

Sex organ

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A **sex organ** or **reproductive organ**, **primary sex organ**, or **primary sexual characteristic**, is any anatomical part of the body in a complex organism that is involved in sexual reproduction and together constitute the reproductive system. The external and visible organs, in males and females, are the *primary sex organs* known as the **genitals** or **genitalia**. The internal organs are known as the *secondary sex organs*^{[1][2]} and are sometimes referred to as the *internal genitalia*. The characteristics that begin to appear during puberty, such as pubic hair on both sexes and facial hair on the male, are known as secondary sex characteristics.

Mosses, ferns, and some similar plants have gametangia for reproductive organs, which are part of the gametophyte.^[3] The flowers of flowering plants produce pollen and egg cells, but the sex organs themselves are inside the gametophytes within the pollen and the ovule.^[4] Coniferous plants likewise produce their sexually reproductive structures within the gametophytes contained within the cones and pollen. The cones and pollen are not themselves sexual organs.



The sex organs of a green alga *Chara* are the male antheridia (red) and female archegonia (brown).

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Terminology

The Latin term *genitalia*, sometimes anglicized as *genitals*, is used to describe the externally visible sex organs, known as the *primary sex organs*: in male mammals, the penis and scrotum; and in female mammals, the clitoris and vulva.

The other, hidden sex organs are referred to as the *secondary sex organs* or *internal genitalia*. The most important of these are the gonads, a pair of sex organs, specifically the testes in the male or the ovaries in the female. Gonads are the true sex organs, generating reproductive gametes containing inheritable DNA. They also produce most of the primary hormones that affect sexual development, and regulate other sexual organs and sexually differentiated behaviors.

In general zoology, given the great variety in organs, physiologies, and behaviors involved in copulation, male genitalia are more strictly defined as "all male structures that are inserted in the female or that hold her near her gonopore during sperm transfer"; female genitalia are defined as "those parts of the female reproductive tract that make direct contact with male genitalia or male products (sperm, spermatophores) during or immediately after copulation".^[5]



Mammals

External and internal organs

The visible portion of the mammalian genitals for males consists of the scrotum and penis; for females, it consists of the vulva (labia, clitoris, etc.) and vagina.

In placental mammals, females have two genital orifices, the vagina and urethra, while males have only one, the urethra.^[6] Male and female genitals have many nerve endings, resulting in pleasurable and highly sensitive touch.^{[7][8]} In most human societies, particularly in conservative ones, genitals are considered a public indecency and sometimes even illegal if left uncovered in public.^[9]

In mammals, sex organs include:

Female	Male
<ul style="list-style-type: none"> ▪ Bartholin's glands ▪ Cervix ▪ Clitoris <ul style="list-style-type: none"> ▪ Clitoral frenulum ▪ Clitoral glans (glans clitoridis) ▪ Clitoral hood ▪ Fallopian tubes ▪ Labia <ul style="list-style-type: none"> ▪ Labia majora ▪ Labia minora <ul style="list-style-type: none"> ▪ Frenulum of labia minora ▪ Ovaries ▪ Skene's gland ▪ Uterus ▪ Vagina ▪ Vulva <div data-bbox="155 852 461 1268" style="text-align: center;">  <p data-bbox="155 1276 461 1394">An image of human female external sex organs (shaved pubic hair)</p> </div>	<ul style="list-style-type: none"> ▪ Bulbourethral glands ▪ Epididymis ▪ Penis <ul style="list-style-type: none"> ▪ Foreskin ▪ Frenulum of penis ▪ Glans penis ▪ Prostate ▪ Scrotum ▪ Seminal vesicles ▪ Testicles <div data-bbox="695 764 1003 1180" style="text-align: center;">  <p data-bbox="695 1188 1003 1268">An image of human male external sex organs</p> </div>

Development

In typical prenatal development, sexual organs originate from a common anlage anatomy during early gestation and differentiate into male or female variations. The SRY gene, usually located on the Y chromosome and encoding the testis determining factor, determines the direction of this differentiation. The absence of it allows the gonads to continue to develop into ovaries.

Thereafter, the development of the internal reproductive organs and the external genitalia is determined by hormones produced by certain fetal gonads (ovaries or testes) and the cells' response to them. The initial appearance of the fetal genitalia (a few weeks after conception) looks basically feminine: a pair of "urogenital folds" with a small protuberance in the middle, and the urethra behind the protuberance. If the fetus has testes, and if the testes produce testosterone, and if the cells of the genitals respond to the testosterone, the outer

urogenital folds swell and fuse in the midline to produce the scrotum; the protuberance grows larger and straighter to form the penis; the inner urogenital swellings grow, wrap around the penis, and fuse in the midline to form the penile urethra.

Each sexual organ in one sex has a homologous counterpart in the other one. See a list of homologues of the human reproductive system. In a larger perspective, the whole process of sexual differentiation also includes development of secondary sexual characteristics such as patterns of pubic and facial hair and female breasts that emerge at puberty. Furthermore, differences in brain structure arise, affecting, but not absolutely determining, behavior.

