

## CASES FOR DIAGNOSIS

### [Translated article] Red-Brown Patches on a Boy's Palms



#### Manchas de color marrón-rojizo en las palmas de un niño

#### Medical History

A 7-year-old boy with no relevant past history was evaluated by the dermatologist at the emergency department of our hospital regarding the presence of several asymptomatic spots on his hands. The lesions had appeared after the boy had been playing with worms in the school playground and were resistant to soap and water. His mother said that some children who had been playing with him had similar spots, although to a lesser extent.

#### Physical Examination

Physical examination showed poorly defined reddish-brown macules on the boy's palms and on some fingers, in particular the first and second fingers of the right hand (Figs. 1 and 2).

Dermoscopy showed pigmentation with a ridge pattern and sparing of the acrosyringeal apertures.

#### Histopathology

Histologic examination of a punch biopsy specimen showed no relevant findings in the dermis or epidermis, or pigmented substances in the stratum corneum.

#### Additional Tests

The mycobacterial culture was negative.

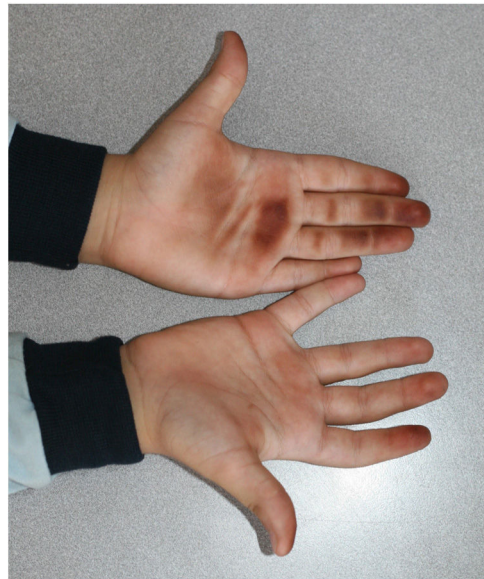


Figure 1



Figure 2

**What Is Your Diagnosis?**

DOI of original article:

<https://doi.org/10.1016/j.ad.2022.03.032>

<https://doi.org/10.1016/j.ad.2023.02.007>

0001-7310/© 2022 AEDV. Published by Elsevier España, S.L.U. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

## Diagnosis

Exogenous pigmentation induced by the handling of millipedes.

## Clinical Course and Treatment

The boy was shown some photographs of worms he might have been playing with in the school playground and clearly identified the Tanzanian red-legged millipede. One week later the lesions showed clear clinical improvement without treatment.

## Comment

*Epibolus pulchripes*, otherwise known as the Tanzanian red-legged millipede, is a member of the Diplopoda class. Although it inhabits tropical and subtropical areas of West Africa, its presence in southern and eastern Spain could be related to migratory phenomena or accidental introduction with displacement of native millipede species.

When the arthropod feels threatened, it curls up and releases substances rich in cyanide and quinones through pores in its exoskeleton. Contact with cyanide can cause inflammation, itching, or stinging, as well as vesiculation or ulceration in the event of prolonged contact. Quinone compounds secreted as chemical defense mechanisms cause hyperpigmentation of the skin and mucous membranes.<sup>1,2</sup> The pigmented spots on the palms of the boy in our case would have been caused by quinone secreted by the millipede when crushed.

Reports of similar cases to ours have described an asymptomatic reddish-brown or black spot in the contact area after accidental crushing of other species of millipedes and even spots reproducing the shape of the millipede.<sup>3</sup> The most common locations affected are the toes and neck, although the mouth may sometimes be involved. Eye contact can cause conjunctivitis or corneal ulcers.<sup>1</sup>

Diagnosis is usually established clinically with a careful history. Manifestations can sometimes mimic cutaneous manifestations of systemic diseases, or even acute arterial occlusion.<sup>4,5</sup>

The ridge pattern on dermoscopy is common. When observed, acral melanoma, which manifests as a brown-black spot, must be ruled out.<sup>2</sup>

Other entities in the differential diagnosis include metabolic disorders, infections such as *tinea nigra*, exposure to other exogenous substances such as henna, silver nitrate, or potassium permanganate, and contact with certain plants. All these diagnoses were ruled out in our case by clinical history and complementary tests.

Lesions heal spontaneously and do not require treatment, although topical alcohols may be used. Itching or irritation can be treated with topical corticosteroids.<sup>1,2,5</sup>

## References

1. Lima CAJ, Cardoso JLC, Magela A, de Oliveira FGM, Talhari S, Haddad V. Exogenous pigmentation in toes feigning ischemia of the extremities: a diagnostic challenge brought by arthropods of the Diplopoda Class ('millipedes'). *An Bras Dermatol.* 2010;85:391–2, <http://dx.doi.org/10.1590/S0365-05962010000300018>.
2. Fracaroli TS, Miranda LQ, Maceira JP, Barcaui CB. Exogenous pigmentation after Diplopoda exposure leading to a dermatoscopic parallel ridge pattern on the plantar region. *J Dermatol Case Rep.* 2015;9:85–6, <http://dx.doi.org/10.3315/jdcr.2015.1209>.
3. Haddad V, Cardoso JLC, Lupi O, Tyring SK. Tropical dermatology: venomous arthropods and human skin: Part II. Diplopoda, Chilopoda, and Arachnida. *J Am Acad Dermatol.* 2012;67:347.e1–9, <http://dx.doi.org/10.1016/j.jaad.2012.05.028>.
4. Pennini SN, Rebello PFB, Guerra MDGVB, Talhari S. Millipede accident with unusual dermatological lesion. *An Bras Dermatol.* 2019;94:765–7, <http://dx.doi.org/10.1016/j.abd.2019.10.003>.
5. Smaniotto MF, Batzner CN, Rovere RK, de Lima AS. Exogenous pigmentation of skin and nail caused by a millipede in a patient with plantar psoriasis. *Australas J Dermatol.* 2018;59:e225–7, <http://dx.doi.org/10.1111/ajd.12741>.

A.A. González Ruiz<sup>a,\*</sup>, A. Botía Paco<sup>a</sup>, A. Docampo Simón<sup>a</sup>, M. Niveiro de Jaime<sup>b</sup>, I. Betlloch-Mas<sup>a</sup>

<sup>a</sup> *Servicio de Dermatología, Hospital General Universitario de Alicante-ISABIAL, Alicante, Spain*

<sup>b</sup> *Servicio de Anatomía Patológica, Hospital General Universitario de Alicante-ISABIAL, Alicante, Spain*

\* Corresponding author.

E-mail address: [mjsanchezpujol@gmail.com](mailto:mjsanchezpujol@gmail.com)  
(A.A. González Ruiz).