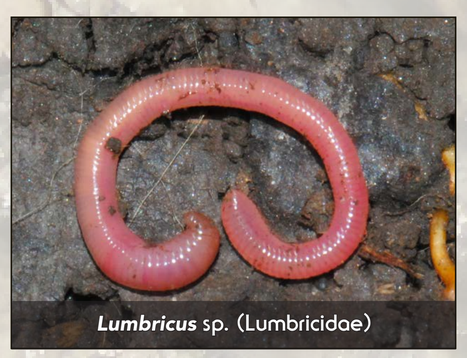
A GLIMPSE OF THE BIODIVERSITY OF UC SANTA CRUZ'S

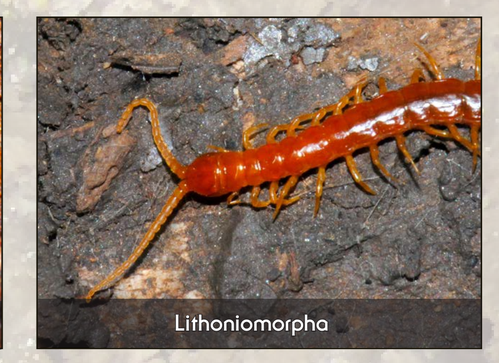
EMPIRE CAVE

Darko D. Cotaras[1,2,3] and Alex S. Jones[4]


Ensatina eschscholtzia subsp. ***xanthoptica***


Lumbricus sp. (Lumbricidae)


Polydesmia


Lithoniomorpha

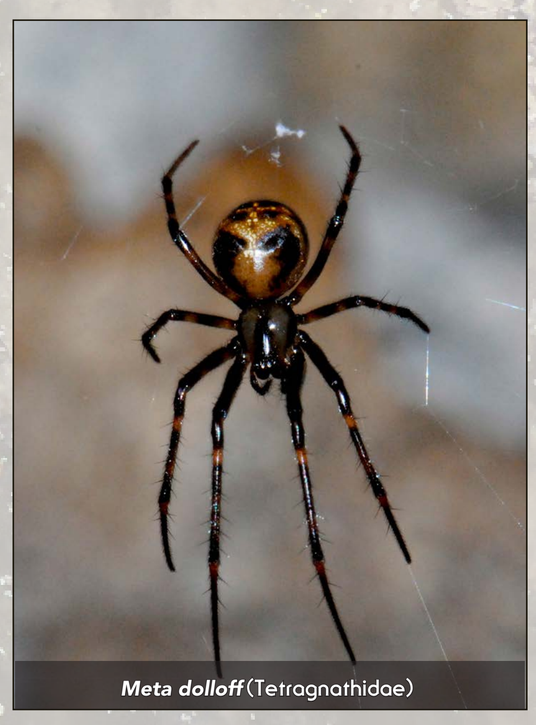

Trechus ovipenni (Carabidae)

Rare landform, Rare Creatures

Formed within the fractured marble bedrock of the central coast of California's largest karst landscape, Empire Cave is the primary habitat of a diverse assembly of organisms, several of which are restricted to the cave environment. While over 70 invertebrate species have been found within the Cave Gulch cave system, which includes Empire Cave, at least 40 are known to call Empire Cave home (Ubick 2001). Of these, several are thought to be endemic, including MacKenzie's cave amphipod (***Stygobromus mackenziei***) and an undescribed aquatic isopod (***Calasellus*** sp. nov.). Among the rarest species is the spider ***Meta dolloff***, originally described from Cave Gulch, and ***Fissilicreagris imperialis***, endemic to three caves in the Cave Gulch system. Despite its rare fauna, assessment of the cave's biodiversity is rarely done and no formal monitoring program exists. Here we present our findings from an informal field survey on August 18th, 2016, where the biodiversity discovered included one vertebrate, four hexapods, two myriapods, one oligochaeta, six arachnids and two fungi. What else may be found with further exploration?


Fissilicreagris imperialis (Neobisilidae)


Leiobunum sp. (Sclerosomatidae)

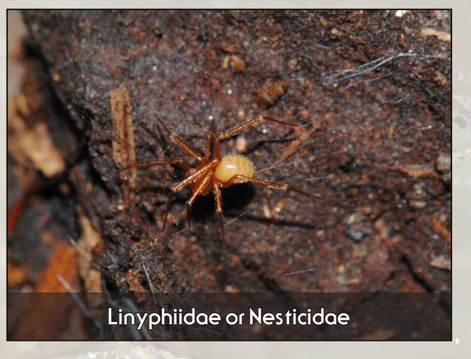

Meta dolloff (Tetragnathidae)


Brackenridgia sp. (Trichoniscidae)


Oaphantes sp. (Linyphiidae)

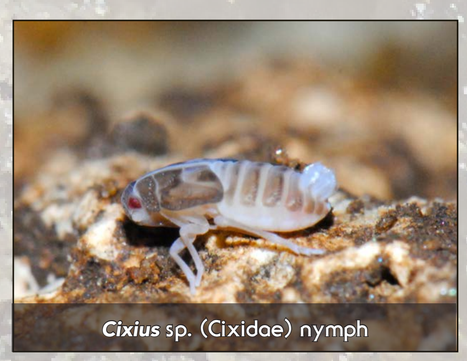

Nesticus sp. (Nesticidae)


Collembola


Linyphiidae or Nesticidae


Fungi


Cixius sp. (Cixidae) adult


Cixius sp. (Cixidae) nymph


Triphosa haesitata (Geometridae)


Mycena sp. (Mycenaceae)

Stewarding a Sensitive Resource

Emipre Cave is a highly sensitive ecosystem that has experienced vandalism and other human-induced impacts that threaten its unique species. Though development could potentially impact the cave environment by altering hydrology, more immediate threats stem from frequent visitation to this easily accessible cave. Visitors can reduce their impact by choosing to not enter the cave, or at the very least packing out their trash; refraining from smoking burning campfires, or spraypainting; and leaving woody debris in place within the cave.

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Ubick, Darrell. 2001. Cavernicolous invertebrates of Cave Gulch, Santa Cruz County, California. Entomology Department, California Academy of Sciences. Unpublished Report.

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