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Evidence of the Leaf-clipping Behavior by a Chimpanzee of an Unhabituated Group at Mahale*Shigeo Uehara**Primate Research Institute, Kyoto University*

After the extinction of the neighboring K Group to the north in the 1980s (1), no unit group had been confirmed to use extensively the territory of the chimpanzees of M Group, our main study group habituated since the 1970s, except for N Group, which was sometimes seen in the southern periphery of M Group's territory. In the late 1990s, however, some other groups began to invade M Group's territory due probably to the decrease of its group size (2). In the former territory of K Group, unhabituated chimpanzees have recently been observed or heard from time to time as well.

On the 7th March, 2002, accompanied by a Tanzanian research assistant, Hamisi Bunengwa, I tried to see the chimpanzees of the northern unhabituated group. We heard several times chimpanzee pant-hoots and other voice from the area of the upper Mbamba Valley after we reached the ridge between the Mpila and Nkala Valleys from the south at 11:37 (for the study area, see Fig. 1 of ref. (2)). We further proceeded to the north and finally at 13:15 arrived at the ridge between the Mbamba and Kasangazi (shown as Kasangaji in Fig. 1 of ref. 2) valleys where we found quite fresh evidence of the leaf-clipping behavior by a chimpanzee (Figure 1). Although the chimpanzees completely ceased to emit any sound after 12:31 when we were still on the Mpila-Nkala ridge, fresh signs such as their footprints, feces and leftovers of the fruit of *Aframomum* sp. were seen on several spots after we crossed the Nkala Valley.

The pile of leaves (*Psychotria peduncularis* (Salisb.) Steyererm.) in Figure 1 must have been made by a chimpanzee of the unhabituated northern group, since (i) most of the chimpanzees of M Group were observed by our colleague to utilize the area to the south of the Ntale Valley (see Fig. 1 of ref. (2)) on the 7th of March, (ii)

fresh footprints of chimpanzee were also confirmed around the pile and the leaves constituting the pile were concentrated within a diameter of about 25 cm (Figure 1), and (iii) as many as four mid-ribs (mean: 16.0 cm, range: 10.8 - 20.7 cm), from which the leaf-blade had been ripped off, were laid together within the pile (Figure 1). The evidence (ii) and (iii) strongly indicates a good coincidence with the behavior pattern of the leaf-clipping display by a chimpanzee described by Nishida (3).



Figure 1. The pile of leaves (*Psychotria peduncularis*) probably left by a chimpanzee. The four mid-ribs were rearranged laterally for the photographing purpose without altering the circumference of the pile.

The leaf-clipping is regarded as one of the cultural behavior variation among wild chimpanzees; it has never been recorded in some long-term chimpanzee study populations (4). Nishida (3) speculated that the leaf-clipping display may be a signal commonly shared by the local population at Mahale. Tool-use among wild chimpanzees has sometimes been qualified without direct observation of their behavior (e.g., brush-sticks): (5). The present report suggests that indirect evidence may also be useful in order to prove the existence of the leaf-clipping behavior in unhabituated groups of chimpanzees.

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