases that can under some circumstances pass to people; the best evidence is that pigeons are not reservoirs for, e. g. West Nile Virus or Avian Influenza (reports to the contrary are few and from suspect sources). Most of the things that bite pigeons die if they bite us; most of the bugs they get, we won't get unless we eat them raw — that sort of thing.

Pigeons surely do poop — about a tablespoon a day. It's not considered hazardous waste (the NYC Dept. of Health & Mental Hygiene recommends that truly vast quantities of dried pigeon guano be wetted down to reduce dust, then bagged and put out with regular trash (human & dog poop — and kitty-poo — are more dangerous) and a good rain storm pretty much washes away accumulations out in the open. Regular hosing-down gets rid of less exposed accumulations. [The gardening crowd may actually wish to save pigeon guano; it is remarkably good fertilizer, the nitrates are released slowly, and so on.]

Pigeons are remarkably intelligent critters: They have an uncanny ability to recognize objects and people even with changed surroundings and alterations in appearance (cf: Herrnstein *et al.* "Natural Concepts in Pigeons" in *J. exp. Psych: Animal Pro. Beh.*, **2(4),** 285-302). They are curious and they are quite definitely able to learn — from other pigeons, certainly, but also from people. Some researchers have concluded that pigeons manifest something very like metacognition — the reflection on one's own uncertainty which is part of formulating advanced learning strategies. This is hard to confirm, as it is not the case that all human-like behaviors arise from human-like psychic processes.

On the other hand, pigeons are very interesting subjects for animal studies used precisely to shed light on fundamental human psychic processes. One thing is quite certain: When in the distant past one line of evolution continued down to the present in avians, and another continued down to the present in mammals, at the point where the differentiation took place (which was, of course, nothing so simple as a real point-

Continues next page

instant...), the evolutionarily old parts of the brain were already pretty well established; one has to wonder about some of those later aspects, as well. In any case, this means that at some level, feelings — largely a function of the evolutionarily old part of the brain — are not all that different between pigeons and people.

It's a great deal more complex than that summary suggests, but the outline is clear and the argument is readily defended. There is quite a lot to be learned about — and from — pigeons. It is equally the case that one learns a great deal about oneself in the process.
This formal learning needs to be supplemented by spending time with the birds. I have noticed this with squirrel rehabilitators too; rehabilitators (at least in the five boroughs of New York City) tend to "specialize" and this results to some extent because we have spent more time with the special-object animals than with others. We get to know them and their peculiarities and special needs and so on. One may like the occasional change (I know one woman who is actually shifting away from "wildlife" to feral cats; this is an extreme case), but one does best with a small range of animals one really gets to know, it seems.

In our case, this was actually the beginning of things. The pigeons Mrs. Jenner and I most often take "under our wing" are birds from a flock that is centered on the intersection where we live. We had been seeing them and playing with them long before we began healing their hurts and so on.

I use the word "play" quite deliberately. There is an element of playfulness in the whole business. It was best before recent demographic shifts led to the effective conversion of our local parks from *neighborhood* places to kiddie-playgrounds. Most of the birds were pigeons and sparrows, with a few of the local starlings. They came for a snack; some figured out exactly where the special treats were (and to suddenly discover a pigeon sticking its head in your pocket questing for peanuts was definitely amusing) — and some would stay for awhile even after the peanuts and seeds were gone.

How far can this go? I have on more than one occasion been walking a block away from "feeding central" and I see a pigeon stop and look at me in a knowing, questioning way. I put out my hand, and it will fly to it, as if it were asking "Where are the peanuts? Do you have any today?" This is, by the bye, perfectly consistent with excellent evidence about pigeons' abilities to recognize and connect events. Then there are the times when the birds get so involved in the whole thing that, as I stroll away, the entire flock walks along with me — for a couple blocks. One does get stares when this occurs.

There is an emotional downside for us: Birds disappear. They die. They are injured and one cannot find them. They are brutally killed by obnoxious people (Bill Sykes is with us yet...). They are trapped for illegal export to Pennsylvania, where the yahoos persist in captive-pigeon shoots — and in having their ill-bred children kill the wounded but not dead birds in such charming ways as ripping their heads off, or banging the hurt bird against walls, or crushing their skulls under their heels, or just tossing them in barrels with other dying birds, to eventually suffocate. The emotional connection is not all joy, and this carries over — is perhaps intensified — in the best of rehabilitator mind-sets.

In short: Pigeons are very real candidates for a rehabilitator's attention. They get into lots of trouble — everything from environmental poisoning, to being shot with darts, BBs and so on. They are sideswiped by cars. Infants still in the nest get chucked out in the street by builders and janitors; there was even a case of birds walled into a college building by builders unfamiliar with "The Cask of Amontillado".

