

Butterfly species richness and abundance change along an altitudinal gradient in agricultural sites in M'sila region.

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Butterflies are great focal species, due to their involvement in a variety of environmental processes, little is known about how butterflies differ across altitudinal gradients. For this, butterfly communities were investigated along an altitudinal gradient of 414–766 m a.s.l, along various farms in the provinces of M'sila. Five survey sites were chosen in our three-month study (February, March, and April) to access the diversity of butterflies. These locations were chosen based on elevation and types of agricultural products (e.g. Alfalfa cultivation, Apricot orchards, Olive orchards, Barley cultivation, and Carrot cultivation). We aimed to determine how the altitudinal gradient affects the butterfly diversity and abundance. Our findings indicate that Altogether we recorded 550 individuals of butterflies, belonging to 11 species under 03 families. Site I with an elevation of 414 m a.s.l represented by 219 individual and 09 species , while site V with the higher elevation 766 m.a.s.l represented by 39 individuals and 05 taxa. Shannon's Index describes species diversity. Maximum species diversity was observed for Site I (1.844 bits), and minimum diversity for Site V (1.280 bits). During the present investigation we concluded that as altitude rises, both the richness and diversity of all butterfly species significantly decrease.

Keywords: M'sila, butterfly, altitudinal gradient, diversity, species.