

The cases reflect the interests and unique perspective of graduate students and postdoctoral students engaged in the research process and hence some cases may raise some issues that no longer preoccupy seasoned researchers. Seasoned researchers may nevertheless find the cases relevant for instruction of their advisees and colleagues. We have been surprised at the number of researchers using the cases who volunteered that the cases have revived for them troubling ethical concerns that arose in their early years as researchers. They have also indicated that the cases can provide a safe vehicle for the discussion of sensitive ethical issues in their own laboratories. The cases reflect deliberation in an interdisciplinary setting. This allowed participants to learn from colleagues in other disciplines. In so doing, they gained a wider perspective on the issues in their own discipline than they might have had the discussion been conducted only within their own department. We had not anticipated the strong interest in the cases as teaching material; they have proved suitable for use in both undergraduate and graduate classrooms.

Initially each case was accompanied by a commentary by one participant and one faculty member. An additional, final commentary has been prepared especially for each case appearing in *Science and Engineering Ethics*.^a

The Gladiator Sparrow: Ethical Issues in Behavioral Research on Captive Populations of Wild Animals^b

Part 1

Clarisse is a graduate student in a psychobiology program at a small state university. A year ago, she defended her dissertation proposal and began her thesis project. Her work addresses the development of aggressive behaviors in nonhuman animals. For decades, the prevailing notion in her field had been that these behaviors are largely innate. She designed her thesis research to test for environmental influences on the development of these behaviors in a small bird species, the Gladiator Sparrow, *Zonotrichia aggressivus*.

To obtain the detailed developmental data that are necessary to answer her research questions, she must carry out her studies in captive settings. At the university's field biology station, Clarisse has access to a large enclosure in which she houses her study subjects. In preparing for this work, she and her adviser have gone to great lengths to make the enclosure as natural as possible, including planting the major tree species that are the natural habitat of these sparrows.

Based on earlier published studies with gladiator sparrows in the wild, Clarisse knew the density of birds she should house in the enclosure in order to achieve the reported natural density of this species in the wild. This information is crucial to her work, because if there were too many individuals in the enclosure, problems due to overcrowding may result.

a. The complete six-volume set *Research Ethics: Cases and Commentaries* can be obtained from the Association for Practical and Professional Ethics, Indiana University, Bloomington, Indiana. Individual cases can also be found on-line at <http://www.onlineethics.org/reseth/scenarios.html>.

b. The scenario, "The Gladiator Sparrow: Ethical Issues in Behavioral Research on Captive Populations of Wild Animals" is published with permission of the Association for Practical and Professional Ethics.

Clarisse has also done a thorough electronic database search of behavioral interactions in this species and in related species. She knows that fighting among these species has been reported to be common, and she has indicated in her approved Animal Care and Use Protocol that she might lose some birds due to their normal aggressive interactions. As part of her protocol, she plans to release all healthy birds at the end of each year's study at the site at which they were captured, and then capture an additional set of birds for the next year's research.

At the beginning of her first year's research, Clarisse captured the sparrows she needed and brought them into the enclosure. She monitored their behavioral development and social interactions closely over the course of the first year and found that the birds displayed all of the behavioral patterns reported for the gladiator sparrow in the wild.

However, starting about two weeks ago and corresponding with the approach of the birds' breeding season, she has begun to observe far more aggressive interactions among the birds and more aggression than she had foreseen from her literature search. Males were attacking other males, and females were attacking other females. Clarisse was surprised at the frequency of aggression. Yesterday, she discovered a dead male and a dead female in the enclosure, both of which were first-year birds. She also found more evidence of several birds, and even some of the older birds, constantly being attacked.

Feeling she should end the experiment, she talked with her adviser about stopping the study. He told her he would support whatever decision she made, but that he didn't think the losses she found were out of the ordinary for the species. As he felt he really did not have enough experience with her study species, he also encouraged her to speak to Drs. Cabral and Marable, two field biologists who had studied this species for decades and were now retired.

Immediately after meeting with her adviser, Clarisse telephoned both researchers. Both told her they had seen this intensity of aggressive behavior in the wild, but that it usually slowed considerably after the first weeks of the breeding season. She spent several hours that afternoon and evening in the library and found older reports in the literature that also indicate a high level of aggression and fighting in the species early in the breeding season.

Discussion Questions

1. Should Clarisse continue the study? Aside from the loss of a year's work, what are some of the ethical considerations in this case?
2. The high level of aggression seen in the sparrows in the enclosure is known to be normal in wild populations. Is this fact relevant to her decision? Why or why not?

Part 2

Clarisse decides to continue with the experiment. Over the course of the first two weeks of the gladiator sparrows' breeding season, she loses 12 of the 30 birds with

which she began the study a year ago. Six of the 12 were killed by other birds, and the other six had to be housed in a separate cage to recover, as they were constantly being attacked by their cage mates.

However, the first year of her thesis work has provided Clarisse with a wealth of data on behavioral development in this species. As she reviews the data she has collected, she finds answers to all the questions she needed to answer to set up the next year of her studies. She found considerable evidence that social experience influenced behavioral development, evidence that could not have been obtained in the wild with this species. Although she is not comfortable with the loss of individuals in her study, she decides to continue with the thesis work as originally planned.

Discussion Questions

3. In retrospect, knowing the losses, did Clarisse make the right decision to continue with the study during that first year? Do the consequences matter?
4. To try to minimize the possibility of losses of individuals in the next year of her study, Clarisse considers reducing by 50 percent the number of sparrows she had originally planned to use. She presents the idea to her committee in her annual meeting with them. They discuss the costs and benefits, and decide that the lowered density would be too artificial in the enclosure and would seriously weaken her interpretations of normal behavioral development in the species. Is this a justifiable decision? What issues are being weighed here? What obligation, if any, does Clarisse have toward her study subjects?
5. Would the answers to these questions be different if the species Clarisse chose to study were a cockroach? a lizard? Norway rats obtained from an animal breeder? an orangutan? What are the justifications for treating each species similarly or differently in a study like this one?
6. Imagine Clarisse were studying an endangered species for which information on breeding biology was desperately needed. Would these considerations potentially affect the decisions about animal care and use?