The most common problem: Thread and string get wound about a pigeon's feet. The string tightens and infection sets in. Eventually, toes, feet, even lower legs are lost. Walk around the city; look at the birds; it's rare indeed to find a group that doesn't have a bird with damaged feet. We see enough of these that we don't even log the fix in most cases.

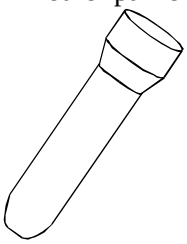
The first problem is getting hold of the bird; this part is is a matter of art, not science. Pigeons may like us, but they aren't *that* fond of us and they like being free (sitting on an arm is one thing; being held is something else altogether). About the only hope is to get the bird engaged in a group with other birds, gobbling down some seed, then get up immediately behind it, and come down from about 45° above and behind — about the only place a pigeon cannot see. Some birds, when taken this way, will be fairly quiet; others resist being held and worked on. Sometimes the thread can be taken off with the scissors in a small pocket-knife; sometimes we bring them upstairs because the problem is complex. We find really sharp scissors and dissecting tweezers helpful. Sometimes a headstrap loop has changeable lenses and a neat little LCD light) is handy, too.

Mrs. Jenner is better at this than I am; she first puts the bird in a small plastic bag, head out through a hole in one end, legs out the other. Then she sets to work. Thread removed, and wound cleaned, we usually seal it with a bit of liquid bandage and let the birdie out. When things are really bad — a toe or two coming off, e. g., — we keep the bird in and consult with Wild Bird Fund for vet-shop based assistance as needed.

Pigeons, by Donald Jenner

Another large class — pretty much year 'round for pigeons — is the displaced-youngster crew. This includes nestlings who shouldn't be out, recent and generally clueless fledglings and a group of both that have had one or another serious injury. Sibling rivalry can be tough; sometimes a bigger sibling boots the smaller out (and sometimes they are inseparable...). The baby will be pretty obviously a smaller rather than larger sibling, and will be super-hungry. Food and water are the first priorities for these guys. The simple solution is basic puppy food – the hard, dry, "puppy chow" kind (we use a somewhat better brand, less reliant on indigestible "by-products"); soak the bits 'til soft, open baby's beak and pop it down. After a few bits, baby gets the idea and becomes quite seriously interested in the stuff (which can make for a bit of a handful).

Another pair of brilliant ideas came from the Wild Bird Fund: Big syringes commonly come in big tubes (see drawing), and the tubes can be converted to feeding instruments. One variant fills the tube with smaller seeds (millet works well), then uses 2" elastikon tape across the mouth and secured with adhesive tape or rubber band and a slit cut in the middle of the top. Baby quickly figures out that seed is on offer and takes a fill. For younger birds, fill the tube with Kaytee Exact hand-feeding formula on the runny side, and cover the end with a piece of latex (get the kind used in gyms for stretching exercises, available in different thicknesses and so on; a small piece lasts a long time). The youngster sees this as not a bad mommy-substitute.



If more liquid is in order, or if "jump starting" a youngster close to renal shutdown or otherwise addressing dehydration, we've had good luck orally syringing a few milliliters of Pedialyte into the bird. This is easier to deal with than lactated Ringer's solution, doesn't require injection and is substantially less costly and more readily found when needed. Followed with moistened puppy chow bits (10-15 or so seems about right, three or four times a day for all but the youngest), this seems to quickly get things working, the evidence for which is poop. The same recipe works well for clueless fledglings having adjustment problems. Perhaps the biggest problem with youngsters is releasing them. They tend to be around the house longer, and even if well socialized with other pigeons, it is an artificial environment, with few threats.

This must not be confused with imprinting. There is clearly a great deal of misunderstanding of this notion; I have heard it misused by knowledgeable rehabilitators and even some people whose professional training should preclude the mistake. Imprinting takes place during what is commonly called (following esp. Lorenz's signal ethological study in 1935) the "critical period"; just what this is, is now being revisited in the light of neuroscientific developments; it is pretty clear there is a real, measurable change, and that it occurs very early in the life of most higher animals — birds and mammals. Most animals rehabilitators deal with are mostly likely (the caveat is that neuroscience may show otherwise) already imprinted; nothing we do will fundamentally alter that.

What *does* change is habit. The animals we deal with are effectively trained to live with us. We could not do the job before us if this were not so. Unlike imprinting, which appears to entail physiological changes, training can be altered, though this may be difficult. Also, to the extent training is conditioned behavior, new conditioning is merely laid down over the older conditioning; any return of the old stimuli will cause reversion to the old behavior patterns. The thus reinforced original training is substantially harder to alter a second time, according to various commentators.]

There are no hard and fast rules, but we can usually expect fully adult birds with some outdoor experience to show up in one usual-place or another. With the youngsters, it's about fifty-fifty that we may never see them again. It is not a little heart-wrenching to realize that youngster you have cared for, have hand-fed and tended to, and who took off so magnificently when the cage door finally opens after a week or so of acclimation, may have had only that one first flight in freedom before a truly painful, mierable death. For that alone is their ultimate fate; few die peacefully.

