Notes On The "Trapdoor" Spider *Idiops* Perty, 1833

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The common name "trapdoor" spider has been used to describe a single family, Ctenizidae (ten – iz – i - dee), of mygalomorph spiders until Raven (1985) separated many genera into various families of "trapdoor" spiders, which has prompted new common names. For example, one of the new family names is Idiopidae and its members are commonly called either armored trapdoor spiders (Schultz & Schultz, 1998) or spurred trapdoor spiders (Dippenaar-Schoeman & Jocqué, 1997). I prefer the latter name to describe idiopids. In any case, these spiders are occasionally imported as pets. In fact, one such spurred trapdoor spider is in my collection. It seems that the most frequently encountered imported idiopid belongs to the genus *Idiops,* as is my specimen (Plate 1). This genus is widespread and is reported from South and Central America, to Africa, India, and even western Asia (see Raven, 1985). The specimen in Plate 1 had been sold as an African trapdoor spider, however, the exact country of origin is not known. Collection data becomes extremely critical to identify unusual specimens properly. Unfortunately, by the time the spider reaches the hobbyist half way around the world that information sometimes becomes difficult to obtain. Identification of "trapdoor" spiders is fraught with difficulty, but even an exuviae and a mygalomorph taxonomic key (see Raven, 1985) may assist in placement to genus. These creatures are seemingly uncommon and, accordingly, not much is known of their natural histories.

Hobbyists generally pursue spiders that build trapdoors because of their unique and fascinating methods of prey capture, not to mention their unusual, robust appearance. Idiopids are certainly not tarantulas (Family: Theraphosidae), however, they are mygalomorphs and should be considered in the community of tarantula hobbyists. Without a doubt, Idiopids are admirable architects. Their dwelling is constructed in a series of steps and has been examined in some detail by Coyle et al. (1992). One of the more interesting features of their construction is that they pay particular attention to the doors' outer appearance. These spiders spend many hours constructing their camouflaged doors so they are not obvious to prey and possible predators. As Coyle et al (1992) note, specimens in the wild cover the door with materials from the surrounding area. This behavior is also observed in the building of doors in captivity. In fact, an interesting example of this behavior occurred with my specimen.

The newly acquired spider was housed in a plastic shoebox (27.5cm x 15.0cm x 10.0cm) and given a substrate mixture consisting of Bed · A · Beast™ and coarse vermiculite. A thin layer of mulch was distributed throughout the enclosure covering the entire surface area. The retreat had an outstanding feature that was completely unexpected. The spider had formed the entrance in such a way by methodically selecting and fastening the mulch pieces in an ordered design! The fabrication of the door and some of the tube on the exterior consisted of small mulch slivers along with larger, long, thin pieces arranged in a radial fashion (Plate 2). The door had four large pieces radiating loosely from a centralized horizontal plane (Plate 3). The majority of the larger pieces, however, were

densely attached around the unhinged circumference of the entrance but not on the door itself (Plate 4). The spider appeared to manufacture a signaling device that allowed detection of prey from a distance when these approached the nest entrance. Similar behavior has been noted with other Idiopine genera in Australia that use twigs as feeling – lines (Main, 1957). Another explanation is for concealment. In fact, both may be correct assumptions.

My specimen has been kept in an environment that has yearly temperatures ranging from 21° – 32°C and humidity levels fluctuating between 50% and sometimes over 80%. On average, temperature is about 25°C and humidity 65%RH. It has been maintained for over two years like this on a diet of crickets. My excitement in the first few months caused me to lift the door frequently in order to observe this amazing creature. More often than not the spider was ready for me and would hold the door shut, presumably with its first and second pair of legs as illustrated by Coyle et al. (1992). Due to my habit of lifting the door, assuming this action annoyed the spider, it built a new linear silken tube about 14.0cm in length with a trap door at each end (Plate 5). Prior to the construction of the new retreat, I had cleaned the cage: The surface of the substrate was removed and replaced with small bark chips. This change in available building materials significantly altered the architecture of the two new doors. The doors were not built as elaborately and were about 0.5cm smaller. The use of signalling devices was reduced considerably and almost non-existent. It appeared that the spider had abandoned the first retreat and when observed was always found in the new one. The animal was only found in the original shelter after it was unwillingly removed from the double trapdoor retreat to be photographed. The second photo session required another forceful extraction from its original burrow and the spider was subsequently found back in the two-door residence.

