

论文

两种人体蠕形螨足和外生殖器超微结构的观察

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摘要:

目的 用环境扫描电镜(ESEM)观察毛囊蠕形螨和皮脂蠕形螨足及外生殖器的超微结构,并讨论其分类意义。**方法** 用刮片式及镊式取螨器从成人额部皮肤取出活螨,用显微操作技术清洗分离后1h内用ESEM进行扫描、拍照。**结果** 清楚地观察到两种人体蠕形螨足和外生殖器的超微结构。发现两种蠕形螨足爪的形态和数目、外生殖器的位置和外形均不同:毛囊蠕形螨的足较粗壮,有股距,每足跗节具双叉爪、三叉爪各1个,叉爪较钝,双叉爪后有一指向后方的爪距;雌螨阴门位于腹面第4对足水平正中,纵向裂缝状阴门与其前方的一弧形皱褶呈锚状;雄螨外生殖器位于背部4个背足体毛中央,阴茎呈毛笔头状可从生殖口伸出。皮脂蠕形螨足较细,无股距,足跗节的叉爪尖锐且数量和外形变异较大,无爪距;雌螨阴门位于腹面第4对足水平正中之后,纵向裂缝状阴门与其前后两条弧形皱褶呈“工”字形;观察50条皮脂蠕形螨未见雄性外生殖器。**结论** 用环境扫描电镜观察人体蠕形螨,标本不需特殊处理,得到的图像清晰、饱满。足和外生殖器超微结构的不同对于两种蠕形螨有分类学意义。

关键词: 螨; 生殖器; 超微结构; 环境扫描电镜

Observation of the ultra-structure of the legs and external genitalia of two species of human -Demodex

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Abstract:

Objective To observe the ultra-structure of the legs and external genitalia of *Demodex folliculorum* (D.f.) and *Demodex brevis*(D.b.) using environmental scanning electron microscopy (ESEM), and to study the value of the difference of these structures for systematics. **Methods** Samples of the two species of mites were collected by special scrapers and pliers from the foreheads of adults. After being cleaned and picked up with the micro-manipulative technique within one hour, the living mites were observed and photographed under ESEM. **Results** Ultra-structures of the legs and external genitalia of Human *Demodex* were clearly observed under ESEM. There were differences between the two species not only in the shape and number of the tarsal claws, but also in the position and shape of the external genitalia. Legs of D.f. were sturdier than those of D.b., composed of one bifid claw and one trifid claw, which were blunt on each dactylus, and claw spurs and femoral spurs could obviously be found; the external genitalia of male D.f. lay dorsally in the central position of four dorsal podosomal setae, and the penis looked like a head of Chinese writing brush which could stretch out from and draw back to a longitudinal genital orifice; the longitudinal vulva of D.f. was located ventrally in an intermediate position between the fourth pair of legs, and the vulva together with a curved ruga in front of it looked like an anchor. Legs of D.b. were slender, and claws on dactylus were spiculate and different in number and shape, but no claw spur and no femoral spur were found; the longitudinal vulva of D.b. was ventrally behind the level of the 4th pair of legs, and the vulva plus the curved folds in the front and back looked like a “工”. Fifty D.b. were observed but no penis was found. **Conclusion** Without any special pretreatment, the ultra structures of samples of human *Demodex* are lifelike under ESEM. Differences between D.f. and D.b. in the ultra-structures of the legs and external genitalia could be important for the systematics of human *Demodex*.

Keywords: Genitalia; Ultrastructure; Environmental scanning electron microscopy

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