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Resume

Abstract

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By

GULF (N. AEGEAN SEA)

1842) IN SYMBIOSIS WITH ANOMOURAN DECAPODS IN THERMAIKOS

A STUDY OF THE POPULATIONS OF CALULITIS PARASITICA (COUCH)
The symposium is both a collection of papers and a platform for discussion. It aims to bring together experts in the field of marine biology to share their findings and insights. The papers presented cover a wide range of topics, from the behavior of marine organisms to the ecological implications of their interactions.

In the symposium, Dr. Ross and Dr. Brooks have contributed to the discussion of symbiosis in marine environments. Their research focuses on the interactions between marine species and their symbiotic partners, exploring the role of mutualism in ecological networks.

The study of these relationships has yielded valuable information on their role in the marine ecosystem. The symposium also highlights the importance of understanding these interactions for the conservation of marine biodiversity.

The papers presented in this symposium are a testament to the interdisciplinary nature of marine biology, bringing together researchers from various fields to address the complex challenges facing our oceans.

Among the most investigated symbiotic relationships between different species are those of the Mediterranean Sea and the North Atlantic. The symposium explores the potential of these relationships to contribute to the conservation of marine ecosystems and the maintenance of biodiversity.

In conclusion, the symposium provides a valuable platform for the exchange of ideas and the advancement of knowledge in the field of marine biology.


**RESULTS**

In the case of *B. brandaris* would not realistically represent the true age of the

1. Christidis, C.A., Chintzoglou & M.B., Cutler

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The distribution of the size classes of column height followed a similar pattern as that by mdc (Fig. 3b). As such, the C. parasitica population present on

*Calicatella parasitica* (Couch, 1842).

Fig. 2. Distribution of external index VI size classes (based on the length of gastropods) found in symbiosis with *Calicatella parasitica* (Couch, 1842).

Fig. 1. Distribution of *Paraglans erinula* (Linneaus, 1767) size classes (based on cephalothorax length) in *Calyptogena australiensis*.
Heights of 2.7 to 3.7 cm (10.3%), followed by Group 3 with column heights of 2.7 to 3.7 cm, representing 9.87% of the population, Group 2 ranging from 1.2 to 2.4 cm, again containing those individuals possessing a column height of 0.30 to 0.60 cm, the gastropod shells were again made up of three main size groups. Group 1 column (representing the height of column (terminated), 1.8 cm). Distribution of size classes of Calliostoma parthenon (Couch, 1842), a mean diameter of the gastropod shell was again made up of three main size groups.

Fig. 3. Distribution of size classes of Calliostoma parthenon (Couch, 1842). A mean diameter of the gastropod shell was again made up of three main size groups.
and Zimmer (1986) found that "..." ranges from 1.91 to 3.27 for *Anomura.*

In the context of this discussion, the correlation between dry weight and mean column diameter (mdc) reveals the best correlation (r = 0.93; p = 0.01) and the mean column diameter (mdc) gives the best correlation (r = 0.96; p = 0.001). The mean column diameter (mdc) gives the best correlation (r = 0.96; p = 0.001). The following results were acceptable: (a) Wm = W[mdc]0 and (b) Wm = W[mdc]0.21 H[mdc]0.39. For *C. parashisa,* the following results were acceptable: (a) Wm = W[mdc]0.11 and (b) H = W[mdc]0.96. Based on the correlation of the allometric relationships of the wet weight of the individuals (0.0 to 2.5 g), with the largest individual not exceeding 7.5 g. These individuals were observed to form the population's range smaller and thus higher. With respect to the size classes of the population expressed in terms of Wm, we observe a right shift in the population towards smaller individuals. This indicates that the size classes are not evenly distributed. A distribution of wet weight classes of *C. parashisa* (Couch, 1982).
of about 1.0-1.5 mm, as defined for the viviparous species of the genus Ac-
are considered ammonites of the 12-reniform shape, having a basal disc diameter
considered ammonites inhabiting shells (Ross, 1980). In this context, "small"
considered ammonites inhabit shells of small sizes have not frequently been en-
1976), to date young individuals of small sizes have not frequently been en-
relate age at which this ammonite inhabited is symbiotic with an ammonite,
relate age at which this ammonite inhabited is symbiotic with an ammonite,

**DISCUSSION**

![Graph](image)

Figure 5. Regression of log wet weight of *Calliactis parasitica* (Couch, 1842) against (a) log mean

1. *Calliactis parasitica*, M. B. Cutler
The values of the allogrooming coefficients of anomones have been shown to differ

in Intermarium and 67 in the circalittoral zone.

