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Infestation by the tropical bedbug *Cimex hemipterus* (Hemiptera: Cimicidae): first report in Italy

Dear Editor

Bedbugs are subcentimeter reddish-brown flat arthropods widely diffused throughout the world. They belong to the genus *Cimex*, suborder Hemiptera, and are obligate haematophagous ectoparasites on humans and rarely on other warm-blooded animals.¹ The two main bedbug species are *Cimex lectularius* (Linnaeus, 1758) and *Cimex hemipterus* (Fabricius, 1803). *Cimex lectularius* is widespread in nearctic and palearctic areas, whereas *C. hemipterus* is commonly found in the tropical areas.² Since the nineties, infestations by bedbugs progressively increased in the whole world, mainly caused by *C. lectularius*.³ In Italy infestation by *C. hemipterus* was never described.

An entire family (two adults and one child) living in an apartment in Perugia, Italy, was admitted to our outpatient clinic for itchy and recurrent erythematous, papular and excoriated lesions on exposed skin: arms (Fig. 1a,b), face and neck. The lesions partly showed linear sequence remembering the ‘breakfast, lunch, and dinner’ pattern.² They simultaneously appeared in the three patients a few weeks after a visit of a relative from Brazil. Ectoparasitoses were suspected, and dust direct examination⁴ and olfactory inspection using a canine detection unit trained to recognize bedbugs⁵ were performed. The latter allowed us to demonstrate the presence of bedbugs in the apartment. We collected five arthropods, three females and two males, and



Figure 1 Erythematous, papular and excoriated lesions on the upper (a) and lower limbs (b) caused by *Cimex hemipterus*.

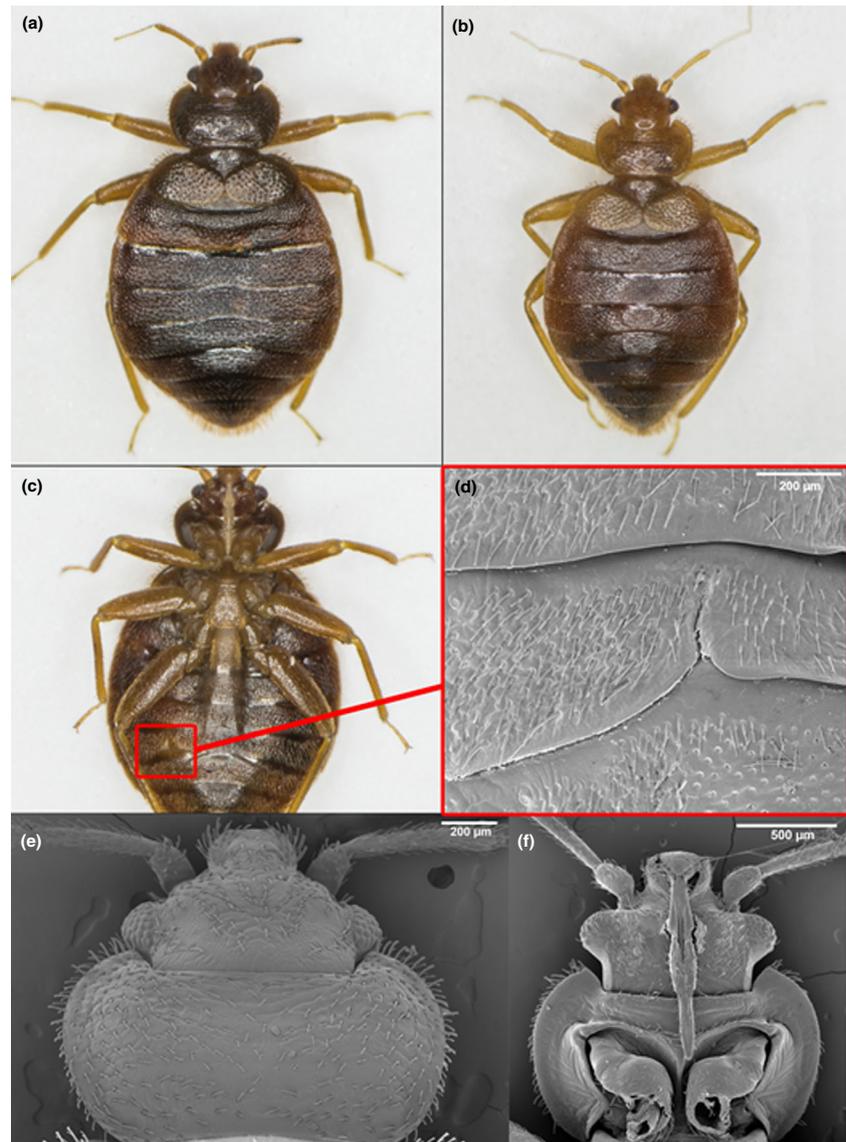


Figure 2 *Cimex hemipterus* (Fabricius, 1803) specimens: dorsal view of female (a) and male (b); paragenital sinus (red rectangle) of a female: cleft with bristles around (c); scanning electron micrograph of the paragenital sinus (d), dorsal view of the pronotum (e) and ventral view of the labium housing the maxillary and mandibular stylets (f) of a female.

