FREEDOM OF INFORMATION REQUEST

May 3, 2018

Anthiathia Fidellas
via the FOI website

Dear Anthiathia Fidellas,

regarding your Freedom of Information request titled “sex” we collected the following information:

Organisms of many species are specialized into male and female varieties, each known as a sex. Sexual reproduction involves the combining and mixing of genetic traits: specialized cells known as gametes combine to form offspring that inherit traits from each parent. The gametes produced by an organism define its sex: males produce small gametes (e.g. spermatozoa, or sperm, in animals; pollen in seed plants) while females produce large gametes (ova, or egg cells). Individual organisms which produce both male and female gametes are termed hermaphroditic. Gametes can be identical in form and function (known as isogamy), but, in many cases, an asymmetry has evolved such that two different types of gametes (heterogametes) exist (known as anisogamy). Physical differences are often associated with the different sexes of an organism; these sexual dimorphisms can reflect the different reproductive pressures the sexes experience. For instance, mate choice and sexual selection can accelerate the evolution of physical differences between the sexes. Among humans and other mammals, males typically carry XY chromosomes, whereas females typically carry XX chromosomes, which are a part of the XY sex-determination system. Other animals have different sex-determination systems, such as the ZW system in birds, the X0 system in insects, and various environmental systems, for example in crustaceans. Fungi may also have more complex allelic mating systems, with sexes not accurately described as male, female, or hermaphroditic.

Sincerely,

John Smith
FOI Manager