**Conjugation in Paramecium**

Under certain conditions, such as overcrowding or environmental stress, Paramecium turns from strictly asexual reproduction to sexual reproduction. Sexual reproduction involves the exchange of genetic material between two individuals of different 'mating strains'. Through a process called conjugation, two paramecia line up side by side and then fuse together. Where they fuse is called a cytoplasmic bridge. The diploid micronucleus undergoes meiosis and forms four micronuclei. All but one of the cell's micronuclei disintegrates. This micronucleus now undergoes mitosis and 2 new daughter haploid micronuclei are formed.

Each mate then swaps one haploid micronucleus with its partner. The new micronucleus fuses with the old to make a diploid micronucleus. It represents a combination of genetic material derived from two genetically different individuals. This chromosome mixing is the basic principle of creating genetic diversity.

The two paramecium separate and go on their way in their watery environment. They begin again to produce multiple copies of themselves through asexual fission.

[](http://www.google.com/imgres?client=firefox-a&hs=vuU&sa=X&rls=org.mozilla%3Aen-US%3Aofficial&biw=1219&bih=619&tbm=isch&tbnid=LLy3HWVniq91aM%3A&imgrefurl=http%3A%2F%2Fetc.usf.edu%2Fclipart%2F7000%2F7056%2Fparamecium_7056.htm&docid=F4KOFIRdXhxC1M&imgurl=http%3A%2F%2Fetc.usf.edu%2Fclipart%2F7000%2F7056%2Fparamecium_7056_lg.gif&w=1024&h=480&ei=oWkwU9DmJqrwyAHh-4DYBg&zoom=1&ved=0CLQBEIQcMBY&iact=rc&dur=825&page=2&start=11&ndsp=22)

**Conjugation in Paramecium**

Under certain conditions, such as overcrowding or environmental stress, Paramecium turns from strictly asexual reproduction to sexual reproduction. Sexual reproduction involves the exchange of genetic material between two individuals of different 'mating strains'. Through a process called conjugation, two paramecia line up side by side and then fuse together. Where they fuse is called a cytoplasmic bridge. The diploid micronucleus undergoes meiosis and forms four micronuclei. All but one of the cell's micronuclei disintegrates. This micronucleus now undergoes mitosis and 2 new daughter haploid micronuclei are formed.

Each mate then swaps one haploid micronucleus with its partner. The new micronucleus fuses with the old to make a diploid micronucleus. It represents a combination of genetic material derived from two genetically different individuals. This chromosome mixing is the basic principle of creating genetic diversity.

The two paramecium separate and go on their way in their watery environment. They begin again to produce multiple copies of themselves through asexual fission.

[](http://www.google.com/imgres?client=firefox-a&hs=vuU&sa=X&rls=org.mozilla%3Aen-US%3Aofficial&biw=1219&bih=619&tbm=isch&tbnid=LLy3HWVniq91aM%3A&imgrefurl=http%3A%2F%2Fetc.usf.edu%2Fclipart%2F7000%2F7056%2Fparamecium_7056.htm&docid=F4KOFIRdXhxC1M&imgurl=http%3A%2F%2Fetc.usf.edu%2Fclipart%2F7000%2F7056%2Fparamecium_7056_lg.gif&w=1024&h=480&ei=oWkwU9DmJqrwyAHh-4DYBg&zoom=1&ved=0CLQBEIQcMBY&iact=rc&dur=825&page=2&start=11&ndsp=22)