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RODLET-LIKE CELLS IN THE YELLOW-LEGGED GULL (*LARUS MICHAHELLIS*): FIRST EXPLORATORY STUDY OF THE INTESTINAL IMMUNE SYSTEM

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Rodlet cells (RCs) are enigmatic cells generally associated with innate immunity [1,2]. Their presence has been reported only in fish and, more recently, in the Egyptian goose (Alopochen aegyptiacus) [3]. The present study investigated, for the first time, the occurrence of Rodlet-like cells in the intestinal epithelium of the Yellow-legged Gull (Larus michahellis). Histological samples of small and large intestine were examined using Hematoxylin-Eosin, Toluidine Blue, May-Grunwald Giemsa, Alcian Blue and Masson trichrome staining techniques. Immunoperoxidase and immunofluorescence analyses were performed with antibodies against S-100, TLR2, TLR4, CD14 and MUC2 in order to characterize the main immune cell populations of the intestinal mucosa [4,5]. The results showed scattered cells within the intestinal epithelium displaying morphological features similar to those of RCs, including marked polarity, a broad basal region, a narrow apical portion and rod-shaped cytoplasmic granules. Immunohistochemistry also revealed a heterogeneous immune population, including enterocytes, mucous cells, TLR2-positive cells with RC-like morphology along the villi, Paneth-like cells at the base of distal crypts and macrophages in the lamina propria. This study provides the first morphological and immunohistochemical evidence of Rodlet-like cells in Larus michahellis and suggests the presence of an active mucosal immune compartment in the gastrointestinal tract of this species. Although based on a single specimen, these preliminary findings provide a basis for future investigations on the immunological role of these cells in aquatic birds.

References

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