

DIY-DIC SEVERAL COLORS

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- MY BACKGROUND ON MICROSCOPY

My name is Alejandro Ariel Garcia Arriaga, I am from Mexico, I am 35, I am a physician and have been interested in microscopy since I was at high school where I made some observations in the biology class. I then got the idea of buying a microscope but until last June 2014 it was not possible and I bought a 40x-2500x microscope that came with a bright field and a dark field condenser, this way I started my observations of the marvellous microscopic world .

While surfing on the Internet for some other illumination techniques I first found the article of Wim van Egmond about Rheinberg filters, I got interested and I entered the page of Micscape. I found plenty of interesting articles in the library and one that caught my attention was another one by Wim van Egmond - DIY-DIC, I tried it that afternoon and I like it a lot. I prepared some other filters with other colors and have been trying them but I have not had the chance to record my observations since I have not bought a camera.

Last Friday January 9 2015 I received a camera that I have ordered from the same company that manufactured my microscope. It is a 10 MP camera, I started observation with my new camera, I started with the DIY-DIC and a very little mosquito and a very little spider that I found dead on a wall and that I have fixed upon a slide three months ago with some glycerin and the coverslide glued with transparent nail polish. The results with the mosquito and the spider were beautiful or at least that seemed to me.

- OBLIQUE ILLUMINATION

One of the illumination techniques that I like the most together with dark field is oblique illumination - that is the reason I like it a lot the DIY-DIC.

Here is my first observation of the mosquito with the DIY-DIC blue filter that I had made with my new camera.



Mosquito 4x 10% zoom DIY-DIC blue center resolution 10 MP

Since I have other filters with other color centers I tried them and I prepared some more with different colors - gray, black, green, yellow, aquamarine, purple, pink, dark pink and one that we call here in Mexico a fiusha color.

Here are my filters:



The materials that I used to make my filters were black cardboard, green, blue, red, yellow cellophane, a black balloon, some color plastic covers for books, since I am a doctor and I have to give shots of some medications to people that go to my office I started keeping I found that the plastic covers of some bottles of medication were of different colors, for example aquamarine, gray, dark pink, so once I open the medication to be applied I keep the cover of the bottle, and that is one of my source of color centers .

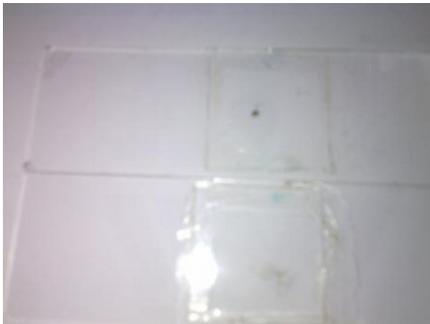
Here are some examples of the covers and the bottles where they come from:



For making the filters I cut 2 circles of 3 cm that fit perfectly on my microscope filter tray for every one and made a small hole of 0.5 cm in the center. I cut the filters from small cellophane strips and wrapped them to make a small square that covered the hole, after that I glued together the two circles then drew a half moon that surrounded the hole already covered with the color filter and cut the shape of the half moon to make a hole on the circle with that shape.

For the filters made with covers of the medications and the one with the balloon I also cut small squares of these ones and did the same process mention above, I removed the circle of aluminum left behind in the plastic cover, which is shown in the picture.

Here are my samples:



mosquito 4x 20% zoom bright field no filter.

I set the filter on the filter tray of my microscope and I lift the condenser to the maximum

Here you have the results:



Mosquito 4x 20% zoom DIY-DIC black center a small bit of a black balloon, resolution 10 MP



Mosquito 4x 20% zoom DIY-DIC dark pink center called fiusha, resolution 10 MP



Mosquito 4x 20% zoom DIY-DIC light pink center resolution 10 MP



Mosquito 4x 20% zoom DIY-DIC purple center, resolution 10 MP



Mosquito 4x 20% zoom DIY-DIC gray center, resolution 10 MP

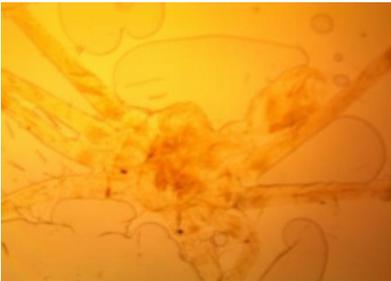


Mosquito 4x 20% zoom DIY-DIC aquamarine center, resolution 10 MP

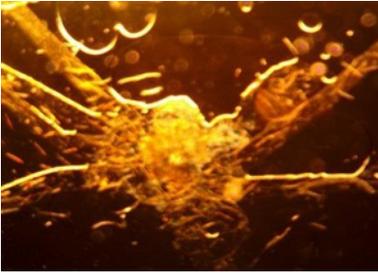


Mosquito 4x 20% zoom DIY-DIC red center, resolution 10 MP in this image I made an adjustment in the intensity of the colors in the camera white balance menu since with the red center the image was not so accurate as the previous images the values for the adjustment are temperature 10180, tint 2500.

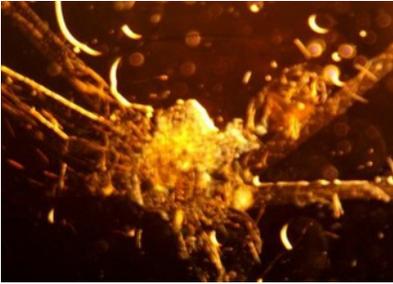
Here are some examples with the spider.



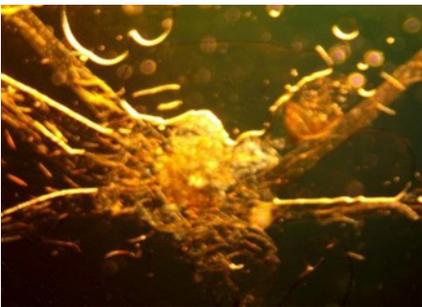
Spider 4x 10% zoom, bright field without any filter.



Spider 4x 10% zoom, DIY-DIC black center a small bit of a black balloon, resolution 10 mp



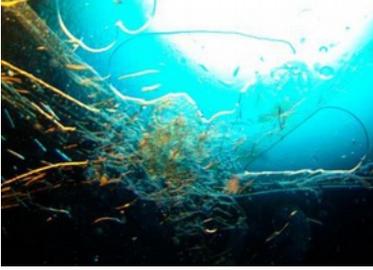
Spider 4x 10% zoom, DIY-DIC gray center, resolution 10 MP



Spider 4x 10% zoom, DIY-DIC aquamarine center, resolution 10 MP.



Spider 4x 10% zoom, DIY-DIC dark pink center called fiusha, resolution 10 MP



Spider 4x 10% zoom, DIY-DIC blue center, resolution 10 MP

Making filters is easy, the only thing that we have to do is to go around and look for every translucent and colored object that we can use. Imagination is the limit in microscopy.

I hope this presentation gives the reader some ideas as did those that I received from the article of Wim van Egmond in order to explore the marvellous microscopic world.

Thanks for reading.

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(Above in anti-spam format. Copy string to email software, remove spaces and manually insert the capitalised characters.)

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