

“Bits & Pieces” by Lindsay Gibbs

Compact Cameras

When it comes to photos image quality is all important. Zoom and video are secondary ...

For me an acceptable compact camera is one that has:

- no shutter lag
- fast focus
- accurate colours
- no lens distortion
- no noise at high ISO
- fits in your pocket

Panasonic TZ30

I own one of these and always have it with me. The image quality is excellent under normal lighting conditions with high ISO noise just starting to creep in above ISO 800.

A feature that I love is its ability to shoot full-size images at 5 frames a second AND refocus between shots. It also shoots full-size images at 10 frames a second using the initial focus and up to 60 frames per second at 3.5MP. The optical stabilization is rock-steady at full zoom and it sports full manual control.

Specifications (for comparison purposes)

- 24-480mm (equivalent), F3.3-6.4 optically stabilized zoom
- 14MP 1 / 2.33” CMOS sensor

Sample Images:

Fig.1: 24mm (in 35mm film), 1/40 second, f/8, exp comp -1/3, ISO 100, manual

Fig.2: 386mm (in 35mm film), 1/40 second, f/8, exp comp -1/3, ISO 100, manual

Fig.3: 480mm (in 35 mm film), 1/125 second, f/6.4, exp comp -1/3, ISO 800, 5 fps burst



Fig.1



Fig. 2



Fig.3

Sony Cyber-Shot DSC RX100

Another beastie that appears to tick all of the above boxes is the Sony Cyber-Shot DSC RX100. High ISO noise isn't visible on a test shot taken ISO 2700.

The reason for this is due to the camera having a fast lens and an exceptionally large sensor

- 28-100mm (equivalent), F1.8-4.9 optically stabilized zoom lens.
- 20MP 1" BSI CMOS sensor which is 4 times the surface area of the TZ30

For an in-depth review visit <http://www.dpreview.com/articles/2367736880/roundup-enthusiast-zoom-compact-cameras/11>

For some sample images visit

<http://www.dpreview.com/galleries/reviewsamples/albums/sony-cyber-shot-dsc-rx100-review-samples/slideshow>

Photos From Photosynthesis

When you expose a plant leaf to sunlight, the green chlorophyll particles within the leaf use the sun's energy to convert carbon dioxide from the air, and water from the soil, into sugar and starch. This process is called photosynthesis and is how plants get their nourishment.

Armed with this knowledge it is possible to print images on plant leaves. The process is as follows:

- Put a broad leafed plant into a dark cupboard for a couple of days.
- Now attach (staple) a negative to the plant leaf
- Place the plant under a desk lamp for a day
- Remove the leaf and place it in boiling water for 60 seconds. This kills the leaf, disrupts the cell membranes and softens the cuticles and cell walls, making it possible to extract the chlorophyll with hot ethanol and also allows iodine solution to penetrate the cell walls and react with any starch that may be present.
- Remove the chlorophyll using ethyl alcohol (see below)
- Colour the starch with iodine solution (see below)

Details of how to do this may be found at

<http://nuffieldfoundation.org/practical-biology/testing-leaves-starch-technique>

Alternatively you can simply expose the leaf and negative to sunlight for several days. Fig.4 shows such an image. Details of how it was obtained may be found at

<http://www.alternativephotography.com/wp/processes/photosynthesis/photosynthesis-grow-your-own-photographic-supplies>

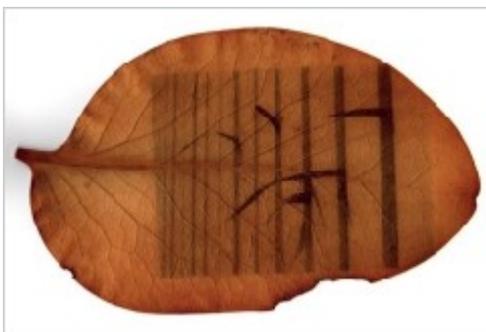


Fig.4