<div align="center">

TABLE I

Spikelet, glume and stomatal length in cytotypes of rice

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Characters \\ Types	Spikelet length in mm		Glume length in mm				Stomatal length in μ	
			Palea side		Lemma side			
	Range	Mean	Range	Mean	Range	Mean	Range	Mean
Haploid	3·50–4·50	4·01±0·07	0·50–3·90	2·30±0·17	0·50–2·00	0·97±0·12	4·50–7·00	5·64±0·07
J.B.S. 820	6·98–8·60	7·77±0·05	3·00–7·00	5·42±0·14	2·10–6·00	3·97±0·14	5·50–9·10	6·68±0·09
AC. 1225	7·30–9·00	8·36±0·06	4·70–8·60	6·56±0·28	3·80–9·60	5·05±0·18	6·20–8·00	6·63±0·06
Tet–6	9·07–10·54	9·91±0·02	5·00–13·00	7·88±0·21	5·00–10·00	6·68±0·19	7·10–10·00	8·44±0·11

The linear increase in the mean stomatal length from haploidy to diploidy and from diploidy to tetraploidy was also marginal with overlapping of measurements.

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Agricultural Research Institute,
Sabour, Bhagalpur, *July* 3, 1974.

1. Thakur, R. and Rao. J. R. K., *Sci. and Cult.*, 1966, 32, 321.

An *Alternaria* Leaf Spot of Tapioca

Tapioca plants (*Manihot esculenta* Crantz), aged, about 7 months, in the instructional farm of the College of Agriculture, Vellayani, were affected by a leaf spot disease during April 1974. The spots were observed mainly near the tips of the lobes of the leaf. They were minute, scattered with whitish grey centre and brown margin. Often the leaf tips dried due to the formation of a number of spots. Rarely, spots were also observed on the basal part of the leaf blade. Repeated isolations from the infected regions yielded an *Alternaria* species. The pathogenicity of the same was established by artificially spray inoculating tapioca plants with 6 day old culture of the organism. Typical leaf spot symptoms were formed in 7–10 days after inoculation. The fungus was reisolated into pure culture from inoculated plants.

A detailed study of the morphological characters of the fungus on potato-dextrose agar revealed the following characters. The mycelium was slightly dark and $2 \cdot 25$–$10 \cdot 5\,\mu$ wide. Conidia mostly single, sometimes in chains of 1–3, provided with 1–9 transverse septa and a maximum of 3 longitudinal septa. Conidia were dark brown, obclavate, rarely elliptical, attenuate ; beak short, rarely long. Including the beak the conidia measured $14 \cdot 04$–$76 \cdot 38\,\mu$ ($40 \cdot 07\,\mu$) the beak alone was $8 \cdot 13$–$61 \cdot 75\,\mu$ in length ($15 \cdot 37\,\mu$). The breadth at the basal region ranged between $5 \cdot 68\,\mu$–$13 \cdot 0\,\mu$ ($10 \cdot 75\,\mu$) and

at the base of the beak it was $3 \cdot 25\,\mu$–$8 \cdot 12\,\mu$. The conidiophore measured on the average $78 \cdot 5\,\mu \times 3 \cdot 25\,\mu$ with 6–9 septations and 1 or 2 lateral scars. The morphological details closely resembled these of *Alternaria palandui* Ayyangar, reported from *Allium* species by Ayyangar[1] (1928). Artificial cross inoculation of *Allium cepa* L. by the isolate from tapioca gave positive results. From the close resemblance of the morphological characters and by the cross inoculation tests carried out, the isolate from tapioca was identified as *A. palandui* Ayyangar. Tapioca is recorded for the first time as a host of this organism causing leaf blight disease.

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Occurrence of White Grubs in Haryana

A serious incidence of white grub on *bajra* (*Pennisetum typhoideum*) and groundnut was observed during 1971 in village Mandhana (District Mohindergarh). During October, 1971 one square metre area in a harvested *bajra* field was carefully dug which contained, at depths varying from 30 to 96 cm, 23 adults, 3 pupae and 2 first instar grubs of *Lachnosterna fissa* Brenske.

