

The NATURAL WORLD of
ANIMAL SEXUALITY

QUEER DUCKS

(AND OTHER ANIMALS)

ELIOT SCHREFER

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First Edition

WANT TO READ MORE RIGHT AWAY?

Here are some short sources that are easy entry points into further reading and viewing, suitable for general readers or for classroom use. Full citations can be found in the Selected Bibliography.

“Queer Creatures,” Gail Vines, *New Scientist*, 1999.

An engaging, solidly reported, and accessible introduction to the recent growth of research into same-sex sexual behavior in animals.

“Animal Homosexuality” episode, *Animals Like Us*, 2004.

This episode in an otherwise under-the-radar documentary series became a cult phenomenon. Includes plenty of footage of wild same-sex sexual behavior, and interviews with prominent biologists. Also: hilarious pronunciations of the word *homosexual*.

“Family Values in Black & White,” Marlene Zuk, *Nature*, 2006.

An evenhanded one-page debate about the reception to the film *March of the Penguins*, ultimately reminding us to keep animals in view, instead of using them as metaphors for human behavior.

“Goslings of Gay Geese,” Jared Diamond, *Nature*, 1989.

A brisk and engaging one-page introduction to same-sex parenting in shorebirds.

“Same Sex Behavior and Evolution,” Nathan W. Bailey & Marlene Zuk, *Trends in Ecology & Evolution*, 2009.

More advanced but still accessible scholarly survey of queer animal behavior, with lots of sourcing to branch out into researching individual species.

“Why Is Same-Sex Sexual Behavior So Common in Animals?,” Ambika Kamath et al., *Scientific American*, 2019.

A public-facing summary of the authors’ scholarly article arguing that same-sex sexual behavior is likely to have persisted throughout the history of life, a hypothesis the authors hope “will expand understanding of the diversity of the natural world.”

GLOSSARY

ADAPTATION: In evolutionary biology, refers to a change in a species' lineage that makes it better suited to its environment.

ADAPTIVE: Leading to or resulting from adaptation.

ALLOHORMONE: A hormone transferred between individuals.

ANIMAL: See page 25 ("What Queer Means").

ANTHROPOCENTRISM: The belief that humans are essentially different from, and superior to, other animals. Sometimes called human exceptionalism or human supremacy.

ANTHROPODENIAL: The tendency within the sciences to deny animals mental states that humans also have. (related: anthropomorphism)

ANTHROPOLOGY: The study of human cultures and human evolutionary development.

ANTHROPOMORPHISM: Assigning human feelings or traits to nonhuman entities. (related: anthropodenial)

ASEXUAL: Without feelings of sexual attraction. In biology, also refers to reproducing without sexual activity.

BASE PAIRS: Two nucleotides that come together to form the structure of DNA.

BISEXUAL: Relating to the desire for both one's own and the opposite gender or sex. (related: pansexual)

BOVID: A ruminant vertebrate with cloven hoofs. Includes bison, buffalo, sheep, goats, and cattle.

CAPACITATION: Alteration to sperm within the female reproductive system that allows them to penetrate the egg.

CISGENDER: Describes someone whose personal identity corresponds with their sex assigned at birth. (related: transgender)

CULTURE: The teaching and learning of behavior, between individuals and over generations. Increasingly used in reference to nonhuman animals as well as humans.

DEMISEXUAL: Refers to someone who is sexually attracted only to people they have an emotional bond with.

DIMORPHIC: Displaying in two different forms. (In sexually dimorphic species, males and females have differences in appearance beyond just having different sex organs.)

ENZYME: A substance that helps begin or strengthen a biochemical reaction.

ETHOLOGY: The scientific study of animal behavior.

EVOLUTION, THEORY OF: The idea that all species are related and change over time. (Note: though in everyday speech we use the word *theory* to refer to something that's a hunch, in science it's much the opposite, referring to something—like gravity, which is also a “theory”—that serves to explain and combine many different pieces of evidence from the natural world. If someone tells you “evolution is just a theory,” they’re using the term incorrectly.)

FELLATIO: Oral stimulation of a penis.

FITNESS: An organism's ability to thrive in an environment, generally considered to be a combination of its capacities to survive and to reproduce.

GENDER: For humans, the division of people into categories based on social and cultural roles and behavior. For animals, this book takes on biologist Joan Roughgarden's definition of gender as “how an organism presents and carries out a sexual role.”

