New Troglobitic Cave Fauna Species in Tasmania, including Apparent Species Varieties of the Southern Cave Harvestman: Hickmanoxyomma cavaticum

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ABSTRACT

There are now more than 4,000 caves in the known karst (and non-karst) areas of Tasmania. New caves are still being regularly discovered in known cave areas and several new areas. Most of the karst caves are found in limestone or dolomite. The non-karst caves in Tasmania mainly occur in dolerite, granite and sandstone. The majority of karst and non-karst caves in Tasmania are found in forested regions where the sheltering effect of tree canopies and understorey plants helps maintain a moist or humid envelope around underlying rock surfaces and the caves therein. Over the last two decades, the collections of invertebrate cavernicoles in Tasmania by cave biologists Eberhard and Clarke have lead to the discovery of many new aquatic and terrestrial invertebrate species. A number of these new cavernicoles are obligate species (confined to caves). Defined as troglobites, these obligates show varying degrees of "troglomorpy" and amongst these there are several microphthalmic or anophthalmic species. More than 85% of the new cave species have not been identified and it will be many years (or decades) before most new species are described. The general lack of taxonomic resolution amongst our Tasmanian cavernicoles means that our species list includes new "undescribed" species, "undetermined" or "indeterminate" species. Notable amongst the new troglobitic cave species there are crustaceans (with apparent speciation amongst anaspidacean syncarids), hydrobiid (aquatic) snails, carabid beetles, collembola and many arachnid species, including spiders, mites, pseudoscorpions and harvestmen.

Harvestmen are one of the most abundant groups of arachnid species types found in caves in Tasmania and a number of the cave-dwelling forms were described by the late Dr Glenn Hunt. In his 1990 description of the genus *Hickmanoxyomma*, Hunt included the results of some preliminary allozyme studies conducted on some of the cave dwelling species being described. One of seven new *Hickmanoxyomma* species described, the southern cave harvestman (*H. cavaticum*) is recorded from three distinctly separate, but neighbouring karst areas of southern Tasmania: Hastings, Ida Bay and North Lune. Based on the allozyme studies, Hunt suggests the Hastings and North Lune populations of *H. cavaticum* may be considered as genetically isolated populations. In private discussion with the writer, Hunt gave permission for the southern cave harvestman to be considered as three variety types (corresponding to the three separate karst areas): *H. cavaticum* (variety 1) from the Ida Bay karst, *H. cavaticum* (variety 2) from Hastings and *H. cavaticum* (variety 3) from North Lune.