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Notes and Records

Occurrence of *Papilio, Graphium* and *Charaxes* butterflies in Ugandan forests

As with forests throughout the tropics, those of Uganda are under threat from logging and farming encroachment. However, several years of political unrest seem to have eased the pressures, from commercial timber extraction in particular. Today a number of valuable sites still exist in varying states of disturbance.

In order to assess the conservation value of these remaining forests, indicator groups have been used. During July, August and September 1987, survey work was carried out in a number of forests (principally in the south-west of the country, see Fig. 1) recording the presence of butterflies of the *Papilio, Graphium* and *Charaxes* genera. Species of these groups are large, colourful and dependent to a greater or lesser extent on the structure and flora of the high canopy. This note presents new records of these species as found in Uganda (Table 1).

Though powerful fliers, these butterflies can be caught relatively easily when drinking at forest streams, and their dietary requirement for proteins and mineral salts draws them to a variety of sources. Deposits of excreta and urine (animal and human) and decomposing carcases (small mammal) were thus used successfully to attract and trap specimens.

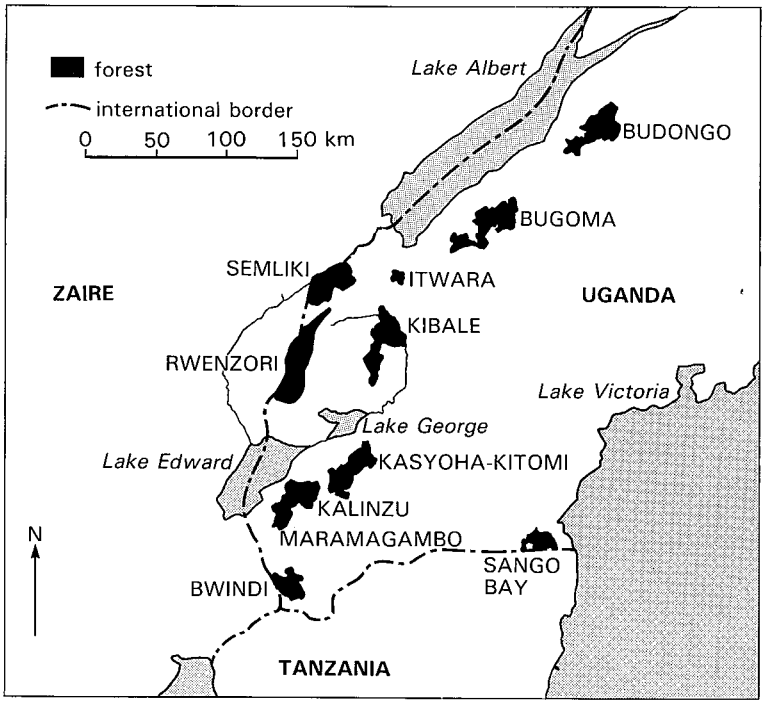

Fig. 1. The forests of western Uganda. Of the forests mentioned in Table 1 but not shown here, Mabira Forest lies to the west of Jinja and Elgon is on the mountain of that name on the border with Kenya near Mbale.

Table 1. Records of *Papilio, Graphium* and *Charaxes* butterflies in Ugandan forests

