

habitually observed at Fongoli, Senegal, the other two forms have more rarely been witnessed at this site (Pruetz pers. com.). At Bossou in Guinea, GHC has only been recorded once (Yamakoshi pers. obs.), and, at Taï in Côte d'Ivoire, the behavior emerged spontaneously and disappeared within a year in two communities (Boesch pers. comm.). GHC has more recently been reported at other sites with semi-habituated individuals, i.e. chimpanzees at Semliki, Uganda (see report in this issue) and bonobos (*Pan paniscus*) in Lui Kotal in the Democratic Republic of Congo<sup>8</sup>. We report here on the first record of GHC in sanctuary-released chimpanzees (*P. t. verus*).

## <NOTE>

# Preliminary Report on Hand-Clasp Grooming in Sanctuary-Released Chimpanzees, Haut Niger National Park, Guinea

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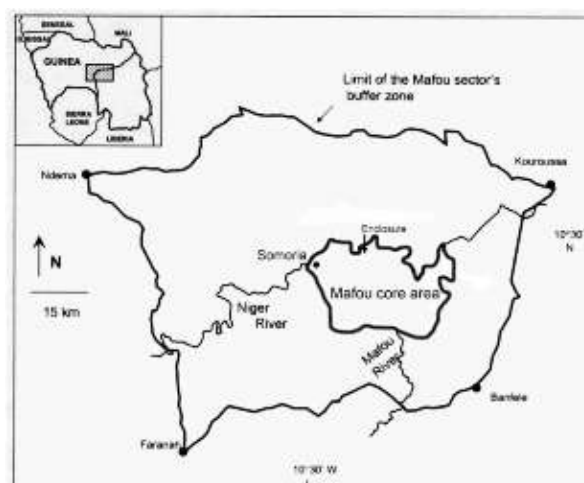
2. Projet Primates France, France and Chimpanzee Conservation Center, Faranah, Republic of Guinea

3. Project Primate Inc., USA and Chimpanzee Conservation Center, Faranah, Republic of Guinea

## INTRODUCTION

Grooming hand-clasp (GHC) was the first social custom labeled as such in chimpanzees (*Pan troglodytes*)<sup>1,2</sup>. This behavior is characterized by variations in form (sometimes also referred to as conventions<sup>3</sup> or types<sup>2</sup>) and in frequency of occurrence (ranging from absent to customary) whether between or within wild chimpanzee communities<sup>2</sup> or captive colonies<sup>4,5</sup>. GHC presents three basic distinct forms: palm to palm<sup>1</sup>, non-palm to palm<sup>2</sup> and wrist to wrist<sup>6</sup>. This behavior involves two individuals sitting face to face, typically extending their arms overhead (some flexed variations have also been described<sup>2</sup>) thus clasping or resting their hands or arms, and grooming each other with the other hand<sup>1,2</sup>.

Among long-term study sites, with the exception of Gombe, Tanzania and Budongo, Uganda, GHC has been noted at all East African<sup>2,7</sup>. While wrist to wrist GHC is



**Fig. 1.** Map of the location of the Haut Niger National Park in Guinea, West Africa, highlighting the Mafou core area of the park and the relative locations of the sanctuary (Somoria) and the release holding facility (Enclosure) (adapted from Brugiére et al. (2005)<sup>10</sup>).

## STUDY SITES AND SUBJECTS

The Haut Niger National Park (HNNP) is located in the center of the Republic of Guinea, West Africa. This park was created in 1997 and extends over c. 10,000 km square<sup>9,10</sup> (see Fig. 1). It is the largest protected area in the country and is one of the last remaining important formations of dry forest-savanna mosaics in West Africa. This park is also a priority site for the conservation of the Western subspecies of chimpanzee (*P. t. verus*)<sup>11</sup>, with a viable population estimated at 500 individuals<sup>12,13,14</sup>.

The Chimpanzee Conservation Center (CCC), the only chimpanzee sanctuary in Guinea, was created in 1997. This sanctuary is located in Somoria within the Mafou core area of the HNNP (see Fig. 1). Twelve chimpanzees between 8–20 years old were released by the CCC in June 2008 in the HNNP, 30 km from the sanctuary<sup>15</sup> (see Table 1). The CCC's chimpanzee release project is the first in West Africa and the second of its kind in Africa after the HELP-Congo project in the Democratic Republic of Congo. This preliminary report concerns all 12 recently released chimpanzees from the

CCC sanctuary. Data presented here are based on *ad libitum* observations of GHC by the authors, including a volunteer veterinarian, Carole Geernaert.

## OBSERVATIONS

Four instances of GHC have so far been noted. The first instance was witnessed in the holding facility at the release site prior to the release, while the other three were observed post release. Only 3 adult males performed this social custom. One of these adult males, Albert, was involved in all cases observed.

