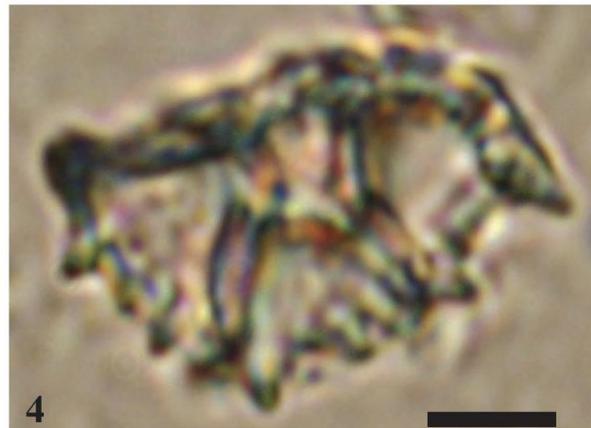
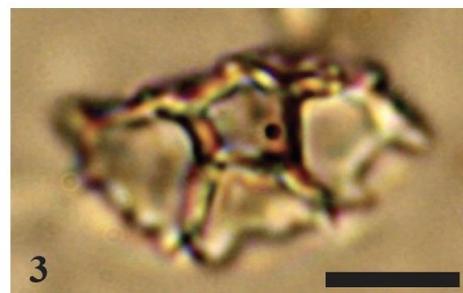
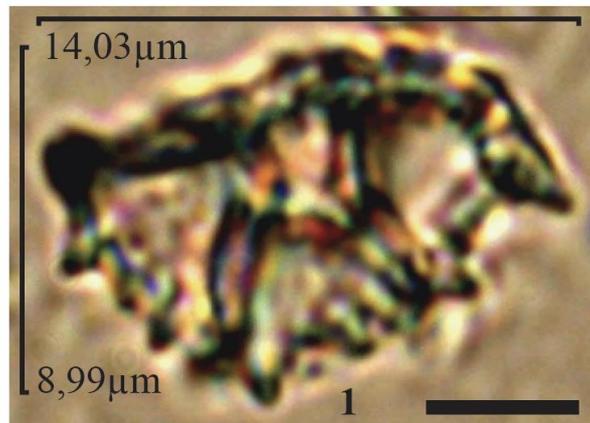
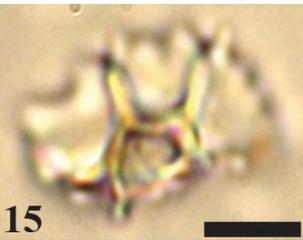
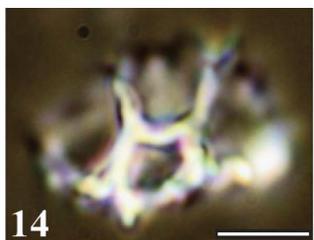
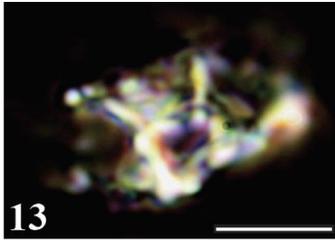
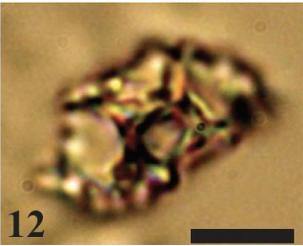
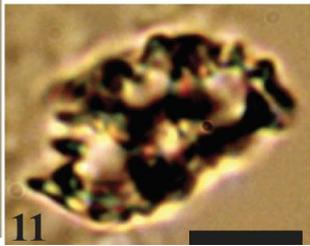
