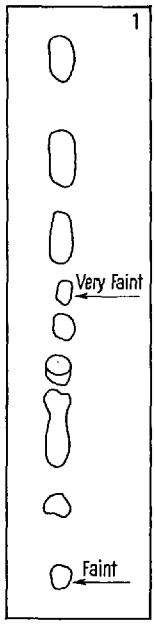

Fig. 1. The free amino acid pattern of the tail of a freshly caught tadpole.

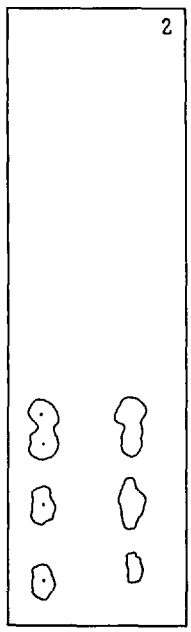

Fig. 2. After 5 days of complete starvation.

pair (or two pairs) of tails, one of which was regressing and the other non-regressing. Thus the chromatograms of tails at different stages of regression could be compared and a marked similarity was noticeable. However, after a few days of starvation the number of amino acids decreased very much (see Figures). Thus, unlike the snail[14] *Limnaea*, where there is a 'stubborn' free amino acid pattern, the tadpole tail has a very labile pattern which depends on the feeding conditions.

Certain attempts were made to compare the amino acid patterns of tails and other non-regressing tissues (such as head) and a very slight difference was noted.

Résumé. Les acides aminés libres dans la queue du têtard *Bufo melanostictus* subissent une perte remarquable après l'inanition, comme ce n'est pas le cas chez les escargots (gastéropode) *Limnaea*. Mais, au contraire, ils ne subissent aucune altération pendant la métamorphose, et ce résultat est bien différent de celui signalé par WEBER avec *Xenopus laevis*.

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PRO EXPERIMENTIS

Thin Layer Chromatography of 2,4-Dinitrophenylhydrazones of Aliphatic Carbonyl Compounds

The separation and identification of 2,4-dinitrophenylhydrazones of formaldehyde and other C_2 and C_3 carbonyl compounds has been tried by paper chromatography, adsorption chromatography, counter-current distribution, or liquid–liquid partition. These methods are time-consuming and tedious, and good results have generally been obtained only in cases with two components.

During researches on the oxydation products of some 10-(dialkylamino-alkyl)-phenothiazines, we had the problem of separating and identifying some carbonyl compounds with 1–3 carbon atoms, isolated as 2:4-dinitrophenylhydrazones.

We have used thin layer chromatography for the separation of 2:4-dinitrophenylhydrazones of formaldehyde, all C_2 and a few C_3 carbonyl compounds. These separations are fast and quite good for all the compounds tried. The spots are well separated and sharp when nitrobenzene is present in the eluent mixtures.

We have tried several adsorbents, such as magnesol, silicagel, polyamide and alumina at varying pH, and found neutral alumina ('Woelm' for thin layer chromatography) best.

In the Table the Rr values are given, the derivative of acetone is assigned the value 1. We are pursuing the research with various C_3 and other low molecular weight carbonyl compounds of biological interest.

2,4-Dinitrophenylhydrazone of	Eluents I	II
Formaldehyde	0.80	0.71
Acetaldehyde	0.94	0.88
Glycolaldehyde	0.06	0.04
Glyoxal	0.67	0.10
Glyoxylic acid	0.01	0.01
Propionaldehyde	0.98	0.94
Acetone	1.00	1.00

I: Cyclohexane/nitrobenzene (2:1)
II: Hexane/chloroform/nitrobenzene (8:2:1)
Elution time: 1 h

Zusammenfassung. Für die Trennung und Identifizierung niedermolekularer Carbonylverbindungen eignet sich die Dünnschichtchromatographie ihrer 2,4-Dinitrophenylhydrazone auf Aluminiumoxid mit Nitrobenzol als Bestandteil der Entwickler.

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Istituto di Chimica Farmaceutica e Tossicologica dell'Università di Torino (Italy), January 4, 1963.