

KRUEGER e BALDWIN¹, nel 1937, sarebbero riusciti ad isolare da filtrati batterici tale precursore, o almeno un materiale che lo contiene, per quanto tale estrazione non abbia sempre dato risultati regolari. Mentre in filtrati di germi lisati con penicillina o rotti a mezzo di ultrasuoni non era possibile trovare tale sostanza, recentemente invece KRUEGER è riuscito ad ottenere risultati significativi, servendosi di materiale ottenuto da germi in attiva riproduzione, lisati a mezzo di lisozima².

Le ricerche riferite sull'azione del calore, che saranno pubblicate altrove in estenso, sembrano indicare l'esistenza in *Micrococcus pyogenes* lisogeno di un componente intracellulare, corrispondente al precursore fagico di KRUEGER, e, come questo, sensibile al riscaldamento, e forse identificabile, o, almeno in stretta relazione, col probacteriofago.

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Zusammenfassung

Die Erwärmung von lysogenen Staphylokokken auf 45°C während 20 min verhindert die Wirkung des thermischen Schocks sowohl auf die Bakteriophagen-Lysis wie auf diejenige bei niedriger Temperatur. Wird hingegen die Behandlung bei 45°C nach dem Schock durchgeführt, so bleibt sie wirkungslos.

Diese Ergebnisse lassen vermuten, dass in lysogenen Staphylokokken eine Komponente vorhanden ist, die den phagischen Präkursoren von KRUEGER entpricht mit gleicher Wärmeempfindlichkeit. Identität mit dem Probacteriophagen ist möglich.

¹ A. P. KRUEGER e D. M. BALDWIN, Proc. Soc. Exp. Biol. Med. 37, 393 (1937).

² A. P. KRUEGER, T. COHN, P. N. SMITH e C. D. MCGUIRE, U. S. Naval Med. Bull. 48, 510 (1948).

On the Pigment of *Chaetomium* sp., the Cause of Green Stain of Heart-Wood in *Fagus sylvatica*

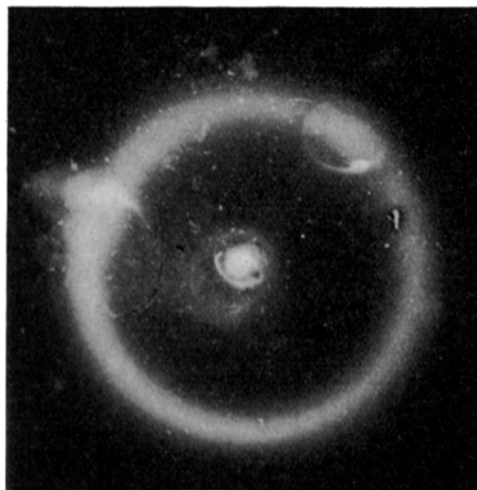
An ivy green coloration of the "false" heart-wood is not infrequently observed in the beech (*Fagus sylvatica* L.) from Carpathia. The wood is infected sometimes by *Ceratostomella fagi*¹, but the fungus responsible for the stain belongs to the genus *Chaetomium*. The latter species gave positive BAVENDAMM's reaction when tested on tannic acid medium for the presence of oxidases (Figure).

An alcoholic extract from a mass of perithecia of *Chaetomium* sp., gave a transient green colour which changed eventually to a brownish orange tint within a week. When preserved in an airtight dark glass, the solution did not change colour. The green-coloured extract showed a brightly green fluorescence under ultraviolet rays. The pigment is extractable also with ether and carbon disulphide, while chloroform and benzene do not dissolve it. The solution becomes colourless when treated with strongly oxidizing agents (H₂O₂). In order to obtain larger amounts of crude pigment, a mass of perithecia was extracted in a Soxhlet extractor with ethyl ether. The pigment obtained in this way is oily in consistence and corresponds in colour to the number 274

¹ W. Loos, Arch. Mikrobiol. 3, 370 (1932).

(yellow) of SÉGUY¹. With FeCl₂ it gives a dark greenish brown colour.

A chemical investigation of the pigment (extracted with ether) indicated that the substance is related to



toluquinol². Its properties much resemble those of the flavoglaucin which was isolated from the mycelium of the fungus *Aspergillus glaucus* LINK ex FR. by GOULD and RAISTRICK³. The naturally oxidized pigment, brownish orange in colour, is comparable with another pigment, the auroglaucin, isolated likewise from *A. glaucus* by the same authors³. The colouring matters occurring in the body of *Chaetomium* sp. evidently play an important part in the life of the fungus,—like the original flavoglaucin and auroglaucin of *A. glaucus*—and constitute an oxidation-reduction mechanism in the organism. They may be considered as major end products of the carbohydrate metabolism⁴. The fungus *Chaetomium* sp. sometimes causes a red coloration of the wood, or, in culture, of the medium on which it is growing. This deep red discoloration might be due to two other pigments related to flavoglaucin and auroglaucin, namely erythroglauzin and rubroglauzin⁵, the latter being only a mixture of erythroglauzin and physcion.

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Zusammenfassung

Aus den Pilzfruchtkörpern von *Chaetomium* sp. ist ein Farbstoff isoliert worden, dessen Identität mit Flavoglaucin vermutet wird und welcher leicht in einen anderen, dem Auroglauzin nahestehenden Farbstoff übergeht.

¹ E. SÉGUY, Code universel des couleurs (P. Lechevalier, Paris 1936).

² J. H. CRUICKSHANK, H. RAISTRICK, and R. ROBINSON, J. chem. Soc. 1938, 2056.

³ B. S. GOULD and H. RAISTRICK, Biochem. J. 28, 1640 (1934).

⁴ G. T. JOHNSON and B. S. GOULD, Mycologia 45, 172 (1953). — J. W. FOSTER, Chemical Activities of Fungi (Academic Press Inc., New York, 1949), p. 174.

⁵ J. N. ASHLEY, H. RAISTRICK, and T. RICHARDS, Biochem. J. 33, 1291 (1939).