

alkaloid is given in a single large dose or in repeated doses of 1/20 the acute MLD over a period of 40 days. Caution is indicated in the use of repeated doses in humans.

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Different Potentialities of Male and Female Skin in Reeves Pheasants.*

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The extraordinary similarity of feathers produced by male and female fowls after gonadectomy has led to the idea that the skin in the 2 sexes is potentially the same. This inference seems to be supported by the effects of endocrine injections and the results of skin transplantation. It is further strengthened by the fact that, although between different races there is much variation in response to endocrines, the 2 sexes of any one race react rather consistently. Nevertheless, there are frequently detectable, though generally slight, differences between feathers produced by birds that were originally male and those that were originally female. This suggests that the genotype of the male and that of the female may condition slightly different responses when all other factors are held constant.

A search for some form in which this problem could be approached more satisfactorily than in the common fowl revealed that the Reeves pheasant (*Syrnaticus reevesi*) is very satisfactory for the purpose. It is a species which breeds true to a standard type and has a plumage that is distinctive and varied, with none of the feathers of one sex duplicated by those of the other. The birds are rather expensive when purchased from dealers, but may be raised from eggs with relative ease.

Homoplastic skin transplantation immediately after hatching was chosen as the method affording the most delicate and dependable test. The procedure has the disadvantage of requiring a wait of several months between the beginning of an experiment and attainment of the final result. It also involves certain losses due to incompatibility of tissues of donor and host. But in many cases no incompatibility is revealed and the grafted skin appears to behave

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normally in every respect, functioning as an integral part of the host. Plumage grown on such grafts provides a record of the reaction of feather follicles to the normal body fluids of the host, undisturbed by the shocks and readjustments accompanying gland removal or implantation and the fluctuations and uncertainties incident to hormonal injections. This advantage gives the method superiority over most other techniques available for the present study.

As yet the skin of only one region, the rump, has been adequately tested. Eleven specimens have been such as to yield pertinent data on the 4 types of donor-host combinations: male graft to male host, male to female, female to female and female to male. When donor and host were of the same sex, no deviation from the plumage normal to the sex was detected. It may be mentioned, however, that the females in this group were inadvertently lost before completely adult plumage had been attained. The combinations in which donor and host were of different sex resulted in 2 new types of feathers. There are consequently 4 different kinds of feathers that may be produced by skin of the rump in these pheasants. Their main features may be indicated briefly:

(1) If the skin has the genotype of the male and develops from the time of hatching in an environment of male hormones and tissue fluids, the feathers are marked by a black border, a broad orange zone and a black proximal area.

(2) If the genotype is male and the environment female, the feathers have a small terminal black spot or spangle which is surrounded and followed by a creamy area with slight olive green cast, which is followed in turn by an irregular dark band and a zone of brownish olive with a dark center.

(3) When both genotype and environment are female, the feathers have a dark olive brown or dull black center which comes to a point just proximal to the tip and is surrounded by a broad grayish border finely streaked and mottled with dull yellow.

(4) With genotype female and environment male, the feather is irregularly blotched with black, pale yellow and a little white.

Each of these types is quite distinct from the other 3, both in color and in markings. Data indicate that in this species the skin tissues are not 'equipotential', at least after hatching, inasmuch as in the production of feathers the follicles in the 2 sexes respond very differently to male and female hormonal complexes.