

Oxygen Uptake of Various Reaction Systems

Reaction	$\mu\text{l. O}_2/\text{hr.}$
1. Catechol + Tea oxidase	198
2. Reduced cytochrome C + Tea oxidase	0
3. " " + Succinate + Tea oxidase	3
4. " " + Succinate + Heart muscle oxidase	46
5. " " + Succinate + A succinic dehydrogenase preparation	9
6. Reaction 5 + Tea oxidase	11

The succinic dehydrogenase preparation used in the last two reactions had comparatively only a slight cytochrome oxidase activity. If tea enzyme had consisted of cytochrome oxidase it should have induced a greater O_2 uptake in reactions 2, 3 and 6 due to an increase in cytochrome oxidase concentration.

These results demonstrate unequivocally that tea oxidase cannot be identified with cytochrome oxidase. It appears, therefore, that without any positive evidence for the presence in the leaf of the components of the system Robert's cytochrome theory of tea fermentation cannot be considered as valid. On the other hand our previous finding⁵ that tea oxidase is a polyphenol oxidase with an established specificity for O-dihydric phenols provides a simpler and a more satisfactory explanation of the tea fermentation process.

Details will be published elsewhere.

My grateful thanks are due to Sir J. C. Ghosh, Director, Indian Institute of Science, Bangalore, for the hospitality of the Institute laboratories and to Mr. M. Sreenivasaya for much advice and help in the course of this investigation.

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May 5, 1943.

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CATALYSIS OF DICHROMATE-HYDROBROMIC ACID REACTION BY THE OXALATE ION

IN a previous publication¹ we have reported the marked catalytic effect that oxalate ion exerts on the reaction between dichromate and hydriodic acid. We have now found that the oxalate ion also catalyses the reaction between dichromate and hydrobromic acid. Under the conditions of our experiments and at the hydrogen-ion concentration employed, the velocity of the reaction between dichromate and hydrobromic acid is extremely slow, but in the presence of a small concentration of oxalate the speed of reaction becomes appreciable.

The reaction was followed by the estimation of the bromine liberated iodometrically, after extraction with carbon tetrachloride. The concentration of oxalate used was between .025N to .075N; in this range of concentration the rate of reaction was from 20 to 45 times more than the rate of reaction in the absence of the oxalate ion.

The catalytic effect of the oxalate ion is so pronounced that we can set up a lecture demonstration experiment using this reaction.

The quantitative aspect of the reaction is under investigation.

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April 30, 1943.

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DESCRIPTION OF AN EGG-LAYING FEMALE OF THE INDIAN GLOW-WORM, *LAMPORPHORUS TENEBROSUS* WALKER

PAIVA, C. A. (1919) has given for the first time a very short description of the adult female Indian Glow-worm. Hutson, J. C., and Austin, G. D. (1924) in their bulletin on the Indian Glow-worm deal mostly with the breeding habits of the female. A detailed study of the structure of the adult female has not been made till now.

The females appear to be very rare and seasonal in occurrence. Till now only six specimens have been collected by me from inside Tambaram bushes at night just after heavy rains and one was actually reared out of a larva inside the laboratory. They vary from 55 mm. to 70 mm. in length and most of them have been observed to become dark and assume piceous margins round the terga soon after death.