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BLOOD CELL COUNTS IN LACERTIDS INHABITING DIFFERENTLY MANAGED VINEYARDS AND OLIVE ORCHARDS

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Lizard species inhabiting agroecosystems may experience stress associated with agricultural management, like habitat destruction and pesticides, which may affect animals' health. Blood cells variability can be interpreted as an early response to stress. Accordingly, this work intended to assess the influence of differently managed fields in the blood cell counts of two lizard species: *Podarcis muralis* and *Podarcis siculus*. For this, organisms were captured from three olive orchards with different intensification degrees (organic farming, lightly managed and intensively managed), and from a conventional vineyard, all located in the same agricultural area at Montepaldi, Florence, central Italy. Individuals' blood, collected from the caudal vein, was used to prepare smears. White blood cells (WBC) were counted by determining the abundance of each class: agranulocytes (lymphocytes, monocytes) and granulocytes (heterophils, eosinophils, neutrophils, basophils). A less-than-significant tendency in WBC reduction from reference (organic olive orchards) to intensively managed fields was observed, especially for lymphocytes. Sex-dependent differences were found; in both species, males showed larger heterophil values and neutrophil percentages than females. But, when comparing the two species, independently of the sampling site, they did not show significant differences, except for absolute basophil counts and basophil percentages, which resulted higher in *P. siculus* than in *P. muralis*. Haemo-parasitic load was higher in *P. muralis* than in *P. siculus*, and it also differed among sites, being highest in individuals from the organic farming site. Parasite load was related to the number of granulocytes, as expected, considering that these cells acts against that



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kind of infections. Despite this, major differences in WBC counts in individuals of the genus *Podarcis*, were driven by variation of agranulocytes rather than granulocyte cells. Further research is necessary to increase sample size in order to confirm the observed trend in total WBC reduction in individuals living in agriculture-managed fields.