whereas for Amphipora

and in Meridionali (Linnéaus, 176) (b = 2.76) whereas for Annophelina

xanthochariina (Brunel, 1835) the allogrooming coefficient b and a value of 2.79.

from species to species. For example, Spence, (1918) noted that in Annophelina

The values of the allogrooming coefficients of anomones have been shown to differ

different lypes in the

ones (1961) also support this observation, there being 4 different lypes in the

figures, concerning the number of prey cauganauts from Chimaeron x Krok-

further possibilities for nutrition when compared to the Intermarmar population. Further

from which the spiculums for this research were also gathered, had increased

respecitively. These figures indicate that the population of the anomones (59.8% and 46.2%

and Intermur;), observed differences in the early cilliary coefficient (i.e., the number

and circalittoral), in the form of spiculums from two different ecological zones in the emer-}

chitoniscus C. panasiana (1661) in examining two populations

sch inc. 1935), Chimaeron x Krokorns (1661) in examining two populations

population exist), influence the growth rate of C. panasiana (cf. Schinc. 1935; 1944; 1946).

The amount of food present in an area and the area the examine-

As mentioned in the results, no large anomones were found in the examined

such as P. quiescentoul (should not be digested) (Ross, 1980).

are taken by force from P. quiescence by more active and stronger anomone speces.

introduction (Krokorns, 1961). Of course, the possibility that the larger anomones

intact, symbiotic with other anomone species (wing deep in the area (chin-

perhaps this indicates that larger indivudals abandon P. quiescence and

sample....perhaps this indicates that larger indivudals abandon P. quiescence and

was mentioned in the results, no large anomones were found in the examined

0.3-1.1 cm)

the ciliary coefficient with P. quiescentoul, a young age (pore disc diameter

the sea anomone Chimaeron undulans (Millier, 1788) also establish a symbiotic

were introduced, the ratio of nutrition to excretion, Chimaeron x Krokorns.

behavior causing the anomone to eat other anomones and instigate symbiotic

the critical size referred to above is reached, there is likely to be a change in

when the size of the symbiotic may depend on the growth rate of the juveniles. When

reaching a critical minimum size as implied above. If this is the case, the age of

spandiang (1972), we propose that C. panasiana establish symbiotic relations.

growth rate established for Ulrikana cassinorum (O. F. Millier, 1776) by China &

P. quiescentoul as basal disc diameter is about 1.0 cm. Based on the

P. quiescentoul suggests that C. panasiana establish itself on gastropod shells by

prebass study support that C. panasiana establish itself on gastropod shells by

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CALLATIONS PANASIANA IN SYMBIOTIC WITH ANOMAINS
The evolutionary pathways that led these two groups to form such successful invasions of new habitats with increased feeding possibilities (than to abiotic habitat parameters affecting the for symbiosis should be approached mostly to block parameters affecting the evolutionary processes in the first year of their life. The driving force behind the evolutionary relationships from a relatively young age. In both organisms this symbiotic relationship the presence of a fire, the present study suggests that the symbiotic relationship the asexual shell. As a result, the larger the pedal disc the better the chance of secure attachment. As such, the diameter of the pedal disc will play an important role in achieving good adhesion for the asexual, the larger diameter of the pedal disc will play an important role in achieving good adhesion. The regression analyses revealed the best correlation with the asexual, median column diameter (and) showed the best correlation with the asexual with A. From the two biometric parameters revealed for their symbiosis with the asexual, the column diameter and column height of the asexual play an important role in their success, especially when the asexual grows from 0.27 to 0.34, indicating that the growth of the asexual is allometric, and that the increase is greater with respect to weight than for the other metrics. The regression analyes of all the parameters showed positive correlations with a correlation coefficient $r = 0.35$, the regression analyses of all the biometric parameters examined. This is clearly shown in Fig. 5, where the values of the powers ranged from 0.06 to 0.37, respectively. Analyses of allometric coefficients for C. pan-egans, E. Debue (1986), and Zamer (1986) gave coefficient values of
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BAHLAINE, J. & C. D. DONDEUX, F. 1976. Behavior with Calliactis parasitica (Cuvier) in social
endure, is usually broken at different points. As such, the overall shell length
would be indicated by the animal's size. However, the amount of mechanical damage has had to
cause of the base of its shell, which, depending on how long the shell has been
considered, both in overall structure, but also in appearance dimensions. Both
considerably more pronounced parameter for the two species, termed **euthalic (Y)**. This
non-biotic parameter to the gastropod shells examined, we choose to introduce a com-

**NATIONAL HISTORY/NATIONAL PARKS.**

National Park, after personal communication with Dr. De Saint-Laurent, was

... weight was again obtained, because of the relative age for the present study. Yet weight was again obtained,

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