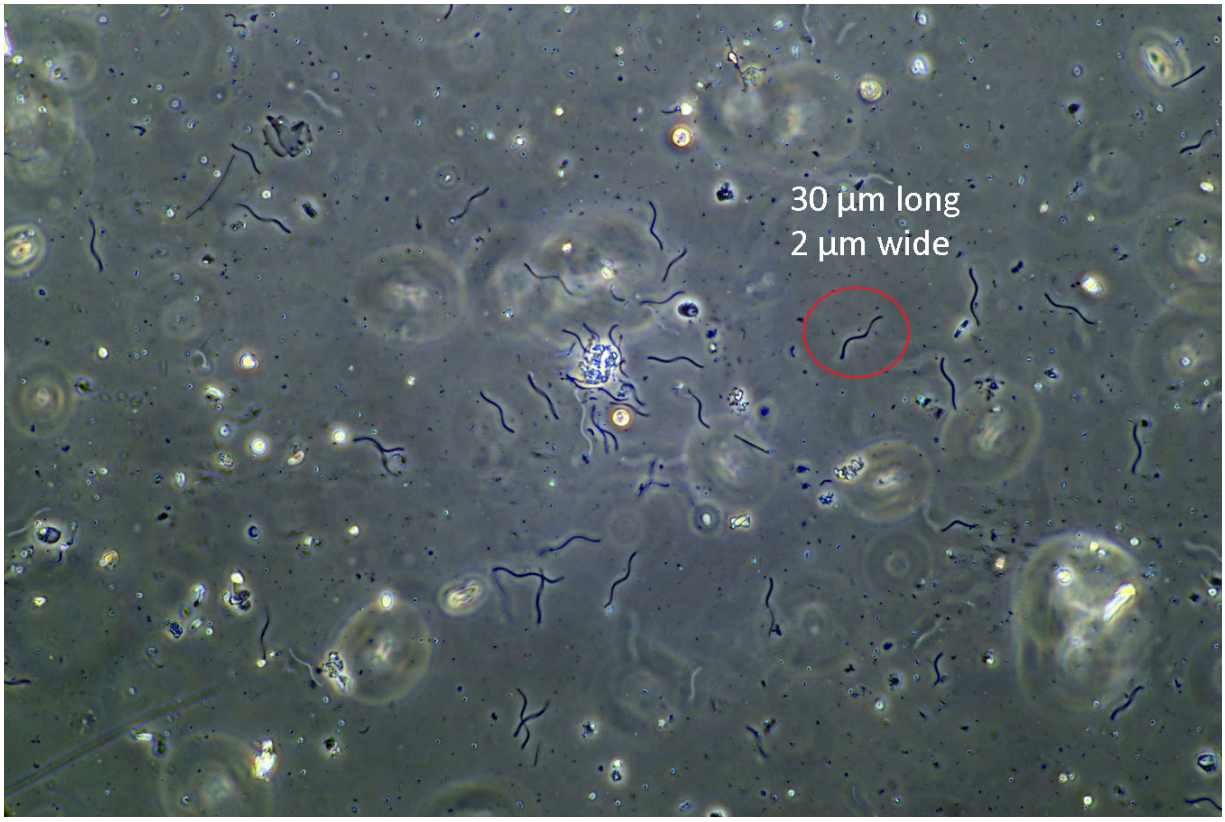
Spirillum volutans

Steve Neeley (USA)



