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Notes on the Distribution of *Pseudotremia cavernarum* Cope

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Pseudotremia cavernarum, the Ellett Valley Milliped, has been found only in caves in Ellett Valley, Montgomery County, Virginia. This cave-adapted milliped is currently considered threatened in Virginia (Hoffman 1991). *P. cavernarum* was originally described by Cope (1869) and the identity of the species was clarified by Hoffman (1958). At the time of Hoffman's redescription, the species was known only from Erhart Cave in Ellett Valley. Erhart cave was destroyed in the 1970's by quarrying. *P. cavernarum* was later reported from Dave's Cave by Holsinger and Culver (1988) and in Aunt Nellie's Hole, Dave's Cave, and Heartbeat Cave by Linzey (1990). These caves are all close to the site of Erhart Cave.

Seven caves (Aunt Nellie's Hole, Dave's Cave, Old Mill Cave, Slussers Chapel Cave, and 3 unnamed caves: A, B, and C) in Montgomery County, Virginia were sampled between May and July 1994 to determine the distribution of the species in the Ellett Valley area. These caves are the closest known sites to the former location of Erhart Cave. Caves were visited primarily in May because *P. cavernarum* apparently emerges from crevices in Spring to mate (Hoffman, 1991). Aunt Nellie's Hole, Mill Creek Cave, Old Mill Cave, and Slussers Chapel Cave are listed or described in Douglas (1964) and Holsinger (1975). Unnamed Cave A is approximately 1.2 km from Dave's Cave. Unnamed Caves B and C are within 2 km of Slussers Chapel Cave.

P. cavernarum was present in two caves: Unnamed Cave A and Dave's Cave. In this study, *P. cavernarum* was found in all sampling months, but individuals were more common in May. The milliped *Pseudotremia hobbsi* was found in Unnamed Cave B. Millipeds (*Trichopetalum* sp.) also were present in Aunt Nellie's Hole and Slussers Chapel Cave. No millipeds were found in Old Mill Cave or Unnamed Cave C.

Based on all known cave records, *P. cavernarum* is apparently restricted to 4 caves (Aunt Nellie's Hole, Dave's Cave, Heartbeat Cave, and Unnamed Cave A) near the former location of Erhart Cave. While the species probably has a small geographic distribution, lack of intensive field sampling has certainly led to underestimation of both the range and number of caves harboring populations of *P. cavernarum*. Reliable estimation of the distribution of *P. cavernarum* will require repeated sampling of potential habitats, particularly in early Spring (February-May).

All millipeds found in this study were on damp organic material (usually wood). Damp organic debris may be an important food source for *P. cavernarum*. Caves harboring populations of *P. cavernarum* should be managed to maintain the input of organic material to the system. Small caves and crevices in limestone outcrops should be included in future studies. Presences of *P. cavernarum* in very small caves (e.g., Unnamed Cave A < 15 m long) suggests populations may be found in small

fissures and solution channels in limestone as well as larger caves. *P. cavernarum* should remain on Virginia's endangered species list pending an extensive survey for additional localities for the species.

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