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Reconstructing the methods, materials and biological observations of Aristotle: the case of the kobios and phycis.

Aristotle's work in biology is eclipsed only by his contribution to the history of philosophy. It has been suggested that the bulk of Aristotle's work in natural history was done in the North Aegean, centered around Mitylini. In fact, Lesvos and Pyrrah (on the Bay of Kalloni) are among the very few place names mentioned by Aristotle (e.g. HA 621b12, 621b22). It is generally believed that Aristotle traveled to Lesvos with Theophrastus shortly after Plato's death. Besides its obvious romanticism, what would one really gain by spending time in Lesvos with the organisms that were of the most interest to Aristotle? It is my contention that we might learn something about the methods employed by Aristotle, as well as gaining a better understanding of the specific organisms and characteristics that were of the most interest to Aristotle. Over the course of one year (2000-2001) the observations Aristotle makes regarding the life history of some of the fishes of Pyrrah were re-evaluated with the goal of understanding the how and what of the biological works. The empirical work focuses on what Aristotle refers to as the "kobios," which I have determined refers to as many as three species of goby (*Zosteriessor ophicephalus*, *Gobius niger*, and *G. cobitis*) and the "phycis" which I will suggest is a blenny (*Parablennius sanguinolentus*). From a modern perspective, Aristotle made observations about the habitat, diet, spawning, sexual dimorphism, and egg characteristics of these fishes. The fact that *kobios* and *phycis* are hard to distinguish as distinct kinds in Aristotle's writing, I would suggest, has everything to do with their common habits of life, with the powers that each kind has in its struggle for existence. From the attempt to replicate some aspects of Aristotle's work in zoology and natural history, it is clear to me that he could have done much of the work by direct personal observation of these organisms in the shallow lagoon waters of the Bay of Kalloni. As my preliminary data suggests, Aristotle's detailed observations of the natural history characteristics of these small fishes were largely accurate and I will put forward some thoughts as to how these particular observations could have been conducted.