



---

The Pregnancy Sign in Savannah Baboons

Author(s): Stuart A. Altmann

Reviewed work(s):

Source: *The Journal of Zoo Animal Medicine*, Vol. 4, No. 2 (Jun., 1973), pp. 8-12

Published by: [American Association of Zoo Veterinarians](#)

Stable URL: <http://www.jstor.org/stable/20094180>

Accessed: 19/10/2012 13:28

---

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at <http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



American Association of Zoo Veterinarians is collaborating with JSTOR to digitize, preserve and extend access to *The Journal of Zoo Animal Medicine*.

<http://www.jstor.org>

## THE PREGNANCY SIGN IN SAVANNAH BABOONS\*

Stuart A. Altmann\*\*

In a recent article, Kerber and Flatt<sup>(4)</sup> reviewed methods of diagnosing pregnancy in old-world primates. However, they did not mention that there is a simple indicator of pregnancy in Savannah baboons, which we shall refer to here as the "pregnancy sign," namely, a change from black to red in the paracallosal skin. This change is clearly visible both in the laboratory and in the field.

The area of skin to which we refer lies immediately dorsal and lateral to each ischial callusity (Fig. 1). It is hairless, roughly elliptical, and, unlike the callosities, is not especially tough. It is present in both males and females, but does not change color in adult males. So far as we are aware, there is no established anatomical name for this area; we call it the paracallosal skin (Altmann and Altmann 1970). It is not part of the sexual skin, which surrounds the vaginal and anal orifices and is part of the perineum; see Fig. 2.

Pigmentation of the paracallosal skin, with a change from black to pinkish red, is an indication of pregnancy<sup>(2,3)</sup>. This change has been observed by us in yellow baboons and anubis baboons (Papio cynocephalus and P. anubis), and by Gilbert and Gillman<sup>(2,3)</sup> in chacma baboons (P. ursinus).

According to Gilbert and Gillman<sup>(1)</sup>, this reddening during early pregnancy

pregnancy extends to the perianal and perivaginal areas in chacma baboons and is intense scarlet rather than pink. We have not noticed any reddening of these areas of the perineum in yellow baboons: the perineum retained its normal pink coloration.

Gilbert and Gillman<sup>(3)</sup> indicate that in chacma baboons, the color changes take place in the second week after the expected time of the missed menstruation. In the field, menstruation is not always visible, and so we time the female's menstrual cycle from the day that detumescence of the sexual skin begins. We have detected the pregnancy sign in yellow baboons as early as the 21st day after the onset of detumescence, corresponding to about the 9th day after the expected date of the missed menstruation, at which time a slight red tinge was noticed on the dorso-medial portion of the black paracallosal skin. This red coloration was more distinct a week later.

In the yellow baboon, the paracallosal skin remains pinkish red until sometime before parturition, when it becomes bright scarlet. In the field we have noticed this change to scarlet 26-90 days before parturition and most often in the second month before birth. There is no mention of this color change in the literature on chacma baboons, and so this may be another species difference.

Following parturition the paracallosal skin gradually turns black again. Generally, the skin has turned from bright red to dull red after 2 weeks, and to dull black after 5 weeks. In yellow baboons the dorso-medial edge is usually the last part to repigment. In old, multiparous females, repigmentation may not be completed: small areas on the paracallosal skin may re-

\*Research Supported by NSH Grant No. GB-4415 and its predecessors, and NIH Grant No. FR-00165. This article is reprinted, with minor modifications, from an article in *Laboratory Animal Digest*, 6(3):6-10, 1970, by permission of the editor.

\*\*Professor of Biology & Anatomy University of Chicago.

