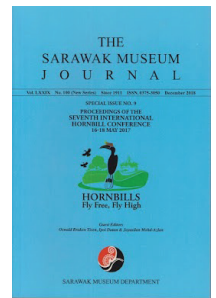




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Citation: *Sarawak Museum Journal*, LXXIX (100) (2018): 59-66**INSET TREE CAVITY NESTING SITE A METHOD OF CAVITY CREATION FOR ORIENTAL PIED HORNBILL (*Anthracoceros albirostris*)**Samantha Kwan¹ and Brian French²¹Sarawak Forestry Corporation²Arboriculture International LLC, Portland, OR USA**ABSTRACT**

Populations of most hornbill species continue to decline due to hunting and habitat degradation. Hornbills rely exclusively on tree cavity sites for nesting and incubation as part of their breeding behaviour. Since they are not able to excavate on their own, they require the presence of existing tree cavities. Additionally, the natural cavity size suitable for species such as Oriental Pied Hornbill requires mature trees in which cavities have formed within larger diameter wood. In disturbed forests, or in the urban context, the availability of large trees with potential nesting sites is even more limited. Man-made nesting boxes have been considered as alternatives to help increase the hornbills' nesting options, but low nest productivity have been reported. This paper explores the practicality of using human assistance in creating inset tree cavities through the use of chainsaws and bore-cutting techniques to assist nesting of the Oriental Pied Hornbill (*Anthracoceros albirostris*) in Piasau Nature Reserve, an urban forest reserve in the state of Sarawak, Malaysia. These cutting and cavity excavation methods have been used successfully to resemble the natural process of cavity development for other secondary tree cavity nesting species.

Keywords: Inset tree cavity, cavity dwellers, Oriental Pied Hornbill, human assistance, bore-cutting

INSET TREE CAVITY NESTING SITE A METHOD OF CAVITY CREATION FOR ORIENTAL PIED HORNBILL (*Anthracoceros albirostris*)

Samantha Kwan¹ and Brian French²

¹*Sarawak Forestry Corporation*

²*Arboriculture International LLC, Portland, OR USA*

Abstract

Populations of most hornbill species continue to decline due to hunting and habitat degradation. Hornbills rely exclusively on tree cavity sites for nesting and incubation as part of their breeding behaviour. Since they are not able to excavate on their own, they require the presence of existing tree cavities. Additionally, the natural cavity size suitable for species such as Oriental Pied Hornbill requires mature trees in which cavities have formed within larger diameter wood. In disturbed forests, or in the urban context, the availability of large trees with potential nesting sites is even more limited. Man-made nesting boxes have been considered as alternatives to help increase the hornbills' nesting options, but low nest productivity have been reported. This paper explores the practicality of using human assistance in creating inset tree cavities through the use of chainsaws and bore-cutting techniques to assist nesting of the Oriental Pied Hornbill (*Anthracoceros albirostris*) in Piasau Nature Reserve, an urban forest reserve in the state of Sarawak, Malaysia. These cutting and cavity excavation methods have been used successfully to resemble the natural process of cavity development for other secondary tree cavity nesting species.

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INTRODUCTION

Hornbills (Bucerotidae) are the most widespread frugivorous birds in Asia and Africa (Kemp 1995) with 8 species found in the State of Sarawak, Malaysian Borneo. These bird species inhabit a wide range of habitats, including dry tropical forests and human modified landscapes (Shukla *et al.* 2015). Resources required by hornbills, such as nesting sites and fruiting trees may differ significantly across these habitats, therefore it is important to understand hornbill's ecological tolerance and to develop appropriate conservation strategies.