Intersex is the development of genitalia somewhere between typical male and female genitalia. Once the child is born, the parents are faced with decisions that are often difficult to make, such as whether or not to modify the genitalia, assign the child as male or female, or leave the genitalia as is. Some parents allow their doctors to choose. If they do decide to modify the genitalia, they have approximately a 50% chance of getting genitalia that will match the child's gender identity. If they pick the wrong one, their child may begin to show symptoms of transsexualism, which can lead them to a life of discomfort until they are able to remedy the issue.^[10]

Because of the strong sexual selection affecting the structure and function of genitalia, they form an organ system that evolves faster than any other.^[11] A great variety of genital form and function may therefore be found among animals.

Other animals

In many other animals a single posterior orifice, called the cloaca, serves as the only opening for the reproductive, digestive, and urinary tracts (if present). All amphibians, birds, reptiles, some fish, and a few mammals (monotremes, tenrecs, golden moles, and marsupial moles) have this orifice, from which they excrete both urine and feces in addition to serving reproductive functions. Excretory systems with analogous purpose in certain invertebrates are also sometimes referred to as cloacae.

Plants

The life cycle of land plants involves alternation of generations between a sporophyte and a haploid gametophyte. The gametophyte produces sperm and/or egg cells by mitosis. The sporophyte produces spores by meiosis which in turn develop into gametophytes. Any sex organs that are produced by the plant will develop on the gametophyte. The seed plants, which include conifers and flowering plants have small gametophytes that develop inside the pollen grains (male) and the ovule (female).

Flowering plants

Sexual reproduction in flowering plants involves the union of the male and female germ cells, sperm and egg cells respectively. Pollen is produced in stamens, and is carried to the pistil, which has the ovary at its base where fertilization can take place. Within each pollen grain is a male gametophyte which consists of only three cells. In most flowering plants the female gametophyte within the ovule consists of only seven cells. Thus there are no sex organs as such.

See also

- Andrology
- Genital modification and mutilation

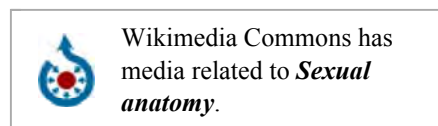
- Hermaphrodite
- Human sexuality
- Hysterectomy
- Intimate part
- Obstetrics and gynaecology
- Oophorectomy
- Orchiectomy
- Emasculation

References

1. "Sex organ (seks 'ɔːɡən)". *Collins English Dictionary*. Retrieved September 14, 2013.
2. P. R. Ashalatha, G. Deepa (2012). *Textbook of Anatomy and Physiology for Nurses*. JP Medical Ltd. pp. 252–274. ISBN 9350254239. Retrieved September 14, 2013.
3. "Mosses and Ferns". *Biology.clc.uc.edu*. 2001-03-16. Retrieved 2012-08-01.
4. "Flowering Plant Reproduction". *Emc.maricopa.edu*. 2010-05-18. Retrieved 2012-08-01.
5. Eberhard, W.G., 1985. Sexual Selection and Animal Genitalia. Harvard University Press
6. Marvalee H. Wake (15 September 1992). *Hyman's Comparative Vertebrate Anatomy*. University of Chicago Press. p. 583. ISBN 978-0-226-87013-7. Retrieved 6 May 2013.
7. Sexual Intimacy in Marriage (https://books.google.com/books?id=gbsZyQ1_muUC&pg=PT13&dq=&hl=en&sa=X&ei=tUF7T_LBIYalL8gPv9-SkCA&ved=0CE8Q6AEwBQ#v=onepage&q=&f=false) William Cutrer
8. Daphne's Dance: True Tales in the Evolution of Woman's Sexual Awareness (https://books.google.com/books?id=I9xrbK6CwzUC&pg=PA9&dq=&hl=en&sa=X&ei=oD97T8mgD-Or0QX0_d2uCQ&ved=0CEoQ6AEwBA#v=onepage&q=&f=false) Brigitta Olsen
9. Unpopular Privacy: What Must We Hide? (<https://books.google.com/books?id=fxYhR6hq3QC&pg=PA219&dq=&hl=en&sa=X&ei=-IzT8-4N4bN0QXNwcm0Ag&ved=0CDoQ6AEwAQ#v=onepage&q=&f=false>) retrieved 9 February 2012
10. Fausto Sterling, Anne (2000). *Sexing The Body*. New York: New York. pp. 44–77.
11. Schilthuizen, M. 2014. Nature's Nether Regions: What the Sex Lives of Bugs, Birds, and Beasts Tell Us About Evolution, Biodiversity, and Ourselves (<https://books.google.nl/books?id=xqM7AgAAQBAJ&pg=PT2&dq=nature%27s+nether+regions&hl=nl&sa=X&ei=iV3xVOmpLob7PJaagRA&ved=0CCQQ6AEwAA#v=onepage&q=nature's%20nether%20regions&f=false>). Penguin USA

Further reading

- Leonard, Janet L. and Alex Córdoba-Aguilar (2010). *The Evolution of Primary Sexual Characters in Animals*. Oxford: Oxford University Press. ISBN 0199717036.



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