

***Elphidium Excavatum (Terquem):***  
***Part I. Ecophenotypic versus subspecific variation***

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Large sympatric populations of the highly variable foraminiferal species, *Elphidium excavatum* (Terquem) are examined from seven widely spaced locations. Employing the concept of an intergradational series (which requires a sympatric population) specimens within these populations can be linked to one another. Here five formae (ecophenotypes) are delineated: *Elphidium excavatum* forma *excavata* (Terquem), *Elphidium excavatum* forma *selseyensis*

(Heron-Allen and Earland), *Elphidium excavatum* forma *clavata* Cushman, *Elphidium excavatum* forma *lideonsis* Cushman, and *Elphidium excavatum* forma *magna* new forma. These formae are synonymous with those of Feyling-Hanssen except for *E. excavatum* forma *selseyensis* sensu Feyling-Hanssen (here *E. excavatum* forma *excavata*). *Elphidium excavatum* forma *selseyensis* (Heron-Allen and Earland) is delineated as distinct from forms illustrated by Feyling-Hanssen.

*Elphidium excavatum* forma *alba* Feyling-Hanssen is regarded here as synonymous with *E. excavatum* forma *clavata*, the opaque white test being diagenetic in origin. Feyling-Hanssen suggested that these formae were part of one highly variable species; since then, it has been suggested that a subspecific classification should be retained and a geographical division of subspecies was indicated. Here it is shown that up to five subspecies occur in an uninterrupted intergradational series at one location, hence they

cannot be subspecies but must be ecophenotypes (formae). Although it is shown that taxonomically these forms are identical, the distinction between formae should be retained, as suggested by Feyling-Hanssen, because it appears that the diversity of formae as well as individual formae indicate specific environmental conditions. It is hoped that with the verification of ecophenotypic expression in the species *Elphidium excavatum*, this species will become a more valuable tool in paleoecological studies of Pleistocene marine sediments.