taxonomic study was carried out. The samples were measured using a stereo microscope (Motic SMZ 168-TP Stereo Zoom Microscope, Milan, Italy), a Scanning Electron Microscope (JEOL® JCM-6000 Plus, Melville, NY, USA) and a software for micrometric measurement (Motic Image Plus 3.0, Milan, Italy). The body length of the females was 4.74–5.02 mm (Fig. 2a) and of the males was 4.02–4.78 mm (Fig. 2b). The bristles around the cleft of paragenital sinus area in all samples classified the arthropods as belonging to the *hemipterus* and *lectularius* species groups (Fig. 2c,d). Applying the method of Usinger,¹ the width of pronotum was 2.01–2.29 times the length (Fig. 2e,f).

According to these elements, all collected and analysed samples were identified as *C. hemipterus*. Eradication of the domestic infestation was obtained by dry saturated steam, and skin

lesions progressively disappeared in 2 weeks with betamethasone ointment. One-year follow-up was negative.

Bedbugs are an emerging public health issue.² In fact, it has been estimated that the global population of bedbugs increases 100–500% every year.⁶ Recent studies reported that bedbugs are able to act as a vector for infectious agents, such as *Bartonella quintana* e *Trypanosoma cruzi*, even if to date published studies did not demonstrate transmission of infectious diseases by bedbugs in humans.⁶ It was hypothesized that some bedbug organic fluids (saliva, haemolymph, ejaculate) may contain neutralizing factors attenuating virulence of pathogens carried but not transmitted by bedbugs.² However, saliva contains some anticoagulants or antiplatelet agents responsible for hypersensitivity response inducing the typical itchy skin lesions.²

The presence of this tropical bedbug in Italy indicates the possibility of diffusion of this arthropod in regions with temperate climate. Probably, this infestation has been passively brought from Brazil, where *C. hemipterus* is widely diffused.¹ In fact, bedbugs can reside in luggage with the possibility of traveller's home infestation.⁷ The high travelling frequency to tropical areas can facilitate the possible relocation of *C. hemipterus* with chance of reproduction and spreading in our temperate climate. In palearctic areas, *C. hemipterus* was reported in several Countries, as well as in South Africa and Australia,^{8,9} while it was never reported in Italy.

In conclusion, we underline the importance of taxonomic identification of *C. hemipterus*, based on the glabrous paragenital sinus area and the pronotum width-length ratio <1 : 2.5. This imported infestation could be underestimated and dermatologists should be familiar with this issue, as the increase in global travel in tropical countries represents a risk factor for returning travellers.

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Therapeutic inertia in the management of moderate-to-severe plaque psoriasis

Editor

Therapeutic inertia, the failure of health care providers to initiate or intensify therapy when indicated, is caused by the attitude of health care providers, unlike the concept of poor therapeutic compliance, which is generally attributed to the attitude of the patient who does not follow the proposed prescriptions.¹ Therapeutic inertia has been studied in chronic diseases such as hypertension and diabetes.^{2–4} Therapeutic inertia has not been assessed in psoriasis.

A questionnaire with 26 questions regarding the demographics and clinical practice of the physicians and on the management of patients with psoriasis was emailed to French dermatologists (April/May 2018). The questions explored the practice and did not focus on clinical or therapeutic inertia. The word inertia was purposely not cited. For most of the questions, the physicians had to consider 5–18 situations. Dermatologists considered to be demonstrating clinical/therapeutic inertia were those who stated that they were not comfortable with quickly initiating new systemic treatment or optimizing existing treatment. Objective was to include 200 dermatologists of varying practices: private (fee-for-service activity), based in hospitals (full-time employees) and a mixed activity (private and hospital).

One hundred and eighteen participants filled in the questionnaire: 70% were women and 30% were men; 53 were working at hospitals, 37 had a private practice and 28 had a mixed practice. The participants were representative of the French dermatologists' population (adjustment of the sample): 28% were from Paris area; they practiced dermatology for 24 ± 10 years; and they received 355.4 ± 198.6 patients per month. Overall, they declared to receive patients with mild (46%), moderate (39%) or severe (15%) plaque psoriasis. Dermatologists working at hospitals received more severe plaque psoriasis patients (27% of their psoriasis patients); dermatologists with a private practice received more mild patients (51%).

Overall, 36% of the dermatologists experienced therapeutic inertia with their psoriasis patients (Table 1). We questioned the possibility to change attitudes (Table 2). Ninety-two per cent of the dermatologists were confident to change a treatment for psoriasis. We asked the question; 'Can you identify the profile of the psoriatic patient for whom these treatments are suitable?' with four answers: *rather easily*, *easily*, *hardly*, *with difficulty*. Considering the percentage of dermatologists ticking *hardly* and *with difficulty*, old treatments such as methotrexate (11%), acitretine (11%) and phototherapy (12%) did not pose a challenge when initiating except for ciclosporine, which was considered as