



1-1-1986

Potomac Fever

Helma Weeks
University of Pennsylvania

Birds as Pets

More people are choosing birds as pets because they can be as comforting as dogs, say University of Pennsylvania researchers Drs. Alan Beck and Aaron Katcher.

Beck and Katcher surveyed bird and dog owners and observed them as they interacted with their pets. They concluded that birds elicit calmer interactions and encourage more dialogue between pet and owner. "People do not normally think of the bird as an outlet for affection and intimacy," Beck said. "But people spend even more time with their birds than they do with their dogs."

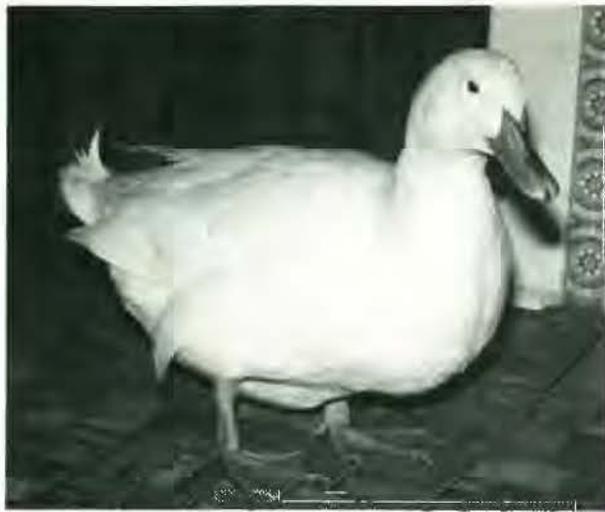
Earlier studies by Beck, adjunct associate professor of animal ecology and director of Penn's Center for the Interaction of Animals and Society, and Katcher, associate professor of psychiatry, have shown that companion animals have a therapeutic effect on people. Pets reduce stress and relieve loneliness, they found.

"The intimacy people feel with their pets becomes protective armor against everyday tensions and mishaps," said Beck. "Pets can also be especially helpful to people with emotional problems and the elderly, and to people who suffer from hypertension."

According to Beck and Katcher, the dialogue between birds and their owners has the same form, and hence the same stress-reducing properties, as interaction with dogs.

But, because birds are smaller and require that the owner reduce his/her own level of activity in their presence, they reduce stress even more effectively than "man's best friends." "The need to be gentle and not threatening makes the owner calmer," said Beck. "And, like a tank of fish, a caged bird provides a visual stimulus that may prove to be a calming distraction."

The nature of the pet-human interaction involves talk, touch, and the assumption of real communication, Beck said. "Birds are especially comforting because they are more vocal than dogs and cats. Almost any sound made by the bird is sufficient to



stimulate dialogue from owners. Dialogue creates companionship, and companionship is soothing."

The way that people interact with their birds is surprisingly similar to the way that parents interact with their babies. "There is a lot of verbal play between birds and their owners. Bird owners use more sounds and play with speech more than dog owners. Birds



Mr. and Mrs. William C. Bloor and their pet duck Rytz

may be a better stimulus for this kind of soothing 'baby talk' than dogs."

In an earlier study, birds were found to soothe psychiatric patients meeting for group therapy in a room with finches. There was significantly better attendance and participation in the therapy, and patients were significantly less hostile than the control group meeting the same therapists in a room without birds.

For some people, however, pet ownership can be worrisome. Beck cites a recent survey of over 450 pet owners, ages 16-69, which revealed that pet ownership is sometimes emotionally draining, particularly for people who worry about the death of their pets. Birds are easier to care for in an urban environment, and can be less of a worry to their owners, Beck says.

"Dog and cat owners were especially concerned about car accidents, poisonings, and sudden disappearances," he said. "Bird ownership is an attractive alternative for those people in urban areas who are especially concerned about their pets."

Beck and Katcher surveyed bird and dog owners and found that pet birds are treated like family members even more so than dogs are. Bird owners also spend more time talking to their pets than dog owners (95 percent and 66 percent, respectively).

The percentage of bird and dog owners who "play with their pet frequently" was about the same (98 percent and 100 percent, respectively), as was the percentage of bird and dog owners who spend more than two hours a day with their pet (around 68 percent).

Birds, like other animals, appear to express some sort of jealousy when attention is diverted away from them; and birds as well as dogs are loyal to one or two specific people, usually those who spend the most time with them, Beck said.

More than 60 percent of U.S. households have a companion animal, with dogs and cats representing the most popular species. Of this 60 percent, 45 percent own dogs and 30 percent own cats. Caged bird ownership is about 10 percent, but sales of birds in pet shops is booming and Beck expects their popularity to continue to rise.