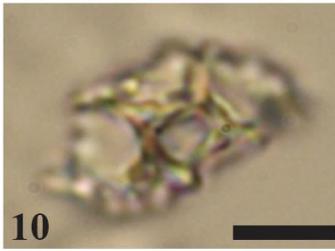
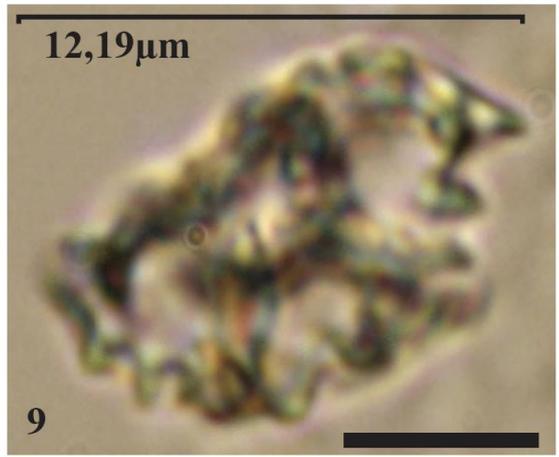
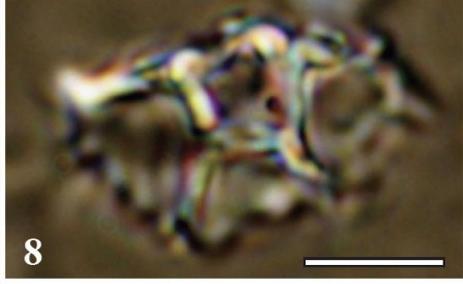
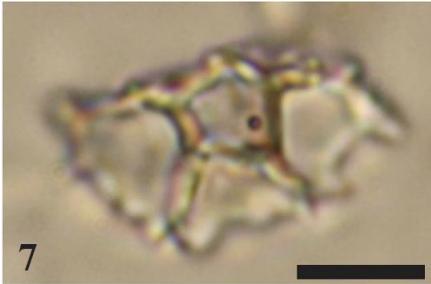
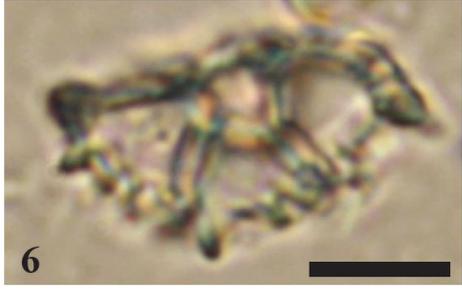
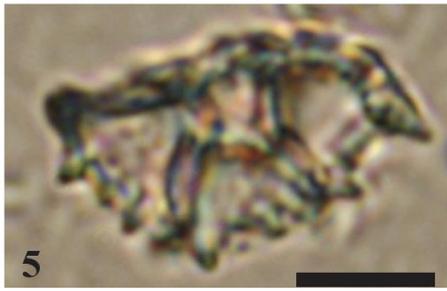
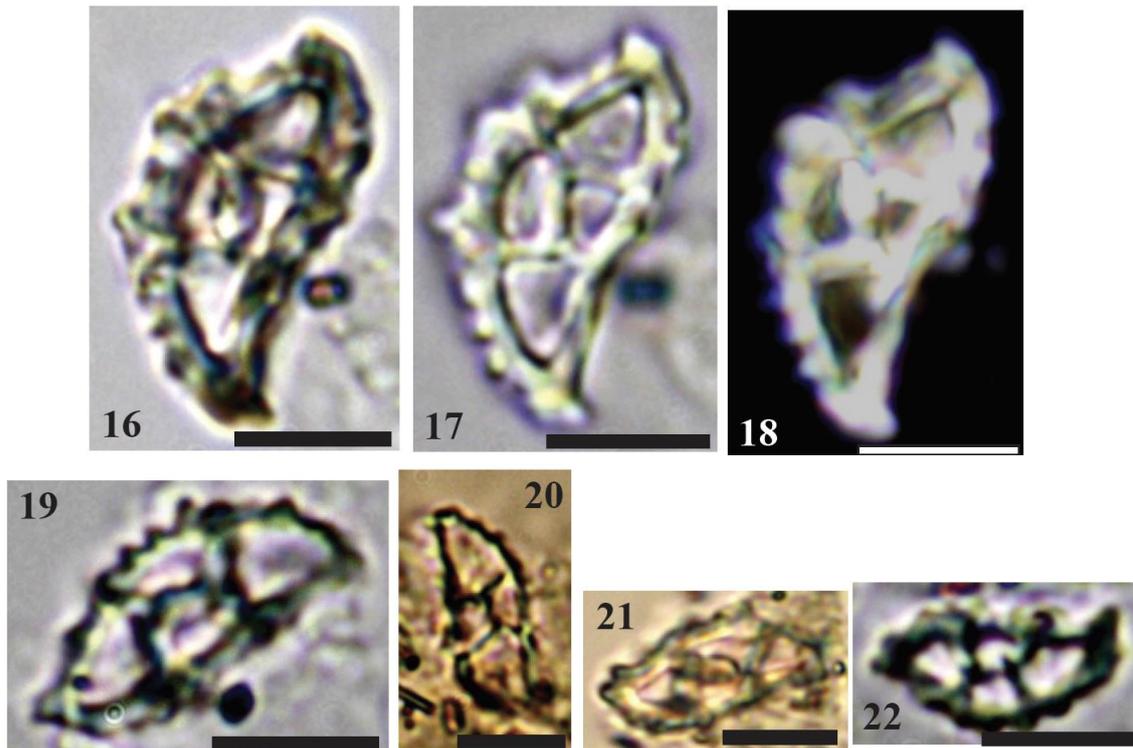


