

## The New Chimpanzee: A Twenty-First-Century Portrait of Our Closest Kin

By Craig Stanford

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Craig Stanford, primatology professor at the University of Southern California, has a track-record of producing engaging and informative books about primates. Now comes his latest, and its subtitle tells us what it entails: A synthetic look at new findings about wild chimpanzees from the last two decades, across the board. Such an update is due, as field chimpology is in its sixth decade, and there are more habituated populations (12) and communities than ever. He delivers as promised: Of the 493 references in the bibliography, three-quarters come from 2000 onwards, and 41% come from 2010 onwards.

The 10 chapters cover the pertinent topics, after the first one devoted to a description of what is involved in studying wild chimpanzees and a history of the early days of field studies of *Pan troglodytes*. That is, sociality, diet, competition, collective agonism, sex and reproduction, ontogeny, hunting, culture and elementary technology, kinship, and implications for human evolution. Each chapter has super-scripted links to endnotes (12 pp). There are nine illustrations, but no photographs. Besides topics, the 10-page index includes individual researchers and chimpanzees, and study-sites.

Three of the chapters deserve special attention, as two of them reflect the author's committed interest in the topic. Previous books (e.g., Stanford 1999) reflect his longstanding interest in chimpanzee hunting, especially of red colobus monkeys. He focusses on four hypothesized answers to why chimpanzees hunt: for calories, protein, fat and trace nutrients. New data support the first three but not the fourth. (After all, carnivory is only one kind of faunivory, and invertebrates can provide the trace elements just as well as vertebrates.) He also outlines the factors that influence hunting, from forest structure to political and social aspects. Twenty-first century findings support the 'food-for sex' effect, whereby males share food with females who in the long-run favor those males in mating. However, no new evidence has emerged for cooperative hunting of the kind claimed for Tai's chimpanzees, so they apparently remain unique in that regard.

The extent to which chimpanzees provide a model for inferring the evolution of the ape and human lineages since the Last Common Ancestor remains a much-debated topic. Stanford (2003) has weighed in on this before,

especially with regard to Owen Lovejoy's rejection of any utility of living apes for understanding *Ardipithecus ramidus*. Stanford robustly rebuts Lovejoy's arguments (which is not surprising, as 'Ardi' is too young a taxon to be a candidate for the LCA). In contrast to reprising that well-trodden argument, he gives a more negative take on what apes might provide in the interpretation of purported cave interments of *Homo naledi*.

The author's chapter on culture cites progress in cultural primatology, especially new findings from field experimentation and primate archaeology. Important are recent studies of sub-cultures within populations, that is, comparing the habitats of neighboring communities of chimpanzees. However, Stanford restricts himself to material culture based on elementary technology, ignoring non-subsistence cultural traditions, e.g., in grooming or vocalizations. Meanwhile, exciting new evidence of collectivity is emerging, such as community-wide contrasts in prey choice (Hobaiter *et al.* 2017): Species of duiker at the same population densities are heavily hunted by one group but ignored by neighbours.

Stanford is especially good about citing the source of findings, both by authors and their institutions. The latter gives an interesting opportunity to see where recent field work on wild chimpanzees is based. Of the 79 institutions named, four stand out above all others (in order of frequency): Max-Planck-Institute for Evolutionary Anthropology (Leipzig), University of St Andrews (Scotland), Kyoto University and Harvard University. No other is mentioned more than six times.

Of course, there are some slip-ups. He states that chimpanzees have a 1 million-year history and that *Homo sapiens* dates from 300,000 years ago, both of which claims require evidence not cited (p. 1). His definitive table and map of chimpanzee study-sites older than 15 years omits Kalinzu (Hashimoto *et al.* 2001) (p. 12–13). He states that orangutans do not make nests, when he probably means to say gibbons (p. 33). He says that baboons were the first nonhuman primates studied in nature, somehow forgetting the earlier, pioneering work on Japanese macaques (p. 46). He lists only 17 species of mammal preyed upon by chimpanzees, while the actual number is much higher, perhaps because his sources are pre-2000 (p. 133). (Newton-Fisher 2014, listed 35.) He says that

besides humans there are no other mammalian bipeds, somehow forgetting about the terrestrial macropods (p. 194). But these flaws are few and trivial oversights in a work of this encompassing scope.

Perhaps the epigram best summing up the book is the cliché: “The more things change, the more they remain the same.” At the turn of the millennium, we knew not of the exploits of the savanna chimpanzees of Fongoli, Senegal: Their hunting skewers, cave-use, cooling-off baths, nocturnal travel, or dealing with bushfires. Yet, even with more than 120 study-sites, chimpanzee fission-fusion structure remains uniform, despite group sizes that vary by an order of magnitude. Good reasons for field chimpology to carry on, indeed!

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