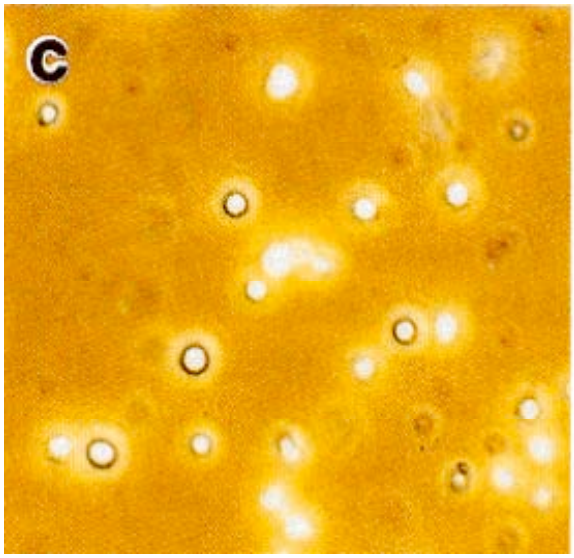
Sudan Black B Staining

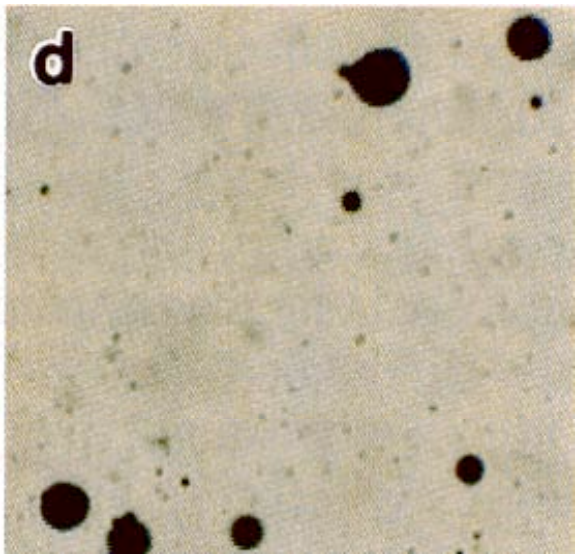
1. Prepare smear of algae on a slide, let it dry thoroughly in the air, and heat fix it 2. Flood the entire slide with Sudan black solution (0.3 g of the powdered stain in 100 ml of 70% ethanol), and allow the slide to remain undisturbed at room temperature for 5 to 15 minutes. 3. Drain off excess stain and counterstain with safranin for 30 sec. 4. Wash with water and air dry.[1]

or

Algae are emulsified directly in the staining solution, and the emulsions are allowed to stand at room temperature for 15-20 minutes. A loopful of the emulsion is then removed from the top of the fluid and smeared with a circular motion upon a clean slide so that it dries quickly, leaving precipitated particles at the periphery of the drop. The slide is not heated. A 1 per cent aqueous solution of safranin is now applied briefly, and the smear is then washed with water and air dried.[2]



c) Unstained lipid droplets, phase-contrast microscopy, 1520×.



d) Lipids droplets stained with Sudan Black B, brightfield 1520×.[3]

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[1] K. Burdon. "Fatty material in bacteria and fungi revealed by staining dried, fixed slide preparations." *Journal of Bacteriology* 52(6):665-678, 1946.

[2] K. Burdon, J. Stokes, and C. Kimbrough. "Studies of the common aerobic spore-forming bacilli." *Journal of Bacteriology* 43(6):717-724, 1941.

[3] L. Muscatine, R.. Gates, and I. LaFontaine. "Do symbiotic dinoflagellates secrete lipid droplets?" *Limnology and Oceanography* 39(4): 925-929, 1994.