

Hammerhead flatworms at Bukit Batok Nature Park

Subjects: *Bipalium* spp. (Platyhelminthes: Bipaliidae).

Subjects identified by: Contributor.

Location, date and time: Singapore Island, Bukit Batok Nature Park; 19 & 26 April 2013; evening.

Habitat: Secondary forest and parkland, on the ground on moss covered substrates or leaf litter.

Observer: Contributor.

Observations: It appears that up to five species of terrestrial bipaliid flatworms are herein recorded.

Species 1 has a dorsal colour pattern of five white and five black bars on the body, a white collar and a white middle bar (which may be incised in the middle) across the middle of the black head. Two examples between 2 and 3 cm total length (Fig. 1 & 2) were observed on 19 and 26 April 2013.

Species 2 has a dorsal colour pattern of two cream bars on the body, a white collar (which is incised in the middle) and a white middle bar across the middle of the black head. The cream bars are reduced and divided in the middle, and a white lateral stripe develops on each side of the body. One example of about 7 cm total length (Fig. 3) was observed on 19 April 2013. It is possible that Species 1 is the juvenile form.

Species 3 is blackish with one white bar on the anterior part of the body. Its head is black on the outer half and white on the basal half. One example of about 4 cm total length (Fig. 4) was observed on 26 April 2013.

Species 4 is black with six cream bars that are divided in the middle. Its head has an irregular brownish stripe across the middle. One example of about 9 cm total length (Fig. 5) was observed on 19 April 2013.

Species 5 has seven white bars over the black body. The head is reddish fading to whitish at the base, with a black blotch at the middle of the upper half. One example of about 2 cm total length (Fig. 6) was observed on 19 April 2013. There is a remote possibility that it is the juvenile form of Species 4.

Remarks: There appears to be up to five species of *Bipalium* depicted here; three species if two should turn out to be juvenile forms. Four species of the genus *Bipalium* have been recorded in Singapore (Yeo, 2011). However, as the relevant reference literature is not readily accessible, it is not possible to identify the taxa shown here.

Reference: Yeo, R. K. H., 2011. Terrestrial flatworms. In: Ng, P. K. L., R. T. Corlett & H. T. W. Tan (eds.). *Singapore Biodiversity. An Encyclopedia of the Natural Environment and Sustainable Development*. Editions Didier Millet and the Raffles Museum of Biodiversity Research, Singapore. p. 480.

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Fig. 1. Species 1 of about 2 cm on 19 April 2013.



Fig. 2. Species 1 of about 3 cm on 26 April 2013.



Fig. 3. Species 2 of about 6 cm on 19 April 2013.



Fig. 4. Species 3 of about 4 cm on 26 April 2013.



Fig. 5. Species 3 of about 9 cm on 19 April 2013.



Fig. 6. Species 4 of about 2 cm on 19 April 2013.

Photographs by Ron K. H. Yeo