Papilio & *Graphium* spp.	Kibale	Semliki	Budongo	Kalinzu/ Maramagambo	Bugoma	Bwindi	Kasyoha-Kitomi	Itwara	Sango Bay	Mabira	Elgon	Rwenzori
P. antimachus	+	+	+	+	—	+	—	—	—	—	—	—
P. leucotaenia	—	—	—	—	—	+	—	—	—	—	—	—
P. cynorta	+	+	+	+	+	+	*	*	+	+	—	—
P. zoroastres	+	+	+	+	*	+	—	*	+	+	+	—
P. jacksoni	—	+	—	—	—	+	—	—	—	—	+	+
P. rex	+	+	—	—	*	+	—	—	+	+	+	+
P. charopus	+	—	—	+	*	+	*	—	—	—	—	—
P. mackinnoni	+	—	—	+	—	+	—	*	—	—	+	—
P. sosia	+	+	+	+	+	—	—	—	—	+	—	—
P. nireus	+	+	+	+	+	+	—	—	+	+	+	+
P. bromius	+	+	+	+	+	+	*	*	+	+	+	*
P. mechowi	+	+	+	—	—	+	*	—	*	+	—	—
P. zenobia	+	+	—	*	—	+	—	—	+	—	—	—
P. lormieri	+	+	+	+	+	+	*	*	+	+	+	*
P. demodocus	+	+	+	+	+	+	*	*	+	+	+	—
P. phorcas	+	+	+	+	+	+	*	*	+	+	+	—
P. dardanus	+	+	+	+	+	+	*	*	+	+	+	—
P. hesperus	+	+	+	+	—	+	—	—	+	+	—	—
P. nobilis	+	—	—	+	*	+	—	*	+	+	+	—
G. ridleyanus	—	+	—	+	—	+	—	—	+	—	—	—
G. almansor	+	+	+	+	*	+	—	—	+	—	+	—
G. ucalegon	+	+	—	—	+	—	—	—	—	—	—	—
G. leonidas	+	+	+	+	*	+	—	—	+	+	+	—
G. latreillanus	—	+	—	—	—	—	*	—	—	—	—	—
G. policenes	+	+	+	+	+	+	*	*	+	+	+	—
G. antheus	+	+	+	+	+	+	*	—	+	+	—	—
G. gudenusi	—	—	—	—	—	+	—	—	—	—	—	—
Charaxes spp.												
C. varanes	+	+	+	+	*	+	—	—	+	+	+	—
C. fuvescens	+	+	+	+	+	+	*	*	+	+	+	—
C. acuminatus	—	+	—	—	—	+	—	—	—	—	+	+
C. candiope	+	+	+	*	*	+	*	*	+	+	+	+
C. protoclea	+	+	+	+	*	+	—	*	+	+	+	—
C. boueti	—	—	—	—	—	+	—	—	—	—	—	+
C. cynthia	+	+	+	—	+	+	—	*	+	+	+	—
C. lucretius	+	+	+	—	*	+	*	—	+	+	—	—
C. castor	+	+	+	+	+	+	—	*	+	+	+	—
C. brutus	+	+	+	+	+	+	*	*	+	+	+	*
C. ansorgei	—	—	—	—	—	+	—	—	—	—	+	+
C. pollux	+	+	—	+	*	+	*	*	+	—	+	—
C. druceanus	—	—	—	—	—	+	—	—	—	—	+	+
C. eudoxus	+	+	+	+	—	+	—	—	+	—	+	—
C. numeneus	+	+	+	+	+	+	*	*	+	+	+	—
C. smaragdalis	+	+	+	+	+	+	*	—	+	+	+	—
C. tiridates	+	+	+	+	+	+	*	*	+	+	+	—
C. bipunctatus	+	+	+	+	+	+	—	—	—	+	+	—
C. xiphares	—	—	—	—	—	+	—	—	—	—	—	—
C. ameliae	+	+	+	+	+	—	—	—	+	+	—	—
C. imperialis	—	+	+	+	—	+	—	—	+	—	—	—
C. pythadorus	+	—	+	—	*	+	—	—	+	+	+	—
C. hadrianus	—	+	—	—	—	—	—	—	+	—	—	—
C. nobilis	—	—	—	+	—	—	—	—	+	—	—	—
C. fournierae	—	—	—	—	—	+	—	—	—	—	—	—
C. kahldeni	—	+	—	—	+	+	—	*	—	—	—	—
C. zoolina	+	—	+	—	+	+	—	*	+	—	+	+
C. eupale	+	+	+	*	*	+	*	*	+	+	+	+
C. subornatus	—	+	+	—	+	+	—	—	+	+	—	—
C. montis	—	—	—	—	—	+	—	—	—	—	—	+
C. pleione	+	+	+	+	+	+	—	*	+	+	+	—
C. paphianus	+	+	+	+	+	+	—	*	+	+	+	—
C. zingha	—	+	+	—	+	—	—	—	+	+	—	—
C. etesipe	+	+	+	+	*	+	—	*	+	+	+	—
C. anticlea	+	+	+	*	+	+	*	—	+	+	+	—
C. opinatus	—	—	—	—	—	+	—	—	—	—	—	+
C. hildebrandti	—	+	—	—	—	+	—	—	—	—	—	—
C. porthos	+	—	+	—	*	—	—	—	+	+	—	—
C. zelica	—	+	+	—	—	—	—	—	—	+	—	—
C. laodice	—	+	—	—	—	—	—	—	—	—	—	—

Key: +Previous record; *New record (1987 survey); —Not reported.

Species lists produced have been combined with existing data. Observations made in 1987 are distinguished only where they represent new locality records.

According to P.R. Ackery of the British Museum (Natural History) *Graphium latreillanus* has been previously recorded in Ituri so the new record for Kasyoha–Kitomi pushes the continental distribution of this species further east. The occurrence of other species offers few surprises except perhaps by way of revealing absence. However, species abundance varied greatly and for many it is not clear whether this is due to special characteristics or 'seasonal' variations.

Identification (Williams, 1969) was found to be straightforward with the exception of the (Black) *Charaxes etheocles–ethalion* complex, which have for this reason been excluded from the list. Opinion suggests that further study of the early stages of these species will be required to finally disentangle their complex morphology.

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References

WILLIAMS, J.G. (1969) *A Field Guide to Butterflies of Africa.* Collins, London.

S.A. Trewick *Westerly, Prestwick Lane, Chiddingford, Surrey GU8 4XW, UK.*

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