A severe insect damage to newly sprouted *ber* (*Ziziphus mauritiana* Lmk.), leaves was reported from Kankraula (District Gurgaon) in the first week of July, 1972. 27 adult beetles were collected from upper 15 cm sandy-soil layer of the orchard and these represented 4 species of white grubs, viz., *Holotrichia insularis* Bren. (21 specimens), *Anomala rufricapilla* Burm. (3 specimens),

A. dorsalis F. var *fraterna* Burm. (2 specimens), and *A. bengalensis* Bl. (1 specimen).

Peach tree leaves at Gurgaon were severely damaged by some insect during July, 1972. Spraying of a medium sized tree with endrin 0·02% emulsion at sun-set knocked down 60 adults of white grub, *Holotrichia* sp. nr. *problematica* Bren. which were collected next morning.

These reports indicate that several species of Scarabaeid white grubs are becoming serious pests of *kharif* crops as well as fruit trees in Haryana.

Out of the white grub species mentioned in this communication, *H. insularis* and *A. bengalensis*

have earlier been reported to damage sorghum, *bajra*, sugarcane, chillies, groundnut, sunn-hemp, brinjal, cucurbits, ladys' finger and cowpeas in Rajasthan (Srivastava and Khan, 1963)[1].

Thanks are due to Dr. P. K. Sen-Sarma, Forest Research Institute, Dehra Dun, for identifying the insects.

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Haryana Agricultural University,
Hissar, *June* 4, 1974.

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REVIEWS AND NOTICES OF BOOKS

Annual Review of Fluid Mechanics (Vol. 4). By M. V. Dyke, W. G. Vincenti and J. V. Wehausen. (Annual Reviews Inc., 4139 El Camino Way. Palo Alto, Calif., Calif. 94306), 1972. Pp. ix + 504. Price $ 12.00 (U.S.A.), $ 12.50 (Elsewhere).

Within the short period of a few years since the commencement of publication of these annual reviews, they have earned a permanent and respected place in the literature of fluid mechanics. Volume 4 maintains the high standards set by its predecessors, and offers rich and diverse fare which will be both interesting and instructive to fluid dynamicists. Among the subjects covered, about a third is of direct interest to engineers (heat disposal from power generation, chemically reacting flows, vortex breakdown, cavity and wake flows, wing-body interaction in aircraft); another third is geophysical or environmental (mantle convection, rotating and stratified flows, magnetohydrodynamics of the earth's core, self-gravitating gaseous disks, oil spreading on sea). There are several articles of general interest also (self-similar solutions, periodic flows, liquids containing bubbles, sailing, bounds on flow quantities), and one, on the locomotion of protozoa.

Experimental workers will probably feel that there are too few articles for them in this volume as in previous ones, but by and large the Review will be found to be a valuable survey of some of the most interesting recent investigations in fluid mechanics.

It would be very useful to have this series in paperback, so that more workers could possess their own copies, as I am sure many would like to.

R. NARASIMHA.

Quantum Mechanics in a New Key. By Alfred Lande—Exposition Press, 1973 (Exposition Press, Inc., 50, Jericho Turnpike, Jericho, New York 11753), 1973. Pp. x + 131. Price $ 6.50.

This book is the third in a series which represent the efforts of the author, a renowned physicist, to clarify the foundations of quantum mechanics and demystify the notions of complementarity, duality, etc., which are so prominent in usual treatments. He attempts to provide a well motivated derivation of the usual computational rules which involve superposable vectors in a complex Hilbert space and operators on these representing physical quantities. The starting point of this derivation is a set of non quantum postulates, governing a probabilistic scheme of description of the results of measurements. This is the part of the book I found most interesting chapters II to V—even though the argument does seem after the fact at points. The first chapter is meant to provide a negative motivation for the rest and consists of an attack on the usual presentations. I for one failed to understand the covariance objection to Bragg reflection and the oscillator dilemma, both of which are intended to discredit the usual interpretation. One cannot help feeling that the author deliberately sets up a very naive argument, the better to demolish it later. The treatment of the Einstein Podolsky Rosen paradox—page 111—is unique in that it simply denies the existence of correlations in the results of measurements on two spatially separated parts of a system which had been together in the past. This would have surprised the authors of the paradox as much as those who tried to rebut their viewpoint!

In view of the many inaccuracies and distortions, I do not think the claims of pedagogic value made