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SÉMINAIRE

Selection and constraints in the evolution of shape - the example of pollen in flowering plants

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Multicellular organisms are morphologically very diverse at every scale, regarding size, color, and shape of individuals and of their different parts. Natural selection and developmental constraints influence evolution of these characteristics, on the short term as well as on the long term. The model chosen here to study form evolution is the pollen grain of flowering plants, which is much diversified morphologically. We focused on specific features called apertures, which are structures of the pollen wall involved in survival and reproduction. We investigated the relative contributions of selection and constraints in a clade representing about 75% of extant species, and we showed that the dominant pattern of this group could constitute a good trade-off between survival and reproduction components of fitness.