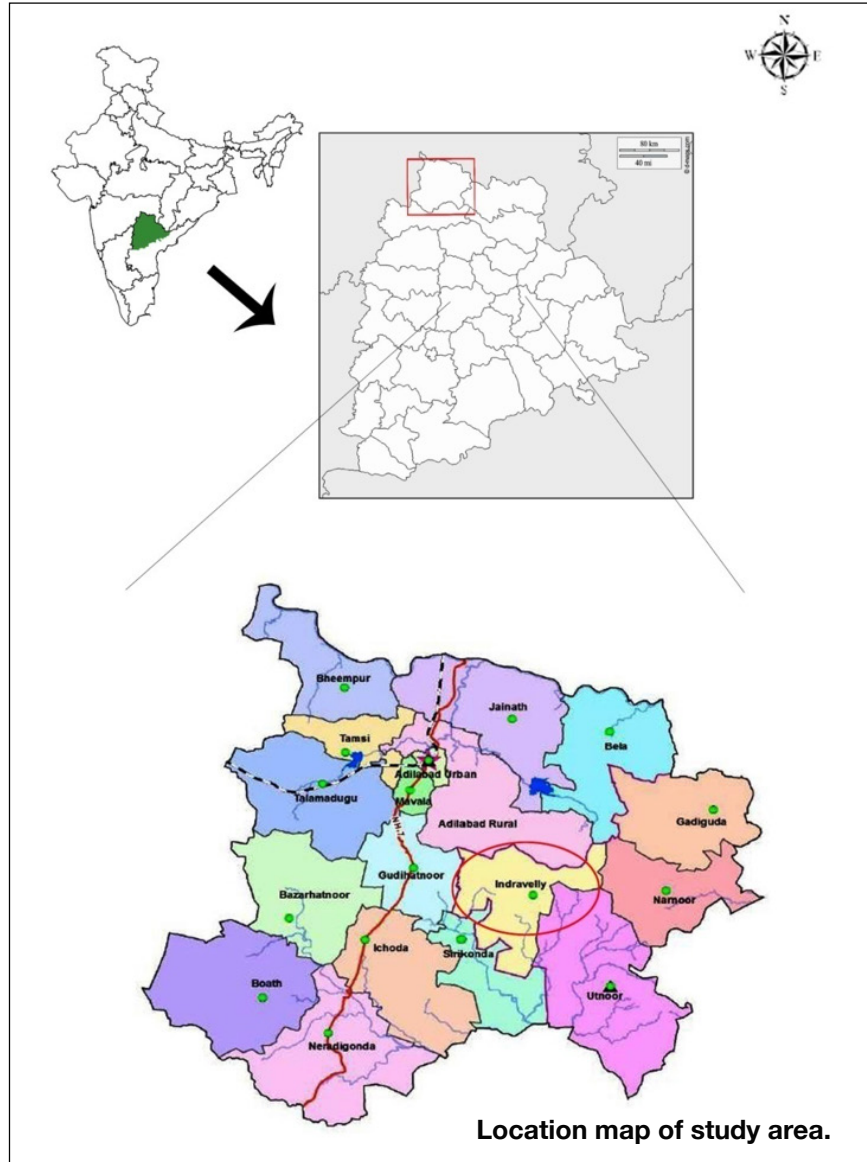
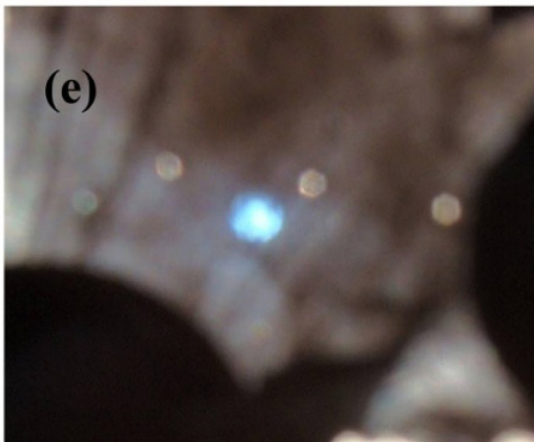
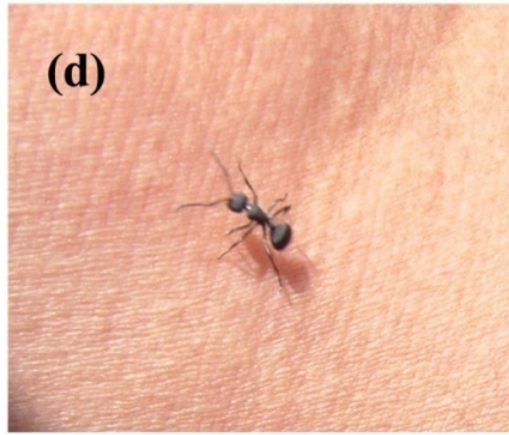


A note on traditional knowledge of the Gond tribe of Adilabad District, Telangana, India in use of *Polyrhachis lacteipennis* ant nest material to observe solar eclipse.

Gonds are the largest aboriginal group among Indian tribes with a population of between 4 and 5 million spread over northern Telangana, eastern Maharashtra, eastern Madhya Pradesh, Jharkhand and western Orissa (Fürer-Haimendorf & Fürer-Haimendorf 1979; Murthy 2012). Gonds are experts in the field of astronomy as they can assess the weather to pursue their agricultural practises based on their astronomical knowledge (Vahia & Ganesh 2013; Pingle 1984; Pingle & Fürer-Haimendorf 1987). Here, we present their knowledge to observe the solar eclipse in a safe mode without causing any harm to the naked eye by using a thin whitish rubber like membrane secreted by the Bullhorn Ant (Singh et al. 2020). For the first time this type of unique practice is recorded during the field survey which was conducted in the Gond hamlets of Indravelli revenue mandal of Adilabad District of Telangana State, India.



The Bullhorn Ant *Polyrhachis lacteipennis* Smith belongs to the subfamily of Formicinae of the family Formicidae which is black in colour and has characteristic of three pairs of spines which can make their nest in subterranean, lignicolous, and arboreal locations. They prepare their nests by a rubber like nest material which is thin



a, b, c—nest of Bullhorn Ant | d—Bullhorn ant | e—demonstration of solar eclipse through the nest | f—typical Gond people.

and whitish, secreted by both the larvae and adult workers and construct carton nests at the base of trees by cementing twigs with their salivary exudates (Robson & Kohout 2007; Karmakar et al. 2012).

Bullhorn Ant has unique capacity to build a sac like structure where the whole colony is found to be packed within the sac with no opening. The rubber like nest material is

thin and whitish. The nest is built along the way of the tunnelling done by the species, usually nests are found under the stones in agricultural fields. The ant species was identified by using the key illustrated by Karmaly (Narendra & Kumar 2006).

The membranous nest of bullhorn ants can well provide an insight into the astronomical knowledge of the Gond tribe. Though the

tribe is credited with possessing traditional knowledge both in botany and other allied spheres, it is believed that they had little knowledge about astronomy in general and solar eclipse in particular.

According to local tribal people residing in forested areas of Indravelli mandal of Adilabad District, Gonds used to watch solar eclipses by gazing at the sky through a piece of a thin but opaque brown-coloured nest found underneath rocks in agriculture fields. If looked through the fragile film of the nest, the sun appears as a sphere light blue in colour even when the unbearable brightness of the sun is at its peak. The image of the great ball of fire is also reduced considerably. The finding related to the ant nest and Gond's astronomical knowledge however creates a scope for further in-depth studies in exploration of traditional knowledge of aboriginal people.

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