It is my hope that more hobbyists and/or researchers will continue to observe and experiment with these intriguing arachnids and share their observations so we can better understand their behaviour and relationships to their relatives. I would like to thank Louis N. Sorkin (American Museum of Natural History) for his kind assistance with classification and review comments on the article.

All photographs in this article were taken by the author.

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Plate 1. *Idiops* sp. The dark, elongate patch on the dorsal abdominal surface is the heart. Amazingly, the heart can be seen beating with a live specimen.

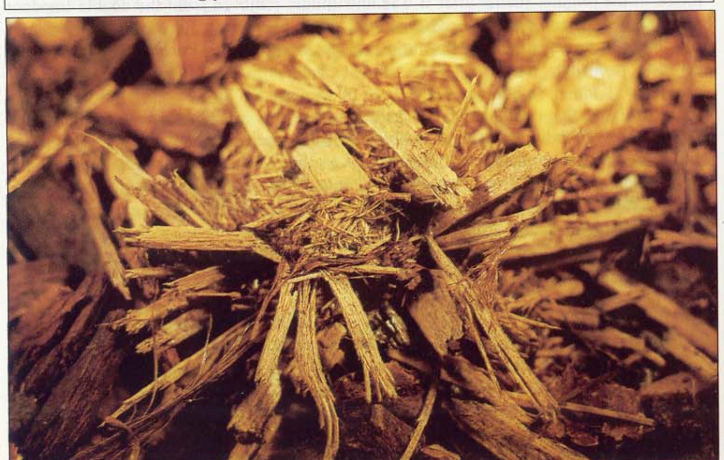

Plate 2. A close view of the original retreat with the door closed.

Plate 3. The door propped open in a vertical plane and viewed from behind illustrating the radiating pieces of mulch.

Plate 4. The trapdoor opened with a toothpick showing the radiating mulch around the unhinged circumference of the entrance.

Plate 5. The two-door retreat with the doors held open by toothpicks. The mirror in the upper left hand corner is 4.5cm wide. The original retreat is also visible.

Plate 6. A closer view of the eye arrangement. The black area on the chelicerae is called the rastellum. The rastellum is a dense cluster of tooth-like projections that assist the spider in excavating its burrow.

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The Bird Eating Spiders Of 18th And 19th Century Arachnology

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Summary

The following series of articles are intended to introduce the reader to the fascinating history of the Bird Eating Spider. In doing so, we will explore that classical period of European arachnology - the years 1705 to 1899 - when the study of natural history science, moved beyond the passive observation and recording of the fruits of Gods creativity, and enthusiastically embraced the intellectual and scientific discipline of systematics - OF APPLIED SCIENTIFIC THOUGHT. This was a challenge, which on one level reflected the new voice of reason - of the coming together of learned men and learned societies, to challenge intellectually the authority of the church and the classical concept of Aristotle's perceived wisdom - and on the other, the cold wind of political change, which would challenge the feudal authority of kings and eventually topple monarchs from their thrones. For the Pandora's box of modern science, when it had cast off the cloak of the medieval alchemist, was not to be confined to the chemists bench, the slide rule of the engineer, the stool of the astrologer or the eye piece of the biologists microscope - it was a challenging, evolving, intellectual discipline, which changed men's perceptions and swept them before it, despite themselves. It is important to understand that the same process of scientific reasoning, which in some men's minds stimulated the study of systematics and eventually the first hesitant steps towards the radical theory of evolution - in others, led them to directly challenge the feudal authority of monarchy, church and state and embrace the radical theory of revolution. For how could a man who embraced the philosophy of scientific thought and reasoning, accept