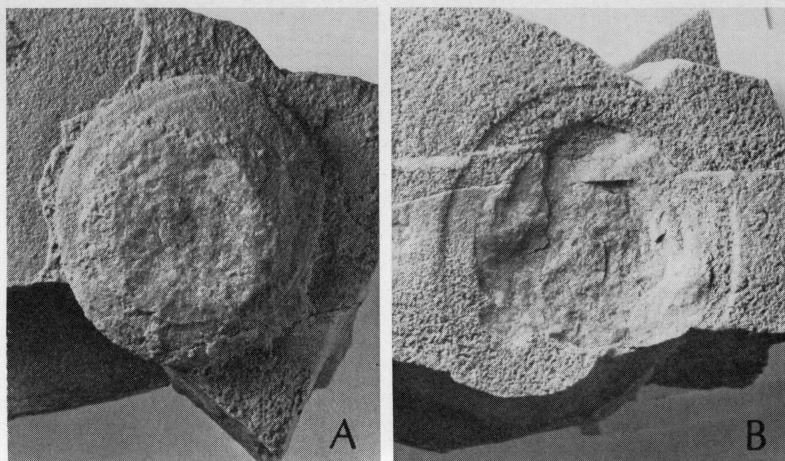


Fig. 3. *Dolopichnus gulosus*, holotype, UCLA 49508, from lower bed with burrows, UCLA Loc. 6164. Specimen uncoated; approx. $\times 0.8$. □ A. Lower bedding plane with bottom of burrow preserved as a flattened hemisphere with concentric markings and a slight central depression. □ B. Upper bedding plane view. The central cylinder (10 mm in diameter) is visible on the specimen but not in the photograph.



up to 5 mm long (Fig. 4A). Trilobite fragments are sparse in the outer burrow and absent in the surrounding quartz arenite. Some short burrows lack a central cylinder and contain trilobite fragments throughout (Fig. 4C), and are probably the bottoms of tall burrows.

The outer walls of the burrows were observed in natural and sawed sections only, and appear to be without constrictions or ornamentation.

Microscopic description

In thin sections, the rock surrounding the burrows of the upper and lower beds is composed of very-fine to fine, well-sorted quartz grains (55–60 %) in a micrite matrix, with a small amount of limonite. About 2 % of the micrite has recrystallized to sparite, and locally irregular patches of sparite replace detrital quartz grains. The rock of the lower bed contains about 5 % plagioclase, and both beds contain minor secondary muscovite.

The composition of the rock in the burrows is different in the two beds. The central cylinder is indistinct in burrows of the lower bed, and prominent in burrows of the upper bed.

Burrows of the upper bed. – A distinct central cylinder containing abundant bioclastic fragments characterizes the burrows of the upper bed. Skeletal fragments and micrite pellets each compose 25–30 % of the central cylinder

(Fig. 4A), and are cemented with medium crystalline sparite (35–45 %). Detrital quartz comprises about 5 % of the central core. The bioclastic fragments are from 0.05 to 0.2 mm wide, up to 5 mm long, and generally are slightly curved to hook shaped in thin section. Poorly developed laminae parallel to the surface and an indistinct prismatic structure are present in some fragments. The morphology and internal structure of the fragments indicate that they are trilobite exoskeleton remains (Harrington 1959:O85–O87, Fig. 62; Horowitz & Potter 1971: 68–69, Pl. 47). In the central cylinder the trilobite fragments are subparallel to the bedding (Figs. 4A, 6).

The outer part of the burrow contains fewer detrital quartz grains (40–45 %) than the rock surrounding the burrows. Trilobite fragments comprise 5–10 % of the outer burrow. The grains are imbedded in a matrix of micrite, containing 20–30 % limonite and 5 % sparry calcite.

Burrows of the lower bed. – In thin section, the central cylinder is much less distinct and lacks trilobite fragments. The rock inside the burrow has nearly the same composition and texture as the surrounding micritic quartz arenite. However, limonite and carbonaceous material comprise about 20 % of the outer burrow and only 5 % of the surrounding rock and the central core. Grains in the central core are slightly coarser than those in the outer burrow and enclosing rock.