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■ Book Review

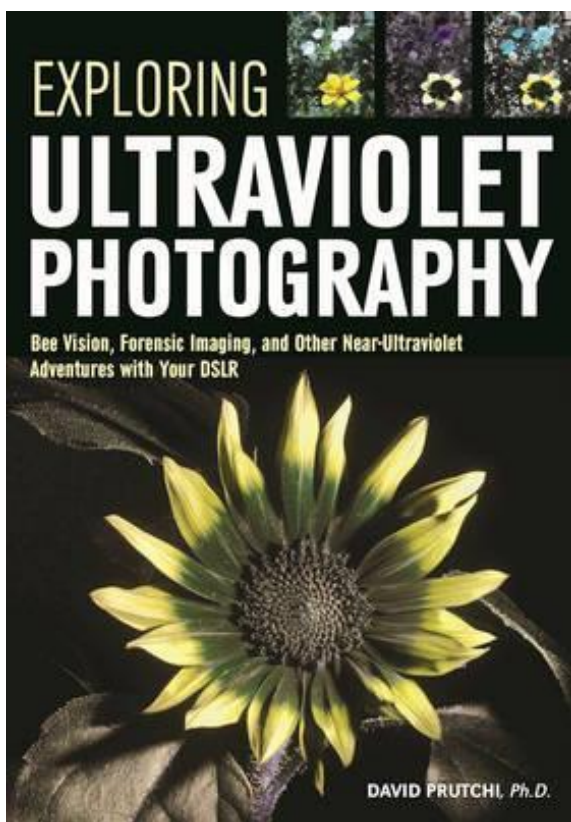
Exploring Ultraviolet Photography

by David Prutchi

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I am writing this review after discussing my impressions about the book with Lasse Ylianttila. The book authored by Prutchi (2017), fills a void as there is no other book on UV photography with digital cameras. This introductory book is written in a way that is easy to understand and concise (128 pages). Rather surprisingly, a second book describing methods for UV and IR photography will be published in October: *Digital Ultraviolet and Infrared Photography* Davies 2017.

The first impression and the expectations

raised by Prutchi's book were very positive. Both myself and Lasse Ylianttila would have liked a more formal treatment, with citations or explanations about the origin of the data presented in plots and more elaborate arguments and explanations to justify some of the recommendations given. It is not a scientific or technical presentation of methods. However, this does not mean that the book is not good, but rather that we, and other UV photographers with an understanding of radiation physics and/or aiming at producing UV images in a consistent and reproducible way are not the main audience the book is aimed at. That it is published in the same series as books on wedding photography and on starting a photography business reveals the intended audience. The book is an introduction to the subject and will be very useful to anyone getting started in UV photography.

The book is structured in a logical way, and divided into chapters titled: Introduction, 1. DSLR Cameras for Ultraviolet Photography, 2. Lenses for Ultraviolet Photography, 3. Filters for Ultraviolet Photography, 4. Ultraviolet Light Sources, 5. Technique, 6. The World Through the Eyes of Birds, Bees and Butterflies, 7. Applications in Science, Medicine, Forensics and Art. The titles of the chapters provide a good description of the contents of the book, with some exceptions: chapter 1, not only describes cameras, but also gives detailed instructions on how to convert a DSLR (digital single lens reflex)

camera for use in UV photography. Chapter 2 describes lenses designed for UV photography and “accidental” UV capable lenses. Chapter 3, about filters, is very short but describes in enough detail the main problem of many ionic UV-pass filters: that they transmit IR radiation. Chapter 4, on light sources describes, in addition to sunlight, both traditional discharge lamps and state-of-the-art LEDs. In the case of LEDs, the book even describes how to build a portable light source. Chapter 5, on technique, it is more heterogeneous, covering different aspects of the capture of digital UV photographs, including brief treatment of some techniques like focus stacking and HDR (high dynamic range) based on merging multiples images, and which are also useful in other contexts. Chapters 6 and 7 could have been more thorough both in covering different use cases, and also in explaining the principles involved. With respect to biology I noticed some inaccuracies, and over simplifications. What is missing in the book are detailed descriptions of image processing and of the use of wired or wireless tethering of cameras to a computer, or nowadays alternatively to a tablet or even a phone. Having live view images on a larger screen is very useful, as is for the photographer to be able to control and trigger the camera from a distance, and in this way avoid unnecessary exposure to UV radiation.

A book this short cannot be comprehensive in relation to camera options. My major quibble is that mirror-less cameras are barely mentioned although nowadays are a very good, if not a better alternative to DSLRs. The book will be most useful to readers who have little previous experience with UV photography, providing a much faster learning curve than that possible by reading here and there in the internet the different scattered pieces of information and advice. More experienced readers will find some new ideas and recommendations, but much of the content will not be new to them. As an example,

after reading the instructions for building an UV source based on LEDs, I revised the design and built a UVA light source for myself.

The recommendation of disassembling and turning around the Baader-U filter surprised me because in theory the transmittance of a filter does not depend on its orientation. I even measured transmittance of our Baader-U obtaining almost identical spectra independently of which side of the filter faced the light source. In the end I found a possible explanation. Apparently, reversing the filter can ameliorate reflections and reduce flare in certain cases. I found the explanation in a post about the book (Blum 2017) at a site very useful to those interested in UV photography and plants (<http://www.ultravioletphotography.com/>).

All in all a very useful introduction to the subject that focuses on *how* to take UV photographs with a modified digital single lens reflex camera, with limited explanations of why some approaches work and others do not.

Acknowledgements I wish to thank Lasse Ylianttila, not only for sharing his impressions about the reviewed book, but also for getting me interested in UV photography some years ago and sharing his knowledge on the subject and his photographs, some of which can be viewed in the image gallery at the UV4Plants web site (<http://uv4plants.org/>).

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