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**<NOTE>**

## Grooming Hand-Clasp by Chimpanzees of the Mugiri Community, Toro-Semliki Wildlife Reserve, Uganda

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**INTRODUCTION**

We present the first report of the grooming hand-clasp (GHC) from the chimpanzees of Toro-Semliki Wildlife Reserve, Uganda. One of the five observations is of a previously unreported form of the GHC which we call the branch-clasp/hand-clasp (BCHC).

The GHC, first observed in Mahale Mountains National Park<sup>1</sup>, has been documented in several chimpanzee (*Pan troglodytes*) and bonobo (*P. paniscus*) communities across Africa (Table 1). This social custom involves two individuals facing one another and each extending an arm overhead to clasp the partner's hand, while using the other hand to groom the exposed torso of the partner. Variations of this behavior include grasping the partner's hand, grasping the partner's wrist and resting one's wrist on the partner's wrist<sup>2,3</sup>.

**METHODS**

The Toro-Semliki Wildlife Reserve ("Semliki") is located in the Rift Valley in western Uganda. Physical and botanical characteristics of the site are described elsewhere<sup>7</sup>. Four communities of chimpanzees (*P. t. schweinfurthii*) are reported to inhabit the reserve<sup>7</sup>. Habituation and research began in 1996 on the Mugiri community and has continued intermittently to the present<sup>7</sup>. We made observations opportunistically from May to November 2008 during habituation and studies of insectivory and well-digging. At the beginning of the study, chimpanzees were semi-habituated: observers could observe chimpanzees in trees, but rarely observed them on the ground without the chimpanzees fleeing. During the study, habituation progressed to a point where observers occasionally could approach within 15 m of chimpanzees, usually males, on the ground.

**OBSERVATIONS**

On 4 July, TW and a Uganda Wildlife Authority (UWA) ranger found a group of nine adult and sub-adult males on the ground in undergrowth in gallery forest at 09.59 hr. Most individuals were resting, but two adults were mutually grooming. At 10.55, both chimpanzees raised their right arms overhead and one individual rested its wrist on the other's wrist. Vegetation obscured observations, so that observers could not identify individuals. About 50 seconds later, each lowered its arm and continued to groom until 10.59, when the entire group left the area.

**Table 1. Reported status of the grooming hand-clasp in *Pan* communities.**

Site	Country	Species	Hand-clasp <sup>a</sup>	Source
Bossou	Guinea	<i>P. troglodytes</i>	Absent	4
Budongo	Uganda	<i>P. troglodytes</i>	Absent	4, N Newton-Fisher pers. comm.
Fongoli	Senegal	<i>P. troglodytes</i>	Habitual	WC McGrew pers. comm.
Gombe	Tanzania	<i>P. troglodytes</i>	Absent	1, 2
Goualougo	Rep. Congo	<i>P. troglodytes</i>	Habitual	WC McGrew pers. comm.
Kalinzu	Uganda	<i>P. troglodytes</i>	Customary	4
Kanyanchu	Uganda	<i>P. troglodytes</i>	Present	TH Webster unpub. data
Kanyawara	Uganda	<i>P. troglodytes</i>	Customary	4
Lopé	Gabon	<i>P. troglodytes</i>	Customary	4
Mahale K	Tanzania	<i>P. troglodytes</i>	Customary	1, 4
Mahale M	Tanzania	<i>P. troglodytes</i>	Customary	1, 4
Ngogo	Uganda	<i>P. troglodytes</i>	Customary	4
Tai-North	Ivory Coast	<i>P. troglodytes</i>	Habitual	4
Tai-South	Ivory Coast	<i>P. troglodytes</i>	Present	WC McGrew pers. comm.
Lui Kotal	Dem. Rep. Congo	<i>P. paniscus</i>	Habitual	5
Wamba	Dem. Rep. Congo	<i>P. paniscus</i>	Present	4

<sup>a</sup>Status of the GHC (for definitions see 6)

On 16 July, TW, Charlotte Payne, an UWA ranger and two Ugandan tourism students found a group of four adult males and one adult female with a ventral infant in gallery forest above the Mugiri River. The party was feeding on *Cynometra alexandri* pods in the canopy. From 09.58–10.10 hr, an adult male and the adult female groomed mutually. At 11.45, TW observed two arboreal male-male grooming dyads. In one dyad the first individual grabbed an overhead branch with its right hand then the second individual clasped the wrist of the hand holding the branch (BCHC). About 60 seconds later they lowered their arms and continued grooming until 12.42, when one of the males left the area.

On 1 August, TW, PH and an UWA ranger found 3 chimpanzees resting arboreally in gallery forest. At 09.47 hr, we began observing of a pair of adult males in day beds and a single adult male 30 meters from them. The view of the two males in beds was somewhat obstructed. At 12.10, the lone male joined the two other individuals, who had left their beds and begun grooming arboreally. All three individuals were then in full view. At 12.51, the grooming males each raised an arm overhead and commenced a wrist-on-wrist hand-clasp. At 12.52, they lowered their arms and began to feed on *C. alexandri* pods.

On 28 August, at 10.55 hr, PH and an UWA ranger found a group of at least two adult males, one subadult male, two adult females in estrous, one adult non-estrous female and one juvenile of unknown sex. At 11.35 an estrous female began to groom an adult male on the ground. At 11.38, the male reciprocated. At 11.48, grooming ended and the female withdrew. At 11.50, she returned and grooming recommenced. At 11.54, both individuals raised their left hands and clasped hand-to-hand. About 15 seconds later, they released the clasp and lowered their arms. At 11.55, grooming ended.

PH observed a second interaction within the group at 11.58 hr between an adult male and a non-estrous adult female. At 11.59, both individuals raised their right hands straight overhead and clasped hands. During the hand-clasp the male groomed the female but she did not reciprocate. At 12.01, they lowered their hands, stopped grooming and began feeding on *C. alexandri* pods.

## DISCUSSION

Of the five instances of the GHC, we observed three variants: two observations of palm-to-palm (A in Fig. 1 of source 3, pg. 109), two observations of wrist-to-wrist (C in Fig. 1 of source 3, pg. 109), and a single observation of a branch-clasp/hand-clasp (BCHC). During the BCHC one individual grasped an overhead branch while the other individual grasped the wrist of the hand grasping the branch.

This is the first report of the BCHC, but it has also been observed at Mahale, usually between mother-offspring pairs (M Nakamura, pers. comm.).

Researchers have previously suggested that the GHC might have evolved from branch-clasp grooming<sup>8,9</sup>, a behavioral pattern (that is a chimpanzee universal) in which grooming chimpanzees grab an overhead branch<sup>6</sup>. If this is so, then the first variation of the GHC may have been the BCHC. In this scheme, the first step towards a behavior without a branch would be to remove one of the hands from the branch and place it on the wrist of the grooming partner still grasping the branch. Alternately, the BCHC could simply be another variation of the GHC; the hand grasping the branch might provide support, allowing the GHC to be performed in an arboreal setting. Further observations are needed to understand this behavioral variation.

Five observations are too few enough to classify the behavior at Semliki as customary<sup>6</sup>. A habitual code is defined as “pattern is not customary but has been seen repeatedly in several individuals, consistent with some degree of social transmission” (pg. 1488)<sup>6</sup>. At Mugiri, at least six (four males and two females), but perhaps as many as 10, chimpanzees used the GHC, so we classify the GHC as habitual in the Mugiri community.

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