*Chiphragmalithus muzylewii* Musatov (2017)







Pl. 3, figs 1–22

Scale bars=2 $\mu$ m

Figs 1-22. *Chiphragmalithus muzylevii*. 1-8, holotype, Sample 15, 414-420m. 9-15, paratype. 16-22, intra-species variability. 1-7, 9-12, 15-17, 19-22, Phase Contrast; 8, 13-14, 18, Cross-polarized light.

**Derivation of name:** The species name has been derived from the surname of Muzylev Nikita Georgiyevich (Geology Institute at the Russian Academy of Sciences, Moscow) – a scientist involved in studying Paleogene calcareous nannofossils from the Caucasia, Crimea, Russian Platform and Central Asia. The species is dedicated to him.

**Diagnosis:** Large heterococcoliths, with elongated, sinuous, biconvex shape in plan-view, with spinose walls and an H-shaped septum in the center.

**Description:** The external wall is rather thick, composed of large, clearly visible elements of medium height, slightly widening from the base towards the distal part. Along one side of the coccolith 6–9 relatively large pointed spines occur. There are generally some minor tubercles on the opposite side of the coccolith. The coccolith has pointed ends, one of which bears a large beak-shaped spine; on the opposite end the spine is generally ill-defined or missing. The central part is partitioned by a large, thick, H-shaped septum, somewhat skewed relative to the coccolith axes. The septum ends reach the wall, bifurcate and extend beyond the contour as relatively large spines on one side of the coccolith. The septum projects rather high above the wall. Under XPL, the entire coccolith structure produces a moderately bright birefringence, the H-shaped central structure showing brighter luminescence than the wall.

**Differentiation:** The new species differs from *Ch. armatus* in having a higher wall, larger size, clearly defined elongated S-shape with pointed ends, and larger spines arranged only on one side of the coccolith. It differs from *Ch. vandenberghiei* in the elongated S-shape, presence of smaller spines on only one wall, absence of large ribs, the H-shaped structure, and the framing walls are lower. It differs from *Ch. acanthodes* in the larger size, oval S-shaped coccolith and H-shaped septum.

**Dimensions:** L = 10.0–14.0 $\mu\text{m}$ ; W = 6.0–9.0 $\mu\text{m}$ .

**Holotype:** Pl. 3, figs 1–8. Holotype photos are retained by the author of the present paper. The Novouzensk № 1 key hole, interval 411–420m, sample 15.

**Holotype size:** L = 14.0 $\mu\text{m}$ ; W = 9.0 $\mu\text{m}$ .

**Paratype:** Pl. 3, figs 9–15. The Novouzensk № 1 key hole, interval 411–420m, sample 15.

**Type Level:** the uppermost of the Ypresian stage, Bostandyk series (upper part), above the sapropel layer level.

**Type locality:** The northern part of the Caspian Depression, the south of the Saratov Region (50.4583°N, 48.0200°E), the Novouzensk № 1 key hole.

**Occurrence:** the first occurrence is recorded in the upper part of the NP13 and CP11 zones and has not yet been detected in younger deposits.

Musatov, V.A., 2017. A new species of the genus *Chiphragmalithus* from the Ypresian stage (early Eocene) in the northern part of the Caspian Depression (Russia). *Journal of Nannoplankton Research*, **37(1)**: 67–76.