Dimorphic pollen in gourd

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Bottle gourd – a common summer vegetable is a spreading vine that climbs with the help of stem tendrils on the hedges and supports. It has been raining ferociously these days, so the vine in my neighbour’s garden had spread on my wall. I could make out the palmately lobed leaves covered with hair giving a rough texture.

The bottle gourd flowers are dioecious, borne singly in the axil of the leaves, the males on long peduncles and the females on short peduncles. The flowers are white in colour with spreading petals. The ovary is inferior and is of the shape of the fruit.

I plucked a flower and it was a staminate one. Male flowers have stamens grouped together in the centre of the flower. The stamens have short filaments and sigmoid anthers. On cutting a longitudinal section the anthers could be clearly visible. The anther lobes were teased gently to release the pollen.
I was viewing the pollen and clicking images and gently moving my foldscope to capture sharp and clear images, and then a particular focus amazed me. Foldscope had unveiled a focus showing two different types of pollen present together. One type of pollen were light coloured, spherical in shape and tricolpate, while the other type of pollen were ellipsoidal in shape and dark in colour with striations or ridges present on exine.

Light coloured, spherical tricolpate pollen
Dark coloured ellipsoidal pollen