

Autogamy | Paramoecium

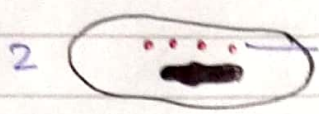
described a process

- Stellar (1934) & Sonneborn (1950) described a process of self fertilization or Autogamy
- It occurs in single individuals in Paramoecium aurelii and the end result of this process is increase in number & rejuvenation.
- It is characterised in having nuclear fusion of the same individuals.
- Like Endomixis, Megamitosis breaks up & slowly absorbed in cytoplasm, the micro-nuclei divide twice forming 8 (Eight) small chromosomes, out of these six (6) disappears.
- The remaining two fuse.
- The fused one divides twice forming 4 (four) nuclei, out of which two enlarge to form Megamitosis & the two smaller one also divide again to form 4 small nuclei (four).
- The animal now divides & each daughter Paramoecium now contains one Mega & two chromosomes.
- Autogamy brings about rejuvenation of the race.
- It resembles Conjugation inasmuch as the new macro / Megamitosis is formed by material from the micronucleus, in the new macro nucleus correlation number of chromosome is restored, and also in the fact that fusion of two gametes occurs.
- But Autogamy differs from Conjugation, because only one individual takes part in Autogamy & it provides both the gametes.
- Thus it is a kind of self-fertilization.

Micronuclei
Macronucleus



2. Micronuclei (first pre-zygotic division / (Meiotically))



4. Micronuclei
second pre-zygotic division,



8. Micronuclei
Protoplasmic cone.



2. Protonuclei move towards the cone remaining 2 start disintegrates



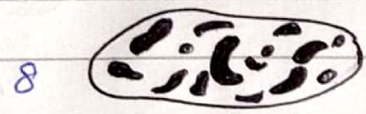
2. Protonuclei enter the Protoplasmic cone, & now disintegrates



2. Protonuclei in cone.
2. Protonuclei in cone fuse as Synkaryon.



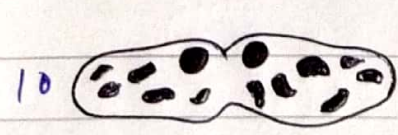
first post-zygotic division



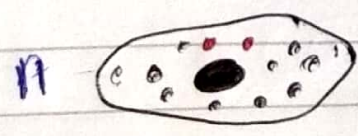
2. Macronuclei
second post-zygotic division.



4. Micronuclei



2. become Macronuclei
2. become Micronuclei
& old Macronucleus disintegrates



Micronuclei divides to form 2 daughter macronuclei

2. daughter macronuclei
Fig. - P. aurelia (Autogamy)