

عنوان مقاله:

A rapid identification method for common astigmatid species based on multiplex polymerase chain reaction

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خلاصه مقاله:

Astigmatid mites are economically significant pests of stored products and sources of inhalant allergens causing

allergic rhinitis and asthma worldwide. The morphological identification of astigmatid mites at the species level is often a difficult task due to their small size, phenotypic similarity and lack of diagnostic characters. We used multiplex polymerase chain reaction (PCR) to identify astigmatid mite species, which could complement the morphological data for the species-specific identification of mites. Internal ribosomal transcribed spacer (ITS) sequences (i.e., partial 18S, the full length of ITS1-5.8S-ITS2 and partial 28S) from eight astigmatid species (*Acarus siro*, *Tyrophagus putrescentiae*, *Suidasia nesbitti*, *Dermatophagoides pteronyssinus*, *Dermatophagoides farinae*, *Lepidoglyphus destructor*, *Chortoglyphus arcuatus* and *Gohieria fuscus*) were obtained by DNA extraction and then sequenced after PCR amplification. Specific primers were designed in the ITS2 region manually. Results revealed that an identification method for eight common astigmatid species was established based on multiplex PCR, which should be effective for the identification of other species of mites by redesigning species-specific primers in future experiments

کلمات کلیدی:

astigmatid mite, Internal ribosomal transcribed spacer, Multiplex polymerase chain reaction, Species identification, Species-specific primers

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