Report at a Glance

Source: A Rapid Biological Assessment of the Atewa Range Forest Reserve, Eastern Ghana: 10

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Expedition Dates
6 – 24 June 2006

Area Description
The Atewa Range Forest Reserve (Atewa) was established as a national forest reserve in 1926 and has since been designated as a Globally Significant Biodiversity Area (GSBA) and an Important Bird Area (IBA) (Abu-Juam et al. 2003). The Atewa mountain range, located in south-eastern Ghana, runs roughly from north to south and is characterized by a series of plateaus. One of only two reserves in Ghana with Upland Evergreen forest (Hall and Swaine 1981, Abu-Juam et al. 2003), Atewa represents about 33.5% of the remaining closed forest in Ghana's Eastern Region. Atewa is home to many endemic and rare species, including black star plant species and several endemic butterfly species (Hawthorne 1998, Larsen 2006). Seasonal marshy grasslands, swamps and thickets on the Atewa plateaus are nationally unique (Hall and Swaine 1981).

Atewa has long been recognized as a nationally important reserve because its mountains contain the headwaters of three river systems, the Ayensu, Densu and Birim rivers. These three rivers are the most important sources of domestic, agricultural and industrial water for local communities as well as for many of Ghana's major population centers, including Accra.

The RAP survey was conducted around three sites within Atewa: Atiwiredu (6°12'24.7"N, 0°34'37.2"W, 795 m); Asiakwa South (6°15'44.3"N, 0°33'18.8"W, 690 m); and Asiakwa North (6°16'16.4"N, 0°33'52.8"W, 769 m). The RAP sites were chosen to coincide with areas of potentially high biodiversity and concentrated bauxite deposits that had been earmarked for exploitation activities by ALCOA. The fish and dragonfly teams also sampled streams, rivers and other freshwater sites outside the reserve that are part of the watershed originating within Atewa.

EXPEDITION OBJECTIVES

In addition to high biodiversity, Atewa is known to harbor mineralogical wealth including both gold and bauxite deposits. The Government of Ghana granted an exploration license to ALCOA to prospect within Atewa for bauxite deposits. Due to Atewa's classification as a GSBA, ALCOA initiated an agreement with Conservation International (CI) to assist them in better understanding the area's biodiversity context. The aim of the agreement was to provide significant gains for biodiversity conservation, industry, government, and the people of Ghana.

Specifically, the RAP survey aimed to derive a brief but thorough overview of species diversity in Atewa, to evaluate the area's relative conservation importance, to provide management and research recommendations, and to increase awareness of the Atewa ecosystems in order to promote their conservation.

OVERALL RAP RESULTS

The results of the RAP survey show that Atewa is an exceptionally important site for national and global biodiversity conservation. All taxonomic groups surveyed were comprised almost

exclusively of forest species, indicating an intact forest ecosystem, which is a highly unusual and (from a conservation perspective) highly significant finding for West Africa, where most forests are highly fragmented and disturbed.

Atewa harbors a high diversity of species especially of butterflies (Atewa has the highest butterfly diversity of any site in Ghana), dragonflies, katydids, birds, and plants. Included among the many rare and threatened species at Atewa are six black star plant species, six bird species of global conservation concern, two primates and 10 other large mammals, and a high proportion of threatened amphibian species such as the Critically Endangered frog *Conraua derooi*, for which the Atewa Range is likely to hold the largest remaining populations.

The unique and diverse species assemblages documented during the RAP survey, especially of amphibians, Odonata (dragonflies and damselflies) and fishes, all depend on the clean and abundant water that originates in Atewa for their survival. Ghanaians around Atewa and as far as Accra also depend on this water source, which is provided by the plateau formations which soak up rain and mist and then hold, clean and discharge fresh water.

CONSERVATION CONCLUSIONS AND RECOMMENDATIONS

This RAP survey confirms that Atewa is a site of extremely high importance for global biodiversity conservation and should be protected in its entirety. Atewa is one of the largest remaining forest blocks in Ghana and contains Ghana's last intact stand of Upland Evergreen forest. The only other forest of this type in Ghana, in the Tano Ofin Forest Reserve, is smaller and significantly more disturbed. Atewa is also an extremely important watershed – holding, cleaning and discharging freshwater that supports a rich biodiversity and provides clean water to millions of Ghanaians. There is no other place like Atewa in Ghana.

Based on the results of the RAP survey and previous studies, we offer the following two principal conservation recommendations. See the Executive Summary section for more details and for management recommendations.

- Within the Atewa Range Forest Reserve, the Government of Ghana should delimit and establish an integrally protected area with high protection status, such as a National Park, that includes all remaining intact Upland Evergreen forest, especially on the plateaus. A buffer zone covering the more disturbed slopes and valleys of the reserve should be established surrounding the core protected area.
- To ensure the sustainable protection of Atewa, alternative incomes for the local communities, particularly in Kibi, should be developed to reduce existing or potential dependence on extractive industries and forest products from Atewa. This should be done as a collaborative effort between government, private, NGO, scientific, development, and community groups.

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SPECIES RECORDED AT THE THREE RAP SITES

	All RAP sites in this survey	Atiwiredu	Asiakwa South	Asiakwa North
Number of species recorded	839	295*	435*	307*
Species of conservation concern**	36	20	13	14
New species discovered	9***	4	6	4
New records for Ghana	46	16	28	24

*excludes birds, fishes and dragonflies which were not sampled by site

**species of global conservation concern as listed by IUCN (2007) and of national conservation concern (Schedule I of the Ghana Wildlife Conservation Regulation and black star species)

***includes a new species of spider tick (see 'other invertebrates' in Executive Summary)

RESULTS BY TAXONOMIC GROUP

	Total species recorded	Species new to science	New records for Ghana	Species of conservation concern*	Species endemic to Upper Guinea
Plants	314			6 (Black Star)	n.r.
Odonata	72		8	1	n.r.
Butterflies	143				16
Orthoptera (katydids)	61	8	36		n.r.
Fishes	19		1		n.r.
Amphibians	32			9	16
Birds	155		1	6	11 from Upper Guinea Endemic Bird Area
Small mammals	15		2	2	3
Large mammals	22			10	n.r.
Primates	6			2	1

*see Executive Summary for list of species
n.r. = not reported by RAP scientists