

Sexual reproduction is one of the specific features of eukaryotes. Almost all the knowledge that we have about the sexual process is based on studies conducted on animals and plants. In fact, we know only a tiny fraction of what protist organisms could reveal about distribution and other aspects of the sexual process. For the vast majority of them we miss any evidence that the sexual process actually occurs. However, it is conceivable that the putative protist asexuality is only a human artifact. Likewise, for most ochrophyte algae, which are the main subject of this thesis, the sexual process is unknown. It has been observed only in individuals belonging to six of the sixteen hitherto described classes of Ochrophyta. In some cases, an environmental factor that stimulates the formation of gametes was also found.

The gradual clarification of the phylogeny that we can expect in the years coming, along with knowledge of biology of ochrophyte algae, can provide more information about sexuality in this group.