GENETIC MONOGAMY: Sexual exclusivity between two members of the same species. (related: social monogamy)

GENOTYPE: An organism's genetic composition, including both the sequences of genetic code that are expressed and those that aren't coded into proteins. (related: phenotype)

GONOCHORISTIC: Describes animals in which most individuals fall into male or female categories, and do not change sex over their lifetimes.

GROUP SELECTION: A form of natural selection in which traits are favored that improve a group's fitness, even if they don't necessarily favor individual fitness.

HERMAPHRODITIC: Describes creatures that have the capacity to possess male and female sexual organs, whether at the same time (**simultaneous hermaphrodite**) or at different times in their life span (**sequential hermaphrodite**). Note: though "hermaphrodite" is still widely used to refer to nonhumans, it is considered offensive for humans, for whom "intersex" is the more commonly used term.

HETEROSEXUAL: Relating to desire for the opposite gender or sex.

HOMOSEXUAL: Relating to desire for one's own gender or sex.

INTERSEX: See page 25 ("What Queer Means").

INVERTEBRATE: An animal without a backbone.

LEK: A breeding-season arena in which males display to impress other animals of the same species.

MENTALISTIC: Relating to the mind, and decisions made from an individual's mental processes.

MICROVILLI: Microscopic protrusions from a cell's membrane. Used by an egg to help maneuver a sperm.

MODALITY: One way of expressing something.

MONOMORPHIC: Displaying in only one form. (In sexually monomorphic species, males and females have no differences in outward appearance.)

NATURAL SELECTION: The process, popularized by Charles Darwin, through which organisms that are best suited to their environments thrive and pass more of their genetic code to their descendants, altering a species over time.

NONBINARY: Relating to someone who does not identify as a man or woman, within the traditional gender binary. Also sometimes called "enby" (*n+b*). Can also refer to thinking that doesn't simplify an issue into two sides.

OXUTOCIN: A hormone released during childbirth and during periods of bonding. Sometimes called the “love hormone.” It, or some version of it, is thought to exist in all vertebrates and many invertebrates.

PANSEXUAL: Relating to desire for others not limited by sex or gender expression.

PARASITISM: Relying on another organism for survival or for the raising of one’s offspring.

PARASITOID: An insect whose larva are parasites that eventually kill their hosts.

PARTHENOGENETIC: Producing offspring without mating, through a so-called virgin birth.

PATRIARCHAL: Related to a society governed or controlled by males.

PHENOTYPE: The physical expression of genes (e.g., eye color, height).
(related: genotype)

PHEROMONE: A chemical released by an organism that alters the behavior of others of their own species.

PHYLOGENETIC CONVERGENCE: Independent evolution of similar features in species that are separated by time or distance.

POLYAMORY: Having more than one romantic or sexual relationship at a time.

PRIMATE: A member of the order of life Primates, which includes monkeys, apes, lemurs, lorises, tarsiers, and galagos. Oh—and also humans.

PRIMATOLOGY: The study of monkeys and apes, conventionally excluding humans. (related: anthropology, anthropocentrism)

PROTANDRY: Beginning life as male before changing to female. (related: protogyny)

PROTOGYNRY: Beginning life as female before changing to male. (related: protandry)

QUEER: See page 25 (“What Queer Means”).

SAME-SEX SEXUAL BEHAVIOR: See page 25 (“What Queer Means”).

SENTIENCE: The ability to experience emotions, like pleasure and pain.

SEX: Either (a) the division of a species by reproductive function (“his sex was assigned as male”) or (b) physical expression of instinct or attraction drawing organisms together (“the two beetles had sex”).

SEX-SEGREGATED: Refers to animal societies in which males and females live most of their existences apart from one another.

SEXUAL ORIENTATION: A being's identity in relation to the sex(es) or gender(s) they are attracted to.

SEXUAL SELECTION: Natural selection in which mate selection is the driver of a species' change over time.

SEXUALITY: Either a being's potential for sexual feelings, or their relation to the gender or genders to which they're attracted.

SOCIAL MONOGAMY: Long-term cohabitation by two members of the same species. (related: genetic monogamy)

SODOMY: Conventionally describes anal sex, but can technically refer to any nonprocreative sex (e.g., oral sex, manual stimulation). Almost always negative in connotation.

SUPERNORMAL: Describes a nest with more eggs than is typical for a given species.

TRANSGENDER: Relating to someone whose personal identity does not correspond with their sex assigned at birth. (related: cisgender)

TWO-SPIRIT: A term used by some Indigenous North Americans to refer to people who fill a role that in some way varies from the male-female binary.

ZOOLOGY: The scientific study of animals.

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