Thread removal and just too clueless to get enough to eat are pretty easy problems to address. Wounds, broken bones and infections up the ante, obviously. Broken bones are best done with help from a vet-shop; an x-ray is very useful in assessing the break and otherwise unseen problems.

A wing broken in such a way as to compromise the joints almost certainly means a bird that will not fly again; strictly, one should euthanize. Practically, sometimes enough movement can be restored that the bird can go to a sanctuary, have a good life in a sheltered environment, and some rescuers take that route. Also, since pigeons are not *native* wildlife, there is some ambiguity in the rules that preclude their being kept as companions, and some find loving homes with people who are a bit more alert to animal needs than the average disposable-pet owner.

Broken legs are equally significant; pigeons spend a great deal of time on the ground. A one-legged pigeon

Continues next page

Interestingly, a pigeon with both legs, even if crippled in one, can do quite nicely. One bird came to us with a BB in his back; the wound left him with a withered right leg. We argued against taking the leg off, and this seems to be correct. AhQiang is a big guy and he uses his withered leg as sort of a balancing tool. He has sufficient strength in his other leg to launch into flight, and he even manages to perch on a low fence to accept his afternoon peanut snack. So, given at least limited functionality, a pigeon with two legs in so-so condition can have a reasonably good life. We see Ah Qiang regularly; sometimes he needs a nail trim (which, interestingly, he allows), but is otherwise a clearly dominant member of his flock.

We've been seeing more back injuries this year. These come about from various encounters. Some may result from attacks of larger birds against smaller, less strident birds; some result from attacks by other animals; some come about from plain mischance. The result is a bird that can't get about, can't feed, eventually starving to death. Pigeons can heal pretty well, sometimes getting full function back. Maggie came in unable to stand and was found to have a back problem. Feeding up, some B12 and calcium (plus some homœopathic stuff — recommended by some rehabilitators; I note in passing, none of them I know consults a homœopathic *materia medica* or repertory along the way, and that reduces this to rather wifty folk medicine at best...) and a bit of therapy — now she flies about and keeps her own with the other birds. On the other hand, as I write, I have Marble next to me. The lesion was more severe, and while it seems to be healing correctly, Marble is not getting the full use of his feet back. Plenty of strength; no control. Otherwise, Marble is a pretty nice little bird, but perhaps paraplegic. SOP is euthanasia; interestingly, we know some people who've adopted paraplegic pigeons and the birds seem pretty well content — at least as much so as human beings thus challenged. [Again, DEC's rules are — ambiguous... — about what private citizens may do with “invasive species”. These critters are wildlife, but not quite the same as *native* wildlife. Other governing laws are equally lacking in clarity. Gray areas leave latitude for rehabilitators, and that may be remarkable bureaucratic wisdom. If not, one suspects the potential litigation could be very very jolly.]

More obvious injuries involve lacerations and other nasty, bloody wounds. One bird came in with a great big hole in its foot, just up from the halix. I cleaned it up and bandaged it, but it looked nasty. Karen Heidgerd at Wild Bird Fund agreed, but did some small magic of her own. She removed dead tissue from around wound, cleaned it and put in a couple stitches, then dressed the wound with honey, covered with a small patch of Adaptic; this was then wrapped with a bit of cast-padding and vet-wrap. After a week, the stitches came out, a bit more honey (plain ordinary honey, not even manuka honey) added and the foot was re-bandaged for another week. The result: a near-perfect, almost scar-free healing and a foot that works good as new. Oh, and that little hen has a new boy-friend.

Diseases get a bit more complex. We do our own basic tests here. This was sort of an adventure; I had not set foot in a biology class since undergraduate days a long time ago. I found it useful to take a course on microbiology; I wish my college offered a lab-techniques course as well. I also found a very good course through Idexx (they are vet-product makers among other things) on fecal analysis (I have a certificate; I can prove I really know my, er, well, there you are...). This and a great deal of reading and practice has gotten me to the point where I can do the very basic poop check for parasite eggs and untoward gut bacteria using Gram's test. There are a few others I wish I could do, and I am sufficiently puzzled by the kinds of results I see from the main vet-lab service, that I wish I could set up to do my own cultures (but here we are in a small New York City apartment...).

Generally, though, a fecal float gives a reasonably good picture of parasites present. Coccidia is easily treated in pigeons; a European coccidostat, Appertex, is a one-shot deal, and commonly kills the particular species that most often afflicts pigeons. Avian roundworm and capillaria are also commonplace, and are readily addressed with very tiny doses of panacur.