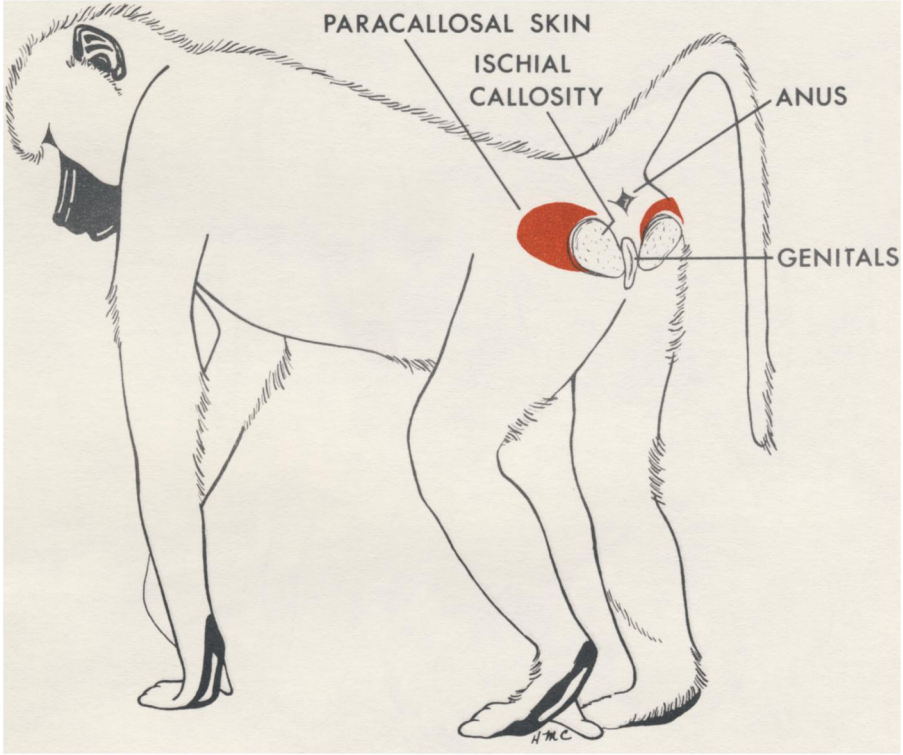


Fig. 1

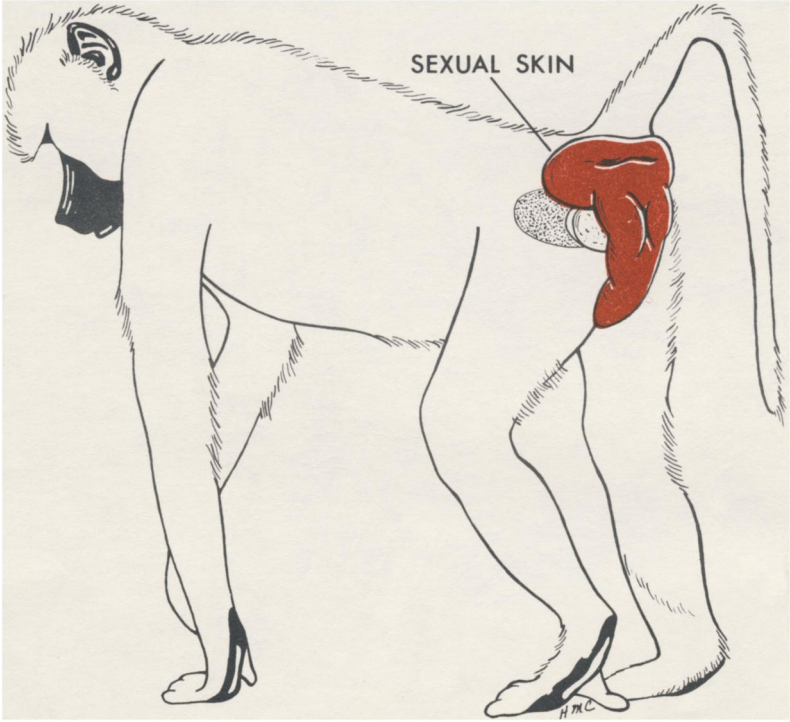


Fig. 2

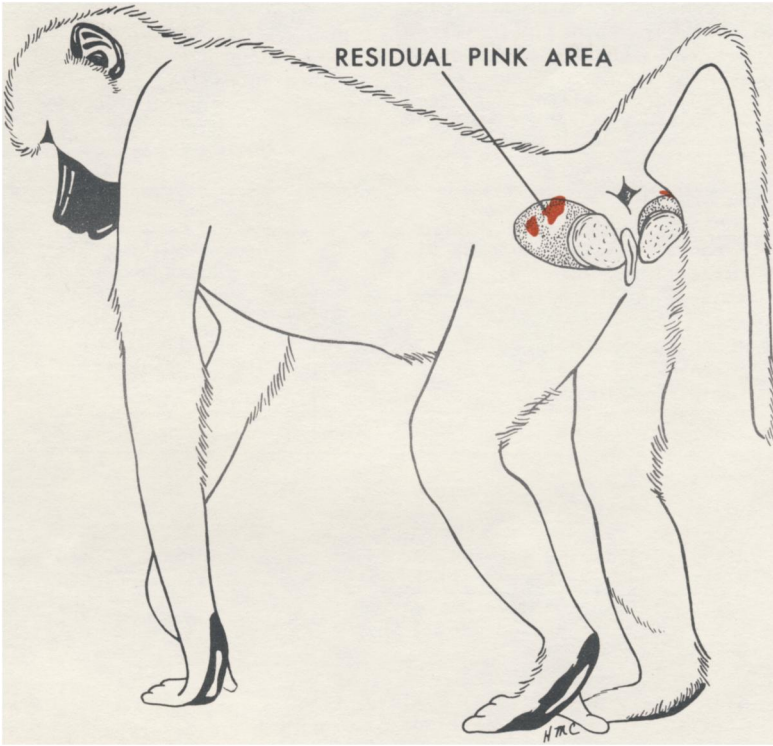


Fig. 3

main pink even after the long postpartum amenorrhea (Fig. 3).

Kerber and Flatt<sup>(4)</sup> have emphasized that lack of sexual skin swelling is not a definite sign of pregnancy. The converse is also true: presence of sexual skin swelling is not a definite sign of nonpregnancy. This is so because the sexual skin of some baboons swells slightly during pregnancy. In some pregnant chacma baboons, the sexual skin swells during the 3 to 4 weeks following the reddening of the paracallosal skin. It may reach a diameter half of that achieved at the height of turgescence in the estrous female. This pregnancy swelling of chacma baboons is characterized by its ex-

treme vascularity, by its softness, and by the very fine texture of the skin<sup>(3)</sup>. In other chacma females, there may be little or no swelling during pregnancy<sup>(3)</sup>.

An anubis baboon female that we observed on the slopes of Ngurdoto Crater, Tanzania, had red paracallosal skin and a sexual skin swelling that was near maximum size. Our observations on anubis baboons are not extensive enough to know whether or not a large pregnancy swelling is characteristic of the species. In yellow baboons, sexual skin swelling during pregnancy is uncommon but not unknown<sup>(1)</sup>.

