

Difference Between Antheridia and Archegonia

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Key Difference - Antheridia vs Archegonia

Gametophyte generation is dominant in most of the nonvascular plants such as bryophytes, liverworts, conifers and algae. These organisms show alteration of generations and produce male and female gametophytes for the production of male and female gametes for sexual reproduction. Male sex organ of the male gametophyte is known as antheridium. Antheridia are found in the androecium, and they produced male gametes. Female sex organ of the female gametophyte is archegonium. Archegonia are found in the gynoecium, and they produce female gametes. Antheridia produce a large number of sperms that are motile while archegonia produce one ovule at each archegonium and those ovules are non-motile. The **key difference** between antheridia and archegonia is that **antheridia are male sex reproductive structures whereas archegonia are female sex reproductive structures**.

What are Antheridia?

Antheridia are the male reproductive parts of the algae, ferns, mosses, fungi and other non-flowering plants. There are the organs which produce male gametes of those organisms. They are haploid structures meaning that they contain one set of chromosomes (n). Antheridia are located in the androecium which is the main male reproductive structure. One or more antheridia can locate inside the androecium.



Figure 01: Antheridia

Antheridia can be seen in a gametophytic generation. Antheridia are rounded structures in their outline. However, they don't have a uniform shape. They can be varying among the species. They produce a large number of male gametes which are motile. Male gametes usually swim towards the female gametes in these organisms, and the fusion occurs inside the archegonium.

What are Archegonia?

Archegonia are the female reproductive structure of certain plants which produce female gametes. They are the corresponding female structures of the antheridia. Archegonia are multicellular haploid structures, and they are located in the female reproductive organ known as gynoecium. They are seen in gametophytic phases of those plants. Archegonia are composed of the long neck like canals with swollen bases. Their shape can be described as flask-like structures. They are mostly located on the surface of the plant thallus. Inside the archegonia, female gametes are produced and male gametes reach archegonium for the fusion with female gametes. One archegonium usually encloses one female gamete.

What are the Similarities Between Antheridia and Archegonia?

- Antheridia and archegonia are haploid structures.
- Both structures are responsible for the production of gametes.
- Both can be seen in gametophytic phases of certain organisms.

What is the Difference Between Antheridia and Archegonia?

Antheridia vs Archegonia	
Antheridia are the male sex organ of algae, ferns, mosses, fungi and certain plants.	Archegonia are the female sex organ of algae, ferns, mosses, fungi and certain plants (conifers).
Sex	
Antheridia are male reproductive structures.	Archegonia are female reproductive structures.
Gamete Type	
Antheridia produce male gametes.	Archegonia produce female gametes.
Location	
Antheridia are in the androecium	Archegonia are in the gynoecium.

Shape	
Antheridia are rounded structures in outline.	Archegonia are flask-like structures in outline with a long neck and swollen base.
Number of Gametes Produced	
Antheridia produce a large number of male gametes.	Archegonia produce one female gamete inside an archegonium.
Motility of Gametes	
Male gametes produced by antheridia are usually motile.	Female gametes produced by archegonia are not motile.
Sterile Cells	
Sterile cells are absent in antheridia	Sterile cells are present in archegonia.

Summary - Antheridia vs Archegonia

Sexual reproduction is a type of reproduction that occurs via the fusion of male and female gametes. Male and female gametes are produced by the gametophytes of the organisms. Bryophytes have a dominant gametophytic phase, and they produce gametes for their sexual reproduction. In bryophytes, certain non-vascular plants and algae, male sex organ that produces male gametes (sperms) is known as antheridium (plural antheridia). It is a [haploid](#) structure, and it produces many haploid male gametes. The female sex organ which produces female gametes is known as archegonium (plural archegonia). Archegonium is a multicellular haploid structure which has a flask shape with a long neck and swollen base. Each archegonium encloses an ovum which is the female gamete. Antheridia are produced by the male gametophyte while the female gametophytes produce archegonia. This is the difference between antheridia and archegonia.

Reference:

1. "Archegonium." Archegonium - an overview | ScienceDirect Topics, [Available here](#)
2. Bryophytes structure and reproduction, [Available here](#)
3. "Sexual Reproduction." Bryophyte, [Available here](#)

Image Courtesy:

1. 'Antheridium' By [Kristi Yim](#), (GFDL) via [Commons Wikimedia](#)

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