

Scabies Mite is Bright Green Under UV Dermatoscopy

Paweł Pietkiewicz^{1,2}, Cristian Navarrete-Dechent^{3,4}

1 Dermatology Private Practice, Poznań, Poland

2 Polish Dermatoscopy Group, Poznań, Poland

3 Department of Dermatology, Escuela de Medicina, Pontificia Universidad Católica de Chile, Santiago, Chile

4 Melanoma and Skin Cancer Unit, Escuela de Medicina, Pontificia Universidad Católica de Chile, Santiago, Chile

Citation: Pietkiewicz P, Navarrete-Dechent C. Scabies Mite is Bright Green Under UV Dermatoscopy. *Dermatol Pract Concept*. 2023;13(2):e2023135. DOI: <https://doi.org/10.5826/dpc.1302a135>

Accepted: November 23, 2022; **Published:** April 2023

Copyright: ©2023 Pietkiewicz et al. This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial License (BY-NC-4.0), <https://creativecommons.org/licenses/by-nc/4.0/>, which permits unrestricted noncommercial use, distribution, and reproduction in any medium, provided the original authors and source are credited.

Funding: None.

Competing interests: None.

Authorship: All authors have contributed significantly to this publication.

Corresponding author: Paweł Pietkiewicz, Centrum Medyczne Zwierzyniecka, Zwierzyniecka Street 30/28, Poznań 60-814. Telephone: +48 602 133 503 Email: pietkiewicz.pp@gmail.com

Case Presentation

A 38-year-old man presented with a 1-month history of multiple itchy erythemo-desquamative anogenital lesions (Figure 1A). Examination with polarized dermatoscopy revealed the typical “delta-wing jet with a contrail sign” (brown delta/triangular structure being the mite’s mouth and a first pair of legs, followed by the curvilinear burrow with an extending free edge) (Figure 1B). UV-induced fluorescence dermatoscopy (365 nm, Dermlite) was able to reveal previously reported bright

blue tunnel [1], as well as a novel feature—bright-green fluorescence generated by the body of a female mite (Figure 1C).

Teaching Point

Human scabies is a parasitic infestation caused by the mite *Sarcoptes scabiei* affecting more than 400 million people worldwide annually. The parasite is too small to be readily identified with the naked eye alone. Thus, a gold standard of diagnostics includes visualization of mite, eggs or feces with

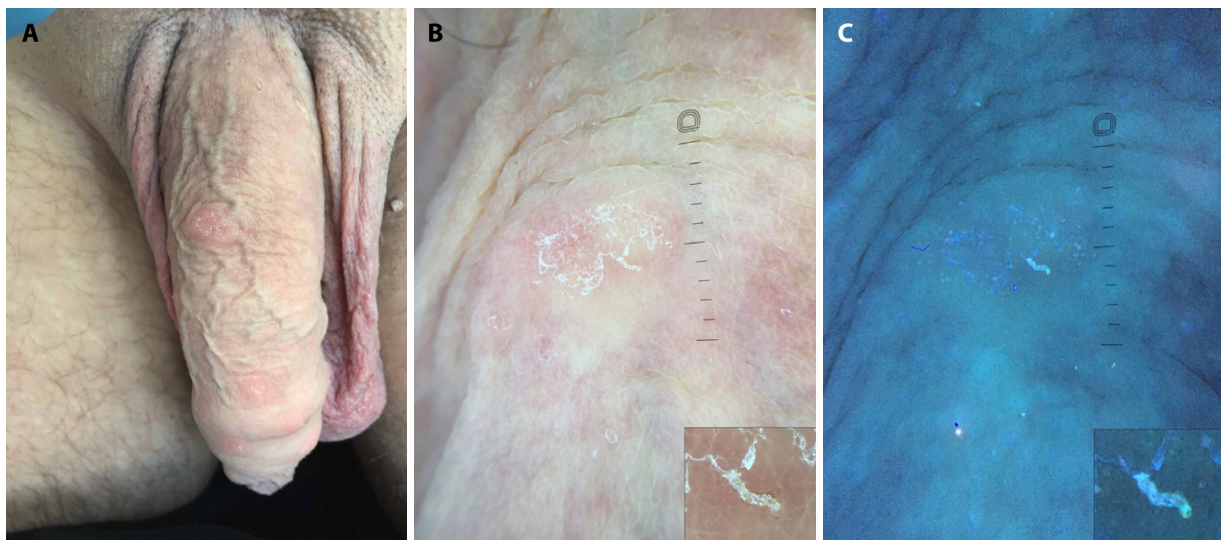


Figure 1. (A) Clinical image of multiple itchy erythematous genital lesions covered with delicate scale in a 38-year old man (iPhone 6 camera). (B) Polarized dermatoscopy of one of the genital lesions showing a “delta-wing jet with a contrail sign”; a triangular structure is better seen in the box. (Dermlite DL5 paired with iPhone 6). (C) UV dermatoscopy of the same lesion highlights the bright-blue fluorescence of the burrow, but also visualizes the bright-green fluorescence generated by the female mite’s body (better seen in the box) (Dermlite DL5 paired with iPhone 6).

light microscopy. Dermoscopy also offers a means for the visualization of mites as “delta sign” [2]. Dermoscopy has been reported being as accurate as skin scraping. However, novices can often confuse the ‘delta sign’ with crusts or debris.

The rise of UV dermatoscopy opens a new box of previously unobserved clues, including the observed green fluorescence of the mite’s body in the UV dermatoscopy. The novel diagnostic feature might be especially helpful for novices, in clinically non-obvious cases (adding to diagnostic accuracy), in future AI-assisted models, or serve for a test of cure.

References

1. Nie J, Gou T, Xu L, Wang W, Zhang L, Lu Y. Misdiagnosed scabies correctly diagnosed by dermoscopy using ultraviolet light mode. *Clin Exp Dermatol.* 2021;46(8):1601-1603. DOI: 10.1111/ced.14794. PMID: 34101872.
2. Engelman D, Yoshizumi J, Hay RJ, et al. The 2020 International Alliance for the Control of Scabies Consensus Criteria for the Diagnosis of Scabies. *Br J Dermatol.* 2020;183(5):808-820. PMID: 32034956. PMCID: PMC7687112.