cow 4 hr. 33 min. before she would accept service, and during the last 1 hr. 44 min. of this period, sixteen attempts to serve were made. One service only was allowehr. but the bull's interest continued for a further 9 hr. 37 min. In the second instance, the bull detected the cow 10 hr. 24 min. before service was allowed. The cow then permitted service twice in 16 min., and the bull continued to attempt service for a further six hours; in fact, serving the cow once again 2 hr. 12 min. after the preceding services, when the cow was no longer truly receptive.

These results are of interest, for they agree with field-observations that African cattle owners may successfully walk cows several miles 'to the bull', but differ from previous scientific work in some respects. The observations suggest that while the duration of œstrus is short in the Zebu at Entebbe, the period of pro-œstrus is much longer than the 44–63 min. reported in Kenya[2], the behaviour of the female remaining at stage 1 and 2 of œstrus[3] for a considerable period before and after œstrus. These results are more in agreement with South African workers[4], who found the mean duration of onset of œstrus in indigenous Afrikander cows to be 7·46 hr. (range 0–24 hr.), and the average time of the disappearance of œstrus 5·73 hr. (range 0–18 hr.).

The proportion of animals coming into œstrus during darkness (40 per cent) is very similar to that reported in Kenya[2] (31·3 per cent, allowing one-third for 1 hr. difference between 0600 and 0700 hr. within the period of observation, 0600–0900 hr.). It has been reported that at the Messina Experiment Station in South Africa[5], 90 per cent of œstrus commenced between midnight and 0900 hr. This compares with 45·3 per cent in Kenya[2] for the identical time. On the other hand, in Sweden[6] it has been reported that 43 per cent of œstrus commenced during daylight and 57 per cent during darkness.

The duration of œstrus in the above two observations is very similar to that reported from Kenya[2,7] and shorter than that reported for South Africa[4] (7·88 hr., range 1–14 hr., indigenous Afrikander), or in the Philippines[8], where a mean of 13·3 hr. (range 5·5–22·4 hr.) was recorded for native cattle.

There are marked climatic differences between Entebbe and the sites of the stations where the observations referred to above were made. The climate at Entebbe (altitude 3,780 ft.) is very equable, with a well-distributed rainfall (average 59 in.), and humidity frequently high due to the proximity of Lake Victoria[9]. The latitude of 0° 02′ N. gives little variation in length of daylight.

It is hoped to extend and report these findings in further detail at a later date.

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March 17.

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Reaction to Light of Iris-Chromatophores

Field workroom observations in this Sanctuary show that intensity of daylight controls reaction of chromatophore cells in irises of the male duck *Netta erythropthalma* (Wied.). A minor field characteristic of the male African pochard is the brilliant vermilion iris—a feature easily discernible with binoculars at up to about a hundred yards. The female's irises are umber.

Timed observation revealed, on taking the male from a lightproof box in a daylit workroom to the window:

0 min.	Irises dull yellow ochre
1 ,,	First suggestion of red suffused: no noticeable pattern
2·5 ,,	Irises much warmer and darker
3 ,,	Red area extends; grows stronger
4 ,,	Irises nearly all red
5 ,,	Irises 'normal'. Brilliant vermilion suffused over dull ochre background

The radical reaction of chromatophores occurs simultaneously in various parts of the iris. When colour-change is apparently complete there remain pinpoints of ochre. The action commences before pupils have completely contracted.

Further field-work is in progress, and laboratory examination of the eyes will be carried out. Other members of Anatidae are being subjected to examination.

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Two New Mutations in the Syrian Hamster

The Syrian hamster, *Mesocricetus auratus*, introduced to the laboratory by Adler and Theodor[1] in 1931, is a golden-brown rodent with pale cream belly fur and two characteristic throat flashes. Melanic pigment darkens the skin of the ears and is present about the genitals in both sexes (in the region of the vulva and anus in females, and in the scrotum and spots on the prepuce in males). It is to be expected, as increasing numbers of hamsters are bred, that mutant types will appear. This note records the occurrence of two new mutations.

Cream (proposed symbol *e*). The cream is devoid of melanic pigmentation in the fur but retains the skin colouring present in the ears, genitals and hip-gland. The eyes are dark. The coat colour is a rich creamy yellow, lighter on the belly than on the dorsum. Growth, viability and fertility are comparable to the normal. Reciprocal matings of cream × normal produced a normal F_1 and an F_2 segregation of 154 normal and 58 cream ($\chi_1^2 = 0{\cdot}629$; $P = 0{\cdot}5 - 0{\cdot}3$). An autosomal recessive is apparently involved with normal penetrance and viability.

Ruby-eye (proposed symbol *ru*). The coat colour of ruby-eye animals is distinctly weakened. Both black and yellow are affected; the black to bluish and the yellow to fawn. The skin colour is appreciably paler and develops much later in the young animal. New-born animals display an annulus of pigment in the iris, clearly visible beneath the closed eyelids. When the eyes open, the pupil possesses a ruby mien in most but dull lights. As adults, the ears are faintly pigmented while the genitals are