The differences between chacma and yellow baboons in external changes during pregnancy are summarized below:

YELLOW BABOONS	CHACMA BABOONS
<ol style="list-style-type: none"> <li>1. Paracallosal skin becomes pink</li> <li>2. Paracallosal skin turns scarlet about 2 months before parturition.</li> <li>3. No change noted in color of perineum.</li> <li>4. Swelling seldom seen in pregnant females.</li> </ol>	<ol style="list-style-type: none"> <li>1. Paracallosal skin becomes scarlet.</li> <li>2. No change noted in color of paracallosal skin.</li> <li>3. Perineum becomes scarlet.</li> <li>4. Small sexual skin swelling which disappears 16-17 days before parturition.</li> </ol>

#### REFERENCES

1. Altmann, S.A. and Altmann, J. 1970 Baboon Ecology: African Field Research. S. Karger, Basel, and University of Chicago Press, Chicago.
2. Gilbert, C. and Gillman, J. 1945. The reactions of the perineum of the pregnant baboon with special reference to some aspects of the hormonal regulations of pregnancy. S. Afr. J. Med. Sci. 10, Biol. Suppl.:51-55.
3. Gilbert, C. and Gillman, J. 1951. Pregnancy in the baboon (Papio ursinus). S. Afr. J. Med. Sci. 16:115-124.
4. Kerber, W.T. and Flatt, R.E. 1969. Pregnancy Diagnosis in Old World primates. Lab. Anim. Dig. 5(1):10-14.