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Letters to the Editor

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pH OF MONSOON RAIN WATER OVER BAY OF BENGAL

Barrett and Brodin (1955) and Granat (1972) found that the pH of rain water in Europe have generally a low value. They came to conclusion that carbon dioxide being soluble in water is dissolved in rain water and that the dissolved gas is in equilibrium with the atmospheric carbon dioxide. At the partial pressure of carbon dioxide in air the dissolved gas in equilibrium should show a pH value of rain water as 5·7. Any other value of pH of rain water should be viewed from this standard, *i.e.*, for rain water the neutral pH should be 5·7 and not 7·0 the normal pH of neutral water.

Berba (1951) measured pH of frontal precipitation and opined that pH of neutral rain water is 7·0. Mukherjee (1957, 1964) from direct measurment of pH of falling rain concluded that pH of monsoon rain water is less than but close to 7·0. Thus the dissolved carbon dioxide is not in equilibrium with the atmospheric carbon dioxide. Sequira (1976) came to a similar conclusion from measurements of pH along coast in Bombay.

From these, it is quite evident that there is some controversy about pH of neutral rain water. In order to get an idea of pH of rain water away from places where contamination is possible which was earlier measured by Mukherjee in (1964 for water collected at Colaba Point, Bombay, the author, in 1977, got a chance of measurement of pH of rain water away from all possible contamination from land. He was working on board U.S.S.R. research vessel *Academic Shirshov* in Monsoon Experiment 1977 during August over Bay of Bengal. The result is reported in this note.

The ship sailed from Colombo on 5 August 1977 and reached its stationary position at Lat. 17°27′ N and Long. 91°05′ E on 11 August. Rain water sample was collected in a polythene bottle using glass funnel at a height of 14 m above water level between 18 and 19 August at this place. pH of the sample was measured in the hydrochemical laboratory on board the ship using a a glass electrode pH-meter. The measurement was done immediately after the collection. The value was 6·75 at 25°C. The rainfall was in association with a developing depression over the area. Unfortunately the depression moved away fast and the author could not collect enough rain water sample for another experiment at this place.

Thus this measurement confirms that pH of monsoon rain water is close to but less than 7·0 and that dissolved carbon dioxide is not in equilibrium with the atmospheric gas.

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