sible for its tolerance to ouabain, cymarin, and coumingine HCl.

Summary. 1. The parotoid secretion of the spadefoot toad *(Scaphiopus holbrookii holbrookii)* has no digitalis-like effect, but it stimulates the isolated rabbit's intestines and the isolated guinea pig's uterus. 2. The spadefoot toad, like the nebulous toad, *Bufo valliceps,* is definitely more resistant to ouabain and cymarin, and only slightly more resistant to coumingine HCl, as compared with the Leopard frog, *Rana pipiens.* 3. The tree frog, *Hyla cinerea cinerea,* is less susceptible to cymarin than the frog, but almost equally susceptible to ouabain and coumingine HCl.

11630

Toxicity of Saline Extracts of Rabbit Uterus After Estrogen Administration.*

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In a previous communication it was demonstrated that saline extracts of full term or immediately post-partum rabbit uteri contain a toxic substance lethal to other rabbits when injected intravenously in doses of 6 cc or less.[1] It was also reported that this toxic substance possesses some physiological properties similar to those of histamine.[2]

Among the consistent characteristics of a full term or immediately post-partum rabbit uterus containing the toxic substance, there are: (1) increased color, of vascular origin;[3] (2) increased volume of the entire uterus;[4] and (3) increased amounts of intercellular fluid, or edema.[5] Similar uterine changes after administration of estrogens to non-pregnant animals have been adequately demonstrated by several investigators. Moreover, it has been demonstrated, at least in other species, that estrogens are present in both blood and urine in increasing amounts as pregnancy progresses.[6] The presence of high concentrations of estrogens in the final stages of pregnancy, and the

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1 Krichesky, B., and Pollock, W., *Science,* 1940, **91**, 410.

2 Krichesky, B., and Pollock, W., *Am. J. Physiol.,* 1940, in press.

3 Markee, J. E., and French, H. M., *Anat. Rec.,* 1934, **58**, Suppl., p. 79.

4 Markee, J. E., and Andersen, E., *Anat. Rec.,* 1934, **58**, Suppl., p. 78.

5 Krichesky, B., unpublished.

6 Frank, R. T., *Glandular Physiology and Therapy,* Chap. 16, Amer. Med. Assn., Chicago, 1935.

similarity of uterine changes at term and after administration of estrogens, suggests the possibility that the primary female hormone may bear some relationship to the presence of a toxic substance in uterine tissues. For these reasons it was considered advisable to determine if the toxic factor can be recovered from uteri of non-pregnant rabbits previously injected with estrogens.

Ten adult non-pregnant rabbits were treated as follows: (1) 4 animals received theelin; (2) 3 received Progynon B; and (3) 3 received stilbesterol. These hormones were given subcutaneously in doses indicated in the table. Forty-eight hours after the last injection the animals were sacrificed, the uteri excised, and extracts prepared as described in an earlier communication, so that one cc of extract represented 0.5 g fresh uterine material.[2] Four non-pregnant untreated animals provided uteri serving as controls.

TABLE I.
Toxicity of Saline Extracts of Uteri from Oestrogen Treated Non-pregnant Rabbits.*

Animal No.	Material injected	Dosage per injection	No. of injections	Wt of excised uterus g	Avg lethal dose cc
1T	Theelin	100 I.U.	9	10.2	0.5
2T	"	100 "	7	9.5	0.4
3T	"	100 "	5	11.1	0.7
4T	"	50 "	8	9.2	0.9
1B	Progynon B	100 "	9	11.0	0.4
2B	" "	100 "	9	9.7	0.7
3B	" "	50 "	7	9.8	0.5
1S	Stilbesterol	0.5 mg	10	9.8	0.2
2S	"	0.5 "	7	12.0	0.5
3S	"	0.5 "	5	10.2	0.3

*See text for description of controls.

Toxicity of each extract was determined by intravenous injection into each of 3 rabbits weighing between 2.2 and 2.6 kg. The lethal dose, as given in the table, is the average dose required to kill the 3 test animals. Injections were made slowly, at the rate of 0.3 cc per minute, until the animal began to struggle. If the animal succumbed within 2 minutes the amount injected was considered a lethal dose. Each control extract, prepared from normal untreated non-pregnant rabbit uterus, was injected into 2 rabbits. These animals were given a single continuous injection of from 12 to 20 cc with no fatalities.

The data contained in the table indicate that in every case uteri from estrogen-treated animals contained the toxic factor. Extracts from these uteri were more toxic than similar extracts from full term or immediately post-partum uteri.[2] These results indicate that in the rabbit estrogenic material is concerned in uterine mobilization or production of the lethal factor.