

## **Abstract**

Speciation, the process of the formation of new species, comprises a diverse range of microevolutionary mechanisms acting in unison, which lead to the gradual formation of reproductive barriers between populations. The study of speciation has significantly progressed since its origins around the midpoint of the nineteenth century, owing to progressively improving analytical methods and the data said methods obtained, allowing us to observe previously invisible patterns and form new hypotheses on their basis. From traditional to modern research, this review's goal is to describe the contemporary understanding of speciation's concepts and mechanisms, focusing on those which are most relevant to mammals. Modern understanding of spatial contexts, prezygotic and postzygotic isolating mechanisms, and character displacement, including a type of reproductive character displacement dubbed reinforcement, are discussed. Significant emphasis is placed on the topics of maladaptive and adaptive hybridization, which, together with reinforcement and development of new genomic methods, has this review identified as the current frontier of speciation research.

**Keywords:** reproductive isolating mechanisms, microevolution, character displacement, hybridization, reinforcement, speciation