

GL21A Lecture 7 Ecophenotypic variation , Sexual Dimorphism

I. Ecophenotypic Variation

A. Variation in Size

B. Variation in Shape

1. Temperature Induced

2. Wave Energy Induced

II. Sexual Dimorphism

A. Distinguishing Sexual Dimorphism

i. Analogy w/ modern

ii. Ratios of presumed Males and Females

iii. Distribution in space and time

B. Fossil Examples

i. Jurassic Ammonites

ii. Ostracodes

iii. Fossil Hominids

C. Significance

i. Species differences vs. Sex differences

ii. Importance in interpreting behaviour of extinct species

Dimorphic Ammonites

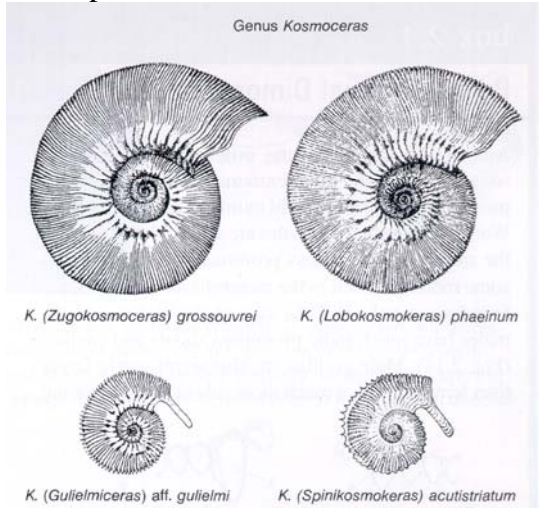


figure 2.13 For almost a century, these different shapes of ammonites from the Middle Jurassic of England were placed in different species and subgenera (note the names under each specimen). However, Callomon (1963) and Makowski (1963) argued that the smaller forms ("microconchs") with the long lappets around the aperture are from males, and the larger shells ("macroconchs") are from females. (From Clarkson, 1993.)