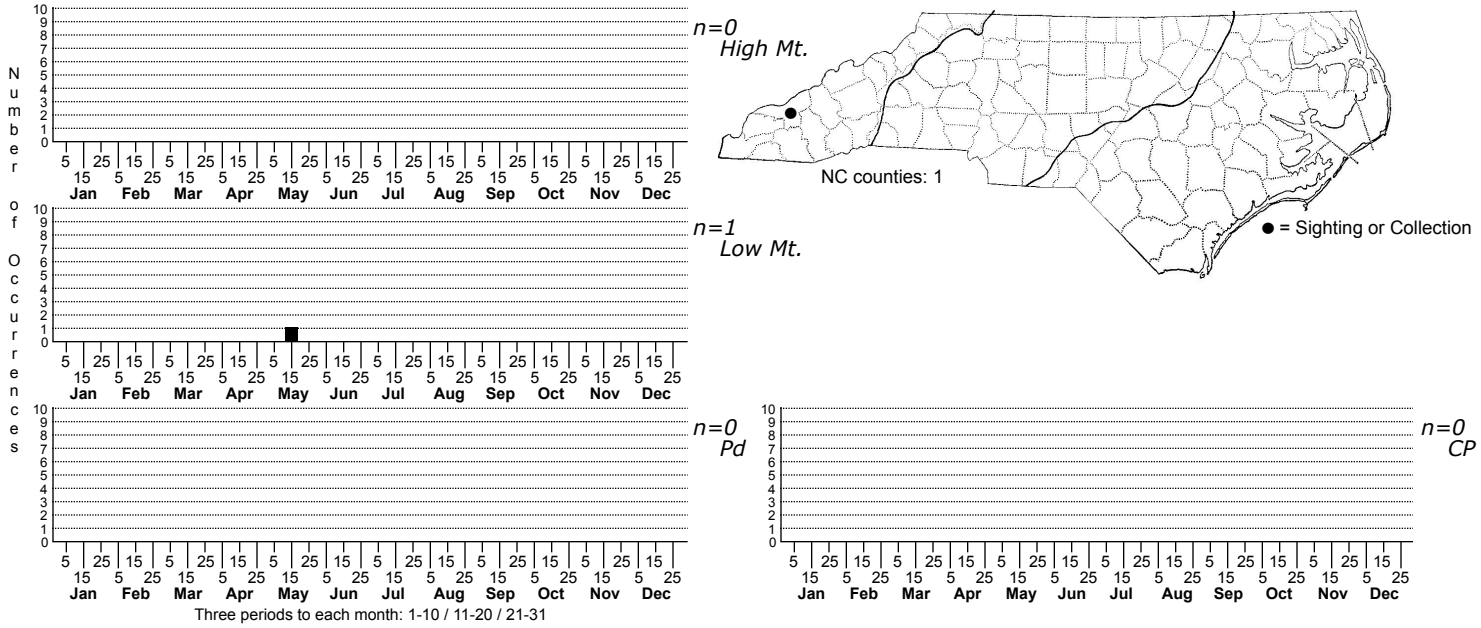
Viridiscus viridianus



FAMILY: Echiniscidae

TAXONOMIC COMMENTS: The genus was recently analyzed with integrative taxonomy by Momeni et al. 2023. Species transferred from Echiniscus by Gasiorek et al. 2019. Species description amended by Momeni et al. 2023.

SPECIES COMMENTS: Terrestrial. Only known from US: AL, NM, and the smokies.

ID COMMENTS: Color green (U.S.A.) or dark grey (Azores); eye spots present; plate margins well marked, median plate 1 triangular and distant from scapular plate; median plate 3 absent but the area between paired plates III and terminal plate is sculptured. On some plates, or portion of plates, slightly raised dark tubercles and fine dots are present. In a particular focus position, small light spots appear; distance between the dark tubercles significantly shorter than the diameter of the tubercles. Some portion of paired plates II and III, the anterior portion of median plate 2, and the area between paired plates III and the terminal plate have only small dark tubercles. Cirrus A short; no other lateral or dorsal appendages present. Claws well-developed; internal claws with a small spur; difficult to see.
-Pilato et al. 2007

Females (i.e., from the third instar onwards; measurements and statistics in Table 1). Body cavity with yellowish pigments (typical for most echiniscids), whereas dorsal and pedal cuticular plates light to dark green (Figs. 1C, 3E,F). Red eyes and yellow pigments present in live specimens, but dissolve after mounting in Hoyer’s medium, thus only green pigmentation persists. Body bulky (Fig. 6), with a poorly delimited cephalic region (Fig. 7). The cervical (neck) plate is well-developed, but sculptureless (Fig. 7). Weakly developed lateralmost, rectangular portions of the scapular plate with a weak sculpturing (Fig. 1C). Dorsal plate sculpturing ordinarily comprising polygonal epicuticular granules with scarce micropores, barely identifiable, even with SEM (Fig. 8A). Lateral and ventral endocuticle with intracuticular pillars, visible in PCM as minute dark dots, but identifiable in SEM only when the thin epicuticle is ruptured (Fig. 8B–D). Pillars larger and more sclerotised in proximal and central limb portions, forming longitudinal, narrow pulvini, and pedal platelets, respectively (Fig. 9). Some specimens exhibit a differently formed central pedal portion, more convex than the remainder of each platelet (Figs. 9, 11E). Areas of more sclerotised pillars always form a pair of merged subcephalic plates (Fig. 10F). Cirrus A short (< 20% of body length) and thin. A remarkable diversity of primary clava shapes: some specimens within a population have both clavae pointed and clearly conoid (Figs. 7A, 10A–C), some have both clavae dactyloid, i.e., elongated, but without a pointed tip (Fig. 10D), and in some individuals both clavae are tubby, i.e., of a typical, Echiniscus-type shape (Fig. 10E). Importantly, numerous specimens showed a mixture of these shapes, that is the clava of one specimen differed in morphology from the other one on the same specimen. Claws massive and isonych (Figs. 10G–I, 11A–D).
Males (i.e., most probably from the third instar onwards; measurements and statistics in Table 2). No detectable sexual dimorphism besides the circular gonopore.
Juveniles (i.e., the second instar; measurements and statistics in Table 3). Smaller than adults, but qualitatively like them. Gonopore absent.
Larvae (i.e., the first instar; measurements and statistics in Table 4). Body size overlaps with juveniles. Anterior portions of paired segmental plates, and median plate 2 sculptureless. Large cuticular pores in the dorsal armour. No gonopore or anus.
Eggs. Up to five orange eggs per shed exuvia, but typically fewer (see31).
-Momeni et al 2023

DISTRIBUTION: Please refer to the dot map.

HABITAT: Rock lichen. Also found in one bird nest.

OBSERVATION METHODS: PC and DIC.