



Report at a Glance

Source: A Rapid Biodiversity Assessment of the Kaijende Highlands, Enga Province, Papua New Guinea: 8

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A RAPID BIODIVERSITY ASSESSMENT OF THE KAIJENDE HIGHLANDS, ENGA PROVINCE, PAPUA NEW GUINEA

Expedition Dates

August 19–September 9, 2005

Description of Expedition

This 22-day RAP Expedition surveyed several sites in the Kaijende Highlands, a vast near-uninhabited expanse of montane habitat near Porgera in Enga Province, Papua New Guinea (PNG). The RAP survey sites were located in lower montane rainforest (Lake Tawa), in upper montane rainforest (Paiela Road) and in subalpine grassland and stunted upper montane rainforest mosaics (Omyaka and Waile Creek) in Papua New Guinea's central cordillera. The first RAP survey site at Omyaka was located at the boundary between subalpine grassland dotted with *Cyathea* tree-ferns, and stunted montane rainforest at an elevation of 3,200 m. The second survey site was located in lower montane rainforest at Lake Tawa at an elevation of 2,100–2,400 m. This site was in a remarkable closed valley at the edge of a series of interconnected lakes that drained from the valley through one or more sink-holes. The third RAP survey site was centred on the Porgera mine and involved short forays to a series of 'sub-sites' including disturbed habitats around Suyan Village (~2,200 m), upper montane forest at Paiela Road (~2,800–2,900 m) and subalpine grasslands at Waile Creek and the Porgera Reservoir (3,000–3,200 m). All of the sites, including the remote Lake Tawa valley, showed signs of human activities but they all (except Suyan Village) provided access to high-quality, relatively undisturbed habitats.

Reason for the RAP Survey

The flora and fauna of Enga Province are probably less well known than that of any other province in Papua New Guinea. The lack of information about Enga's biodiversity is surprising because the province hosts a major mine that has developed significant infrastructure in the vicinity of the mining operation, and because the conservation values of the vast Kaijende Highlands region were recognized nearly 20 years ago when this expanse of montane habitats was recommended for consideration as a Wildlife Management Area.

To redress this deficiency Conservation International, with support from the Porgera Joint Venture (PJV) mining operation, undertook a major Rapid Assessment Program (RAP) biodiversity survey to collect data on the species richness and conservation status of plants, herpetofauna, birds and mammals in the near-pristine montane habitats of the Kaijende Highlands. The information collected during this RAP expedition will be used to promote the conservation significance of this vast wilderness area to local communities and to the PNG Government. It will also be used to inform and guide future conservation activities in the region by local communities, the PJV mining operation, and government agencies at the provincial and national levels. We hope that the outstanding conservation values of the Kaijende Highlands

documented during this survey will provide impetus for the declaration of this spectacular region as a Conservation Area.

MAJOR RESULTS

The major focus of this RAP expedition was to document the area's fauna and flora, but one of the overwhelming conclusions of all survey participants was that the Kaijende Highlands is an area of spectacular topography and scenic beauty. Few regions on the island of New Guinea can rival the breathtaking grandeur of the region's rugged montane landscapes, and these outstanding physical features should be targeted for conservation action and to assess tourism potential.

In total the RAP survey documented 643 species (Table 1), including at least 16 species of plants and eight species of frogs that are new to science. The RAP team recorded significant range extensions for several poorly known and threatened taxa including the Giluwe Rat (*Rattus giluwensis*), the Long-bearded Melidectes (*Melidectes princeps*) and the poorly known frogs *Litoria becki* and *Callulops glandulosus*. The Ribbon-tailed Astrapia (*Astrapia mayeri*), a spectacular bird of paradise with a severely circumscribed distribution, was common at Lake Tawa and the extensive high-montane habitats in the region appear to support a good diversity of large mammals. Together these observations suggest that hunting pressure in the Kaijende Highlands has not decimated the fauna there to the extent that it has over much of montane New Guinea.

Species New to Science

Plants

Acronychia richards-beehlerii
Dimorphanthera sp. nov.
Diplazium sp. ?nov.
Diplycosia sp. nov.
Glochidion sp. nov.
Glossorhyncha sp. nov. A
Glossorhyncha sp. nov. B

Jasminum sp. nov.
Macaranga sp. nov.
Pilea sp. nov.
Pneumatopteris sp. nov.
Polyosma sp. nov.
Rapanea sp. nov.
Saurauia sp. nov.
Syzygium sp. nov. A
Syzygium sp. nov. B

Amphibians

Albericus sp. nov. 1
Albericus sp. nov. 2
Callulops sp. nov. 1?
Choerophryne sp. nov. 1
Cophixalus sp. nov. 1
Oreophryne sp. nov. 1
Oreophryne sp. nov. 2
Oreophryne sp. nov. 3
 New Genus, New species 1

Species of Conservation Concern

Amphibians

Albericus fafniri (?) (DD)
Callulops glandulosus (DD)
Litoria becki (VU)

Birds

Astrapia mayeri (NT)
Casuaris bennetti (NT)
Harpyopsis novaeguineae (VU)
Salvadorina waigiensis (VU)
Melidectes princeps (VU)
Epimachus fastuosus (VU)

Mammals

Zaglossus bartoni (EN)
Dasyurus albopunctatus (VU)
Murexia naso (DD)
Dendrolagus dorianus (VU)

Table 1. Number of native species recorded during the 2005 Kaijende Highlands RAP survey.*

	Total	Omyaka	Paiela	Lake Tawa	Suyan
Plants	492	141	202	257	–
Herpetofauna	19	5	6	11	2
Birds	102	41	48	61	37
Mammals	30	12	5	18	7
Total	643	199	261	347	46

*Sampling effort was not equivalent among sites. Sampling around Suyan was predominantly serendipitous. 'Omyaka' includes Waile Creek (see text) for all taxa except plants.

Thylogale calabyi (EN)
Phalanger gymnotis (DD)
Mallomys istapantap (LR/nt)
Protochromys fellousi (VU)
Pseudohydromys ellermani (VU)
Rattus giluwensis (LR/nt)
Uromys anak (LR/nt)
Tadarida kuboriensis (under *Tadarida australis*) LR/nt

KEY CONSERVATION RECOMMENDATIONS

(see Executive Summary for additional recommendations)

- *Conservation of high-montane grassland/forest mosaics.* We recommend that the high-montane grassland habitat mosaics of the Kaijende Highlands receive particular conservation attention. These habitats are scenically spectacular, and they retain a suite of large mammals that are of significant conservation concern. This RAP survey discovered a number of new species that may be endemic to these habitats. Climate change and increasing frequency of fires may deleteriously impact these habitats. A sustainable management plan should be developed in conjunction with local communities to reduce the impacts of these threats.
- *Community education.* Hunting of large mammals in the Kaijende Highlands may well be unsustainable. PJV and Conservation International would be well advised to commission and disseminate posters, fact sheets, and/or small field guides that illustrate local wildlife, discuss its significance to local communities, and emphasize such concepts as rarity and sustainable hunting. The impact and educational value of such postings and publications could be vastly increased by including relevant text in Tok Pisin, English, and Ibile or other appropriate local languages.
- *Mt. Kaijende Highlands Conservation Area.* The Kaijende Highlands are an area of spectacular scenic beauty and represent a vast near-uninhabited expanse of near-pristine high montane habitats. Conservation International, PJV and DEC are working together with local communities to have this region formally gazetted as a protected area. We hope that the results of this RAP survey will add impetus to this process.