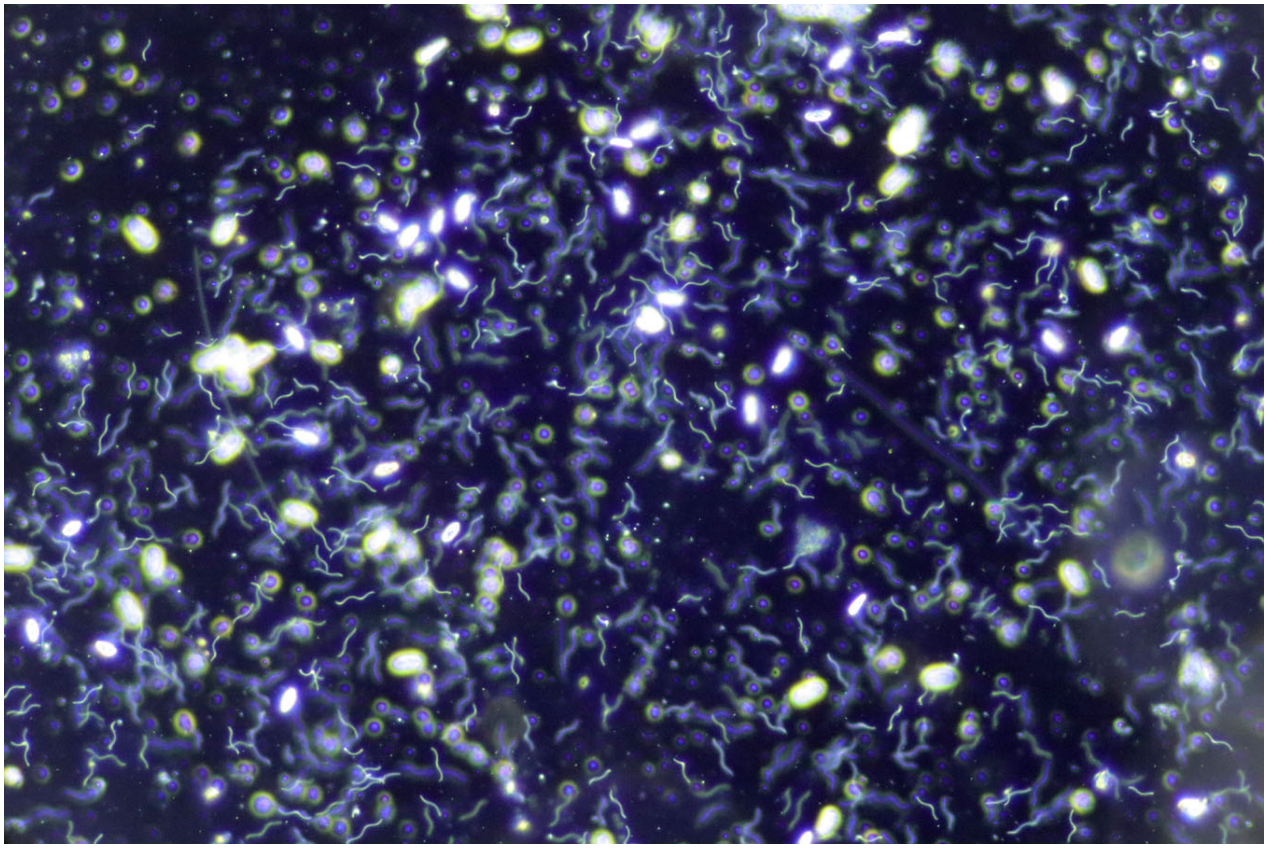
Above: Phase Contrast with the 10x objective.

Spirillum volutans is a bacterium -- an exceptionally large one. Lately, they seem to be always present in my samples from a local pond and with any two-week-old sample become the dominant 'visual' critter. A previous Micscape article – Spirillum by ALEJANDRO ARIEL GARCIA ARRIAGA in the April 2017 issue – also highlighted this organism.

With a 40x objective, you can begin to see the metachromatic granules mentioned here and even get a fleeting glimpse of the bundles of flagella at either end.