—Margaret Barry

Potomac Fever

In the summer of 1979, practitioners in Montgomery County, Maryland, noticed a sudden increase in the number of horses with acute, often fatal diarrhea. At first the disorder was called Acute Equine Diarrhea Syndrome, but soon it became known as Potomac Horse Fever, after the region where it first was recognized.

Potomac Horse Fever is a seasonal disease, occurring between May and November, with the highest incidence in July and August. Signs of PHF can be depression, lack of appetite, high fever, diarrhea, colic, and laminitis. However, in some cases signs are so mild that the horse does not appear to be sick. When the disease was first recognized, fatality rates were high, about 36 percent. This has been decreased to about 8 to 10 percent because of better treatment methods, such as fluid therapy and administration of antibiotics.

Since the initial outbreak in Maryland, PHF has been reported in many areas of the country. The disease is often found near large rivers and their tributaries, though it can occur in other areas. Because of the seasonal nature, researchers suspected that the disease was transmitted by an insect vector. In 1983 entomologic studies were launched to attempt to identify unusual insects in areas where PHF occurred. No unusual insects were discovered.

Researchers at New Bolton Center focused on the transmission of the disease. In 1983 they showed that the disease was not transmitted through contaminated feces nor was it airborne. They discovered that the only way to infect a healthy horse was through transfusion of blood from a sick horse. This reinforced the theory that an insect vector might be involved in the transmission of the disease.

In 1984 a rickettsial agent was discovered in horses which had PHF. The organism, named *Ehrlichia risticii* in honor of Dr. Miodrag Ristic, University of

Illinois, has yet to be found in ticks, the common vectors in rickettsial diseases. However, scientists still consider ticks, specifically the American dog tick, as a suspect. Other biting insects such as flies and mosquitoes are also being studied as possible vectors. At one point it was thought that small mammals, such as field mice, may act as a reservoir for the *Ehrlichia risticii* organism, but that idea has been abandoned, as no antibodies to the organism could be found in field mice.

Rickettsial infections are treated successfully with tetracycline. Dr. Jonathan Palmer, assistant professor of medicine at New Bolton Center, investigated this mode of treatment. "Using tetracycline in horses can be tricky, because they may harbor salmonella without being ill," he said. "And if a horse with salmonella receives tetracycline, this can cause severe diarrhea. Also, symptoms of salmonellosis and PHF are similar, and administering the drug to a horse with salmonellosis can have dire consequences."

To diagnose PHF, then, becomes crucial. Currently, tests which detect PHF antibodies are available. However, this is a lengthy business, as the tests have to be repeated over a period of time, while the disease progresses. Only when PHF is confirmed can drug therapy be started, Dr. Palmer explained. "Tetracycline is relatively inexpensive, but is administered as an injectable. We studied two other drugs, erythromycin and rifampin. These are given orally and they work well, though they are quite expensive."

Dr. Palmer pointed out that tetracycline will not prevent PHF, but it may speed recovery by reducing the severity of the symptoms, like fever and diarrhea. In addition to drug therapy, affected horses often need other support, such as fluid therapy.

Researchers at New Bolton Center are developing a rapid diagnostic test which would enable the veterinarian in the field to determine conclusively whether the sick horse has PHF. Traditionally, tests detect antibodies, the sign that the body is fighting the dis-

ease. The test being developed by the New Bolton Center researchers detects the presence of the *Ehrlichia risticii*. "The organism is found in monocytes, a white blood cell type in the horse's bloodstream. A blood sample from a suspected horse has to be concentrated to locate the monocytes. This takes only a short time," said Dr. Palmer.

"Then a specific assay is used to prove that the organism is there." The test is not completely developed yet; however, the researchers are hopeful that they will have it ready soon. "What is needed is a quick test which can be used by the veterinarian so treatment can begin at once."

Dr. Palmer explained that Penn researchers are also collaborating with scientists at Illinois University in the development of a vaccine. Another project is the evaluation of a PHF test, developed at another institution, to determine its effectiveness.

While these tests are still in the future and no vaccine is available, horse owners can do very little to protect their animals against the disease. "We advise general insect control, and if the disease is suspected, immediate veterinary care and blood tests to determine whether it is indeed PHF. Blood samples should be sent to laboratories which have experience with these tests."

Scientists at New Bolton Center and at many other institutions are working to unravel the mysteries of PHF. Much of the research has been funded by the Morris Animal Foundation. The development of the diagnostic test at the University of Pennsylvania has been funded by the Morris Animal Foundation and by the Quarter Horse Association. The Quarter Horse Association also funded the research on therapy for PHF. In addition to Dr. Palmer, Dr. Ellen L. Ziemer, Dr. Charles Benson, Dr. Richard Meinersmann, and Dr. Robert Whitlock are involved in the development and testing of the new diagnostic test. H.W.

