

## TEGULALITHUS A NEW GENUS OF EARLY CRETACEOUS CALCAREOUS NANNOFOSSILS

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Two species (*Lithastrinus septentrionalis* Stradner 1963, *Lithastrinus tessellatus* Stradner 1968) previously assigned to the genus *Lithastrinus* Stradner 1962, do not conform to the generic diagnosis. A new genus, *Tegulalithus*, is erected here to include these species.

*Tegulalithus* gen. nov.

**Type species:** *Lithastrinus septentrionalis* Stradner 1963

**Derivation of name:** (Latin) Tegula - a roof tile

**Diagnosis:** Circular or subcircular coccoliths consisting of proximal and distal plates composed of numerous small rhombohedral crystals which overlap one another like roof tiles. These plates are perforated by a single hole and may be joined to one another by 16 to 30 large wall forming elements.

**Comments:** The holotype of *Lithastrinus septentrionalis* is a line drawing interpreted from the light microscope. The structure shown does not match that observed in the scanning electron microscope for this species (Pl. 1, Figs. 1, 2). However, the holotype is from the Late Hauterivian of Germany as are the specimens shown here and it resembles the forms illustrated by the light micrographs in Pl. 1, Figs. 3-5

Reinhardt (1970) also assigned specimens similar to those observed in the present study to the species *L. septentrionalis* (Text-Fig. 74, Pl. 5, Figs. 6,7; Pl. 6, Fig. 1). However, his concept of the species included *L. tessellatus*, which is considered to be a separate species in the present study.

*Tegulalithus septentrionalis* (Stradner 1963) nov. comb.

Pl. 1, Figs. 1-5.

1963 *Lithastrinus septentrionalis* Stradner, p.177, Pl.2,  
Fig.7a-b.

1984 *Eprolithus septentrionalis* (Stradner) Perch-Nielsen, p. 43.

**Comments:** *Tegulalithus septentrionalis* does not conform to the generic description of *Eprolithus* Stover 1966. The possession of the distal and proximal plates composed of rhombohedral crystals is unique to the species *T. septentrionalis* and *T. tessellatus*.

*Tegulalithus tessellatus* (Stradner 1968) nov. comb.

1968 *Lithastrinus tessellatus* Stradner in Stradner, Adamiker and Maresch, p.43, Pls. 43 and 44, Text Figs. 7/1 and 7/2.

Comments: *T. septentrionalis* can be differentiated from *T. tessellatus* by a greater number of rhombohedral crystals in the proximal and distal plates of the latter. No illustrated specimens of *T. tessellatus* show the 16-30 large wall forming elements observed in *T. septentrionalis*, the presence or absence of these elements may be another diagnostic feature.

*T. septentrionalis* is stratigraphically restricted to the Late Hauterivian, while *T. tessellatus* occurs in the Aptian to Albian.

#### REFERENCES

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#### Plate 1

Figs. 1-5 *Tegulalithus septentrionalis* (Stradner 1963) nov. comb.

1. Plan view, 2. Side view, X 10.000, Otto Gott, Bed 50, *gottschei* Zone.

3. Plan view, x-nicols, 4. Plan view, bright field, X 2.800, Moorberg, Bed 67, *staffi* Zone.

5. Side view, bright field, X 2.800, Moorberg, Bed 67, *staffi* Zone.

Bed numbers after Mutterlose (1984).

