

PREPARING A PROFESSIONAL JOURNAL ARTICLE ABSTRACT

An abstract is a summary or synopsis of an article in a journal or magazine. The purpose of preparing abstracts is to acquaint you with the scientific literature and to expose you to current topics in biology.

FORMATTING:

The abstract heading must be in the proper format. An example of a proper heading and a sample abstract can be found at the end of this document.

- The abstract must be typed
- Proper heading and citation of the article
- At least 1/2 of a page (from the beginning of the abstract)
- No longer than 1 page
- Single spaced
- 1" margins
- 12 point Times New Roman font
- Paragraphs indented no more than 0.3 (3 spaces).

GRADING:

Abstracts will be given a numerical grade based on the format of the abstract (including the heading) and the use of the article text in the abstract.

SAMPLE ABSTRACT:

Weih, D. (2004). The hydrodynamics of dolphin drafting. *Journal of Biology*, 3: 8. doi:10.1186/jbiol2

Abstract:

Background - Drafting in cetaceans is defined as the transfer of forces between individuals without actual physical contact between them. This behavior has long been surmised to explain how young dolphin calves keep up with their rapidly moving mothers. It has recently been observed that a significant number of calves become permanently separated from their mothers during chases by tuna vessels. A study of the hydrodynamics of drafting, initiated in the hope of understanding the mechanisms causing the separation of mothers and calves during fishing-related activities, is reported here.

Results - Quantitative results are shown for the forces and moments around a pair of unequally sized dolphin-like slender bodies. These include two major effects. First, the so-called Bernoulli suction, which stems from the fact that the local pressure drops in areas of high speed, results in an attractive force between mother and calf.

Second is the displacement effect, in which the motion of the mother causes the water in front to move forwards and radially outwards, and water behind the body to move forwards to replace the animal's mass.

Thus, the calf can gain a 'free ride' in the forward-moving areas. Utilizing these effects, the neonate can gain up to 90% of the thrust needed to move alongside the mother at speeds of up to 2.4 m/s. A comparison with observations of eastern spinner dolphins (*Stenella longirostris*) is presented, showing savings of up to 60% in the thrust that calves require if they are to keep up with their mothers.

Conclusions - A theoretical analysis, backed by observations of free-swimming dolphin schools, indicates that hydrodynamic interactions with mothers play an important role in enabling dolphin calves to keep up with rapidly moving adult school members.