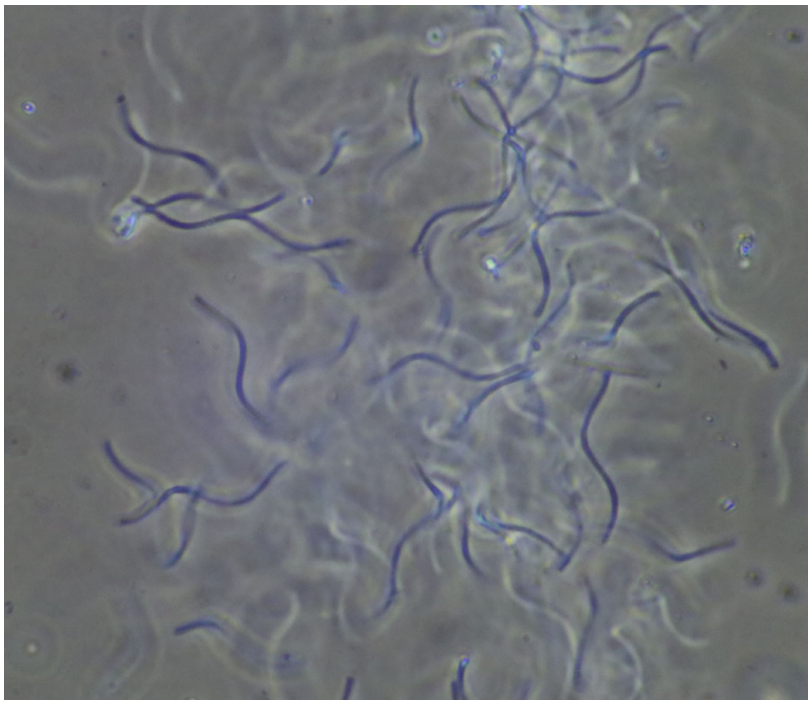
I have assumed the species I am seeing is *volutans* given its size: 30 – 45 µm long, and fully 2 µm wide (some perhaps even slightly wider). Easily seen with the 10x objective, it is known to be one of the largest bacteria.

My first thought at noticing this organism was that it was a species of *Spirochete* but quickly dismissed that thought because it was much too big (The *Spirochetes* I see are about 0.7 to 0.5 µm in width and perhaps, at most, 15 um long, and very flexible – Spirillum is decidedly inflexible, having a rigid spiral structure).



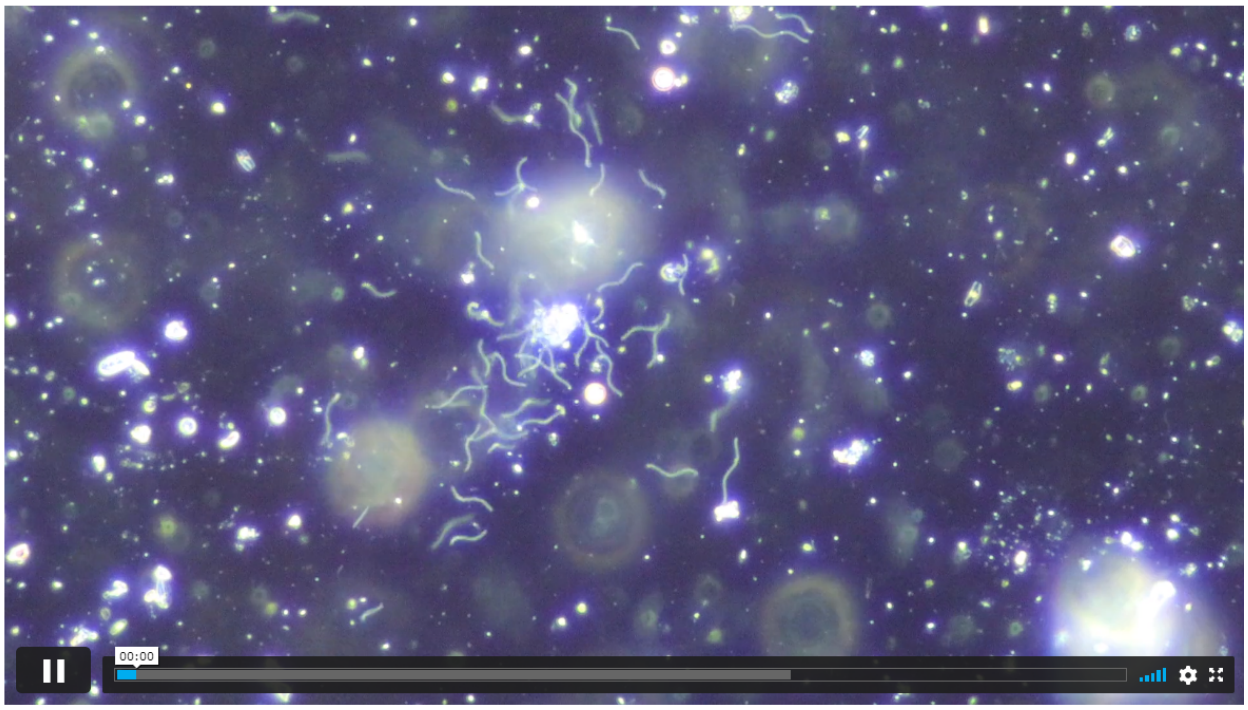
Above: Dark Field with the 6.3x objective, giving an effective magnification of 100x.

