camcorder for several minutes, she threw it forward and transported it. During these actions, QL discovered that the belt could be expanded, and she repeatedly loosened it. The former is suggested to be the behavioral pattern of solo object play toward sphere-like objects, and the latter is that toward string-like objects (Matsusaka *et al.* 2015). As soon as QL succeeded to fully expand the belt, she started kicking the camcorder, which was then hanging down from her own mouth. The motor pattern 'kicking object' is partially equal to 'hang with legs pitterpat' used to respond to a play partner in a tree, or to 'rotate fruit', carried out lying supine on the ground for object play (Nishida *et al.* 2010). It is therefore implied that QL engaged in kicking the camcorder as object play.

Although captive chimpanzees show various motor patterns responding to the shapes of artifacts and their combinations (Ramsey & McGrew 2005), wild chimpanzees in Mahale are unlikely to find artifacts like the camcorder. Likewise, they are unlikely to find detached natural objects that physically combine a handful lump and string shape during their daily activities. Possible exception may be a set of a handful-sized fruit of ikolyoko (*Voacanga africana*) and the peduncle, which chimpanzees would encounter in a certain season of the year, and thus it cannot be denied that chimpanzees may play with them. Few researchers, however, have reported the play of Mahale chimpanzees with such the sets of the objects (Nishida *et al.* 2010; Matsusaka *et al.* 2015; Hosaka pers. com., Shimada unpublished data). QL's play behavior toward the camcorder is therefore not ordinary among wild chimpanzees, but a novel motor pattern that she invented by adapting her play to the lump (the camcorder's body) and string (the belt) combination. This observation suggests that the creative, cognitive, and physical ability of wild chimpanzees can combine two different established behavioral patterns, and modify them into a new motor pattern after intensive inspection of the novel artifact for several minutes.

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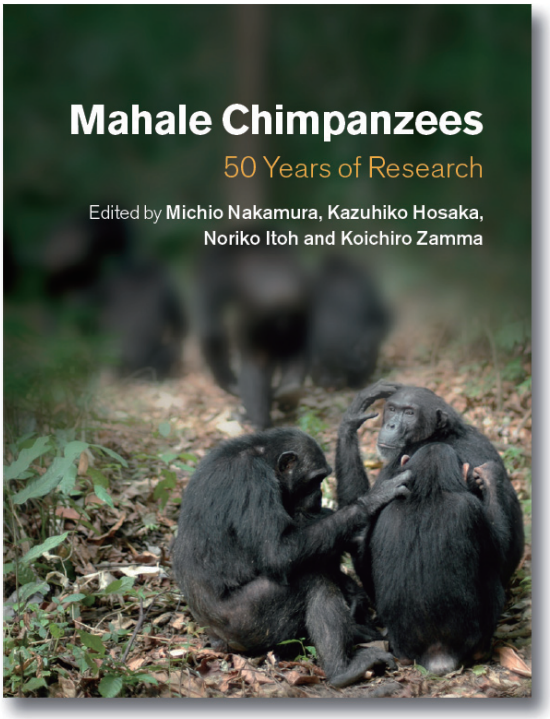
Mahale Chimpanzees: 50 Years of Research

Edited by Michio Nakamura, Kazuhiko Hosaka, Noriko Itoh & Koichiro Zamma



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Address: c/o Human Evolution Studies,
Dept. of Zoology, Faculty of Science,
Kyoto Univ., Kyoto, 606-8502, JAPAN
TEL: (+81)75-753-4093
FAX: (+81)75-753-4115
E-mail: pan.editor@gmail.com
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