

has never found any eggs on the hairs of the legs of the goats he has examined."

During my recent survey of Jhelum district in the Punjab and Kulu valley I came across the eggs of *H. crossii* attached to the hair on the back of the goats of the 'Barbary' breed. The eggs were invariably found on the underside of the hair where they were protected from direct contact with environmental factors. Like *H. lineatum* and unlike *H. bovis* the eggs are attached in rows to a single hair, each egg being at an angle of about 45° to the axis of the hair. The egg is of a dull yellowish-white colour and the surface smooth and shining. It is ovoid in shape and slightly broader at the base than at the tip. The average length of the egg is 0.75 mm. and the average breadth at its greatest thickness 0.2 mm. The tip of the egg has a slight transverse ridge, along which the egg splits during hatching. The clasp with which the egg is attached to the hair is oval in outline. Its most characteristic difference from the egg of *H. lineatum* and *H. bovis* is the absence of a petiole or stalk between the clasp and the egg proper (Fig. 1).

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<sup>1</sup> Patton, W. S., *Ind. J. Med. Res.*, 1922, **10**, 573.

<sup>2</sup> Soni, B. N., *Ind. J. of Vet. Sci. & Anim. Husband.*, 1939, **9**, 367.

<sup>3</sup> —, *Ibid.*, 1940, **9**, 280.

<sup>4</sup> —, *Ibid.*, 1940, **10**, 291.

#### ON THE PRESSOR EFFECT OF ADRENALINE POWDER

THE rotation of a sample of adrenaline powder is believed to indicate the purity of this compound; but many samples showing lower rotation with the sodium line are being found on physiological assay on decapitated cats to correspond to almost 100 per cent. of the powder (sample No. 1) which has satisfied all the purity tests as described in the British Pharmacopœia. Again some samples of natural origin though not so pure from B.P. tests, offer better response so far as the rise of blood pressure

in animals are concerned. A particular synthetic product (sample No. 4 in the table) although rotates the plane of polarisation of light to a considerable degree was found to be much inferior in biological strength.

TABLE I

Sample	Origin	Melting point	Specific rotation B.P. Method	Assay	
				Chemical <sup>1</sup>	Bio-logical
1	Synthetic	210° C.	— 52.2°	100%	100%
2	Do.	207-208	— 48.3	99	100
3	Do.	207	— 46.8	101	100
4	Do.	207	— 49	95.5	88
5	Do.	201	— 49.5	101.0	100
6	Natural	—	—	—	106
7	Do.	199-201	— 43	98	111
8	Do.	Indifferent	Too coloured solution	75	110

All these tend to raise two questions—one is that a powder equivalent in biological potency to any standard adrenaline may be of inferior quality from purity tests. This suggests that a more elaborate and detailed criteria should preferably be established for the evaluation of the properties of an adrenaline powder that be suitable for preparing Liquor Adrenalinæ Hydrochloride. The other point is whether a powder from natural sources as commercially available contain substance or substances (even in trace) that may produce a synergistic effect on the sympathomimetic action of the drug. Work in this Laboratory is in progress to find out whether the fractions during the course of extraction of the active principle from suprarenal glands exert any synergic effect on the pressor activity of the final purified powder.

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<sup>1</sup> Folin, Cannon and Denis, *J. Biol. Chem.*, 191, 133, 479.