Below: Phase contrast with the 40x objective. You can just start to notice the granules noted previously.



And finally, please click on the images below to play a couple of short Vimeo videos to give you an idea of what I see through my eyepieces:

https://vimeo.com/513167057



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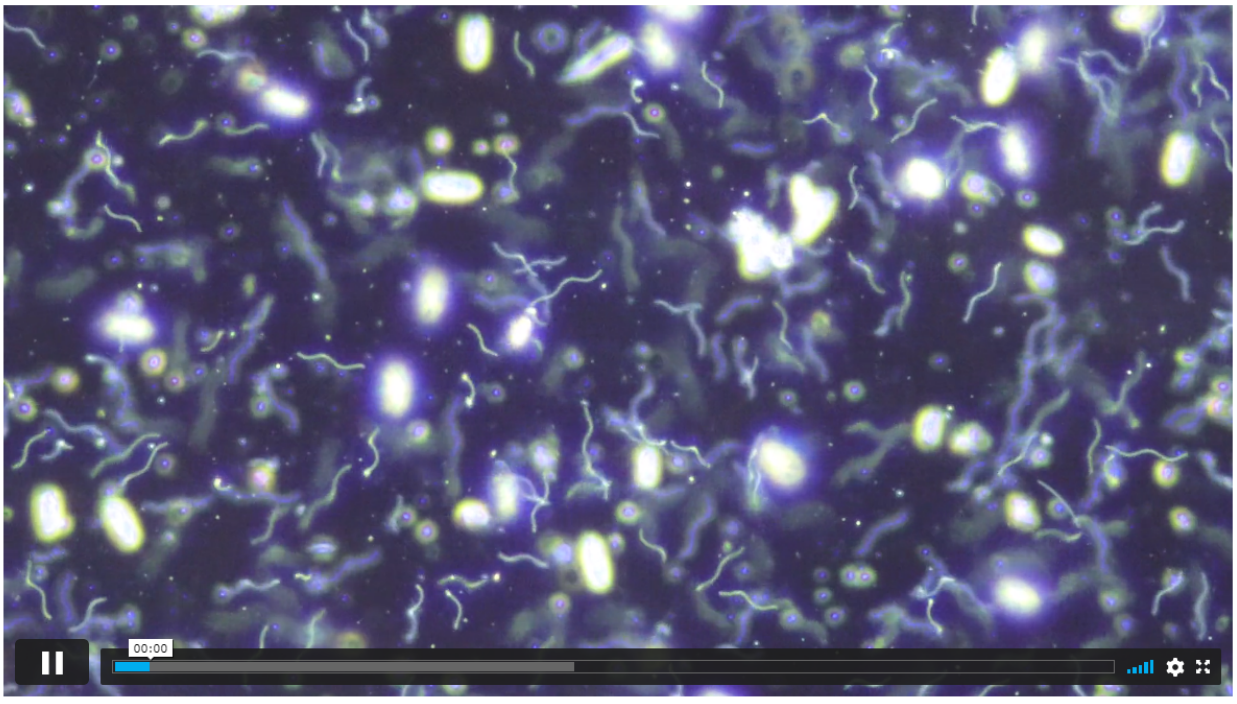

Final Comments:

“1. Bacteria are pretty boring!” notes Microbe Hunter – aka Oliver Kim – in his excellent video “10 Things I wish I knew when I started Microscopy as a Hobby”.

Yes, it's point #1! He is right, of course. Mostly. But *Spirillum volutans* is an exception. It is large enough to go head-to-head with the protozoa and unique enough to be readily identified.

On a personal note, my budding-scientist granddaughter, who lives on the other side of the world, received a microscope for Christmas this past holiday season. Of course, she wanted to see bacteria, just as MicrobeHunter noted. Well, Sofi, here you go! ☺