Bacterial infection is a bit more complex. Pigeons, unlike most birds, tolerate a certain amount of Gram-negative bacteria — including *E. coli* and *Salmonella* spp.; the issue becomes, how much is too much? They may develop *Clostridia* infections. Yeast is a commonplace occurrence. There are a few other commonplace problems that can show up even in basic tests such as Gram's test, and the responses are pretty much standardized. Good mentoring from the vet side allows some short-circuiting of the treatment process. After some experience it is possible to relate a set of symptomatic data and test results and suggest a treatment regimen to the consulting professional. Where it transpires such guidance is not available, familiarity with the species and standard treatment regimens might allow the rehabilitator to proceed independently, seeking confirmation later. The standard antibiotics for such diseases — sulfamethoxazole + trimetheprim (now back in favor), metronidazole in solution, doxycycline, aureomycin — are generally available “over the counter” from sources specializing in supplies for pigeon fanciers, along with very good oral trichomonacides and so on.

has a severely limited survival potential, especially in winter.

More specialized medications for more involved situations. entail a prescription: I have usually had a few 250 mg tablets of cipro on hand; these can be easily crushed fine and mixed with simple syrup to produce a 25mg/ml or 12.5mg/ml suspension that works for most birds small animals. [The "most" is important; one could not use such a suspension with starlings, a species that is sucrose-intolerant. One really does have to know this stuff and be creative about alternatives; for example, Agave nectar is mostly monosaccharide and in small amounts should be a viable alternative.]

Ivermectin in solution (other than that intended for injection) has recently disappeared from the market, but one can order (with a prescription) tablets that readily mix in syrup. Clavamox is a very useful antibiotic combination, but expensive and subject to deterioration as it ages; it is useful to have a couple bottles around on hand but to be chary with it. We tend to avoid injectibles, and I confess to a real prejudice against what sometimes seems a sort of wholesale dispensing of antibiotics ("O, I just soaked a cup of seed in Baytril, then put it out for the dear little birdies.").

Dosage is worth checking: The University of Minnesota's research animal resources has its formulary online (http://www.ahc.umn.edu/rar/umnuser /formulary.html); it covers most of the basics for different phyla and is a good check .

Then there are some diseases to which pigeons are prey which admit of no treatment. Pigeons are pretty hardy creatures, and they can take fairly substantial doses of environmental toxins, but sometimes even they are overwhelmed. There are some things that are within the scope of treatment a rehabilitator can administer to deal with environmental poisoning; most require more detailed veterinary treatment than can be delivered without substantial professional support.

Paramyxovirus is another tough nasty. This virus has a pigeon-specific variant; there is no treatment available. Some birds develop this when their system is otherwise weakened; Beca was like this — just chock full of parasites and with a *Clostridia* infection as well. We cleaned them out and bingo, he developed signs of PMV. But Beca was a tough birdie and after about eight weeks (in isolation) had recovered sufficiently to be released; we see him regularly and he is a healthy bird. This is not always so; some pigeons have very severe cases, and for them euthanasia is the only decent option. There is a sort of gray area between "mild" and "severe". The Wild Bird Fund's determining question is, can the bird feed itself. This is a good test.

It gets more complex: The symptoms of *Salmonella*-caused paratyphoid are very like PMV and even experienced pigeon rehabilitators (far more so than I) have taken what was most likely paratyphoid for PMV. This is a bacterial disease, and can be treated — but the common view is, a bird once infected with paratyphoid is always a carrier. Euthanasia may be more appropriate than cure, in such a case? But how to tell, absent culturing, which is hard to do, mildly risky (there are *no* beneficial *Salmonella* spp.) and costly if sent out?

It is also important to note: There are some real frauds being perpetrated in what passes for avian medicine. There is, for example, the Italian vet who recommends potassium arsenite as a treatment for paramyxovirus (priory.com/vet/falcons.htm; cf: http://www.anapsid.org/cnd/pets/cfspets.html); this is clearly dubious, if not altogether bogus science (but interestingly, I know a couple "rescuers" and "rehabilitators" who actually proposed to try dosing pigeons with potassium arsenite to see if it would work; shades of Tom Lehrer: We'll murder them all amid laughter and merriment. Except for the few we take home to experiment.).

So, what's the point here? First, I am suggesting that pigeons are rather interesting critters, both in themselves and as a Type for avian rehabilitation. The opportunities for learning the species both formally and through directly developed familiarity are substantial, and both kinds of knowledge are essential to the rehabilitation effort — regardless of species. The ubiquity of the species may make pigeons an ideal "training species". I have also shown some of the kinds of things rehabilitators dealing with pigeons do — from basic care of abandoned or orphaned youngsters to fairly substantial medical care. Finally, I have shown some of the problems that rehabilitators working with pigeons encounter that go beyond the scope of what a rehabilitator can do.

Pigeon photos by Diane Winn

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WILDLIFE REHABILITATION COUNCIL
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