

Are we ready to get rid of the terms "chalimus" and "preadult" in the caligid (crustacea: copepoda: caligidae) life cycle nomenclature?

ABSTRACT

In view of recent studies, we suggest that the term "preadult" should not be used in scientific reports on Copepoda parasitic on fishes as having no explicit meaning or further justification. Consequently, the term "chalimus" with its use currently restricted in the Caligidae to at most two instars in the life cycles of species of *Lepeophtheirus*, also becomes redundant. In our new understanding, both the chalimus and preadult stages should be referred to as the respective copepodid stages (II through V, in integrative terminology). The terminology for the caligid copepod life cycle thereby becomes consistent with that for the homologous stages of other podoplean copepods. We see no justification for keeping "chalimus" and "preadult" even as purely practical terms. To justify this reinterpretation, we comprehensively summarize and reinterpret the patterns of instar succession reported in previous studies on the ontogeny of caligid copepods, with special attention to the frontal filament. Key concepts are illustrated in diagrams. We conclude that, using the new integrative terminology, copepods of the family Caligidae have the following stages in their life cycles: nauplius I, nauplius II (both free-living), copepodid I (infective), copepodid II (chalimus 1), copepodid III (chalimus 2), copepodid IV (chalimus 3/preadult 1), copepodid V (chalimus 4/preadult 2), and adult (parasitic). With this admittedly polemical paper, we hope to spark a discussion about this terminological problem.