Three of the 4 events presented the palm to palm form of GHC (see Fig. 2). However the first instance, which was recorded in the chimpanzees' holding facility prior release, did not consistently involve straight overhead extension of the arms, as the chimpanzees eventually sat face to face, clapping hands and bracing their elbows on their knees, whilst grooming one another's forearm (see Fig. 2). The wrist to wrist form (which then graded into a more relaxed form during the course of the same bout-see Fig. 3b) was observed only once (see Fig. 3a and Fig 3b). The latter event involved Albert and Rappa. The former supported the wrist of his subordinate grooming partner as illustrated in Figure 3. In effect, the non-palm to palm form of GHC was never observed.

Although details on specific bout duration of the clasping posture were not precisely recorded at the time of observation, bouts lasted for several minutes, two exceeded 10 minutes in duration. Three of the 4 instances of GHC followed a context of reunion between the males involved (in the presence of adult females in only one case) after several months of separation. We unfortunately have no record or recollection of the

context that preceded the first event, but we know it took place in the absence of adult females.

## DISCUSSION

This brief account describes GHC among recently released chimpanzees at the Chimpanzee Conservation Center in Guinea. It is clear that other instances of GHC may have gone unnoticed and that therefore the emergence was never witnessed. However, CCC staff members and researchers now all agree that this behavior occurs rarely, although all chimpanzees regularly engage in mutual social grooming, including adult females. Albert was involved in all instances of GHC witnessed so far. Both Albert and Rappa were rescued as infants, and although Robert was rescued at the age of 7, he had spent many years alone in captivity and had most likely been captured as an infant as well. It is, therefore, unlikely that any of these three males had prior knowledge of and experience with this behavior. One of them may have acquired it by interacting with another individual at the sanctuary or alternatively one of these three males may have innovated this behavior.

Continued data collection on frequency, propagation, i.e. individuals involved and initiating GHC, context prior to grooming, and duration of bouts, as well as form adopted, is underway. But preliminary data presented here suggest so far that GHC in this group may be 1) male-biased (however, so far adult females have had few opportunities to witness this behavior), 2) longer in its bout durations than reported elsewhere and 3) context-specific ensuing reunion events post lengthy periods of separation, characteristics which differ from other published reports concerning this social custom whether in captivity or in the wild.

**Table 1. List of the 12 released chimpanzees with details of their age and sex and observed individual frequency of GHC.**

Name	Sex	Approximate age in years (June 2008)	No. GHC events
Robert	Male	20	2
John	Male	17	
Orlando	Male	15	
Andrew	Male	8	
Albert	Male	13	4
Rappa	Male	11	2
Nana	Female	19	
Laurence	Female	9	
Mama	Female	16	
Lottie	Female	15	
Nanou	Female	12	
Zira	Female	14	



**Fig. 2. (left)** Palm to palm form of grooming hand-clasp among adults male chimpanzees from the Chimpanzee Conservation Center. Here the arm has been lowered, but the hand-clasping is still very clear. At the same time, a third male chimpanzee is sitting behind; grooming one of the males of the GHC dyad (© Carole Geernaert).

**Fig. 3. (below)** GHC among released male chimpanzees from the Chimpanzee Conservation Center: (a) sideways wrist to wrist form at the start of the bout with Albert facing the camera and obstructed from view by Rappa (© Chris Colin) and (b) later during the grooming bout, when Rappa took a rest from grooming, Albert continued to groom Rappa with his fingers/palm wrapped around Rappa's forearm and Rappa's left hand/wrist draped loosely over Albert's forearm. Contrary to McGrew et al.<sup>6</sup>'s findings from Mahale, Tanzania, in this case it was the dominant male who was supporting the arm of the subordinate male (© Tatyana Humle).



Indeed, based on 12 years of data at Yerkes, GHC bout mean duration was 71.4 sec. and presented no sex-bias<sup>4</sup>. Among Kanywara chimpanzees in the forest of Kibale, Uganda, GHC bouts last on average 47 sec. (Wrangham pers. comm.), while at Mahale bouts are significantly shorter lasting on average only 37 sec. in the M-group and 22 sec. in the K-group<sup>2</sup>. At both sites, both adult female and male individuals engaged in this behavior. In addition, no consistent specific context preceding GHC has ever been noted in the wild or in captivity, although de Waal<sup>16</sup> described an atypical succession of GHC involving an adolescent male and multiple partners after he was reintroduced into the Yerkes colony after a lengthy absence. This incident was interpreted as reflecting a sense of "belonging" to the group. Preliminary data presented here may corroborate

such a hypothesis<sup>6,16</sup> at least among males, but it is still too early to conclude anything on the potential symbolic significance of this social custom in the CCC's release group.

Finally, one of the forms reported here may differ from variations observed elsewhere (see Fig. 2) (variations of GHC have been described in detail<sup>17</sup>). We hope that future data and observations of GHC among this group of released individuals may shed further light on its function, its propagation (as it relates to rank<sup>6</sup>, experience and affiliation<sup>4</sup>) and its potential symbolic and cultural significance.

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