SHORT SCIENTIFIC NOTES

Unusual Formation of Winter Apices of *Potamogeton crispus* L. during Summer Season

The formation of specialized, dormant apices for perennating the unfavourable winter months is a characteristic feature of *P. crispus* (Arber[1]). Early reports on its mode of development revealed that low light intensity and prevailing cold temperature of the winter might play a significant role in its formation (Sculthorpe[3], Sahai and Sinha[4]). The present observation about the frequent development of such apices in the plants of *P. crispus* growing in man-made pond of St. Andrew's College, Gorakhpur (India) during the hot summer months (April-May), when the approximate photoperiod is more than 12 hours, atmospheric temperature, 30–35° C, and relative humidity, 20–25%, is quite interesting from the above viewpoint and it clearly establishes that low light intensity and coldness of the atmosphere are not in any way related with the development of the winter apices in *P. crispus*.

In a few freshwater submerged macrophytes, it has been noticed that sometimes the poor nutritional status of water also promotes the formation of such hibernicula (Sculthorpe[3]). The data of water analysis of the garden pond where the plant is growing revealed that the water is fairly alkaline (pH 7·9, alkalinity 180 ppm) with good amount of essential dissolved gases (free CO_2 21 ppm, Dissolved O_2 18 ppm) and nutrients (Cl_2 36 ppm, Ca 48 ppm, NO_3 2·34 ppm, PO_4 0·02 ppm and total organic matter 12·5 ppm). These findings are in concurrence with that of Rawson[2], Sinha[5], Zafar[6]. Further, the growth of the species along with other submerged plants, chiefly the *Hydrilla verticillata*, is luxuriant and has no sign of its deterioration due to the deficiency of any nutrient or due to development of any toxic or polluting condition in the water of their surroundings. These conflicting observations regarding the factors influencing formation of dormant apices (preferred to use the term 'dormant apices' rather than the 'winter apices') in *P. crispus* are interesting and would require more detailed investigations.

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Correct Name of the Genus of Tiger Butterflies (Lepidoptera : Danaidae)

Different names have been used in the literature for a genus of the danaid butterflies, thus, creating some confusion. These butterflies are referred by the common name 'the tigers'. In the *Fauna of British India—Butterflies* volumes, whereas Bingham[3] has reported *Danais* Latr., 1807, as valid name and its 10 synonyms, there in the second edition Talbot[10] has reported *Danaus* Kluk, 1802, as valid name and given a list of 15 synonyms. In the *Zoological Records—Insecta* volumes, four different names, *viz., Danaus, Limnas, Danais* and *Danaida,* have been used for one and the same genus, during the first half of this century.

On a thorough study, the author has found that the generic name *Danaus* Kluk is the oldest and thus valid name, according to the Law of Priority. The International Commission of Zoological Nomenclature has placed *Danaus* Kluk, 1802, as valid name on its Official list in 1950, and on the final list in 1954, under the Opinion No. 282.

Unfortunately, most of the entomological books commonly referred in India, including Imms's book[2-9] and popular books on the butterflies of this country, including Evans's and Wynter-Blyth's books[1-11] have used the incorrect name *Danais* for this genus, and not the correct name *Danaus*. This fact may be looked into.

On further observation, it has been found that the original year of publication of the generic name *Danaus* given in the *Fauna* by Talbot[10] and above referred, I.C.Z.N. publications should be modified

from 1802 to 1780. Paclt[7] has shown that Kluk published this name for the first time in 1780, hence his publication of 1802 is a subsequent citation for nomenclative purpose.

In the list of synonyms of genus *Danaus* Kluk, the author has found that Talbot (*loc. cit.*) has not included some names. To facilitate taxonomic work, these generic names are reported here, as follows : *Anosia* Hübner, 1816 ; *Ashtipa* Moore ; Chlorochropsis Rothsch., 1892 ; *Elsa* Honrath, 1892 ; *Lintorata* Moore, 1883 ; *Megalisa* Moore, 1883 ; *Melinda* Moore ; *Nasuma* Moore, 1883 ; *Phirdana* Moore ; *Taisitia* Moore, 1883 ; and comparatively recent *Danaomorpha* Kremky, 1925. On the other hand, generic name *Pradena* Fruhstorfer, 1900, listed by Talbot as a synonym of *Danaus,* was not found in Fruhstorfer's own treatise on this group of butterflies[5].

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A New Blossom Blight of *Gardenia gummifera* L.*

Gardenia gummifera L. (Loc. Name : *Dikemali*) belonging to the family Rubiaceae is a common garden plant grown for its beautiful white and scented flowers. The bark of the plant is known to yield a valuable green resin (Gum or *Dikemali*) which has high medicinal properties.

During the cold season (December-January) of 1972–73 an unusual but a typical blossom blight disease, ultimately resulting in premature dropping of unopened buds was observed on this plant at Poona. Such buds showed typical water-soaked, dark brown necrotic lesions starting from the stalk-end and resulting in dropping of the buds. In some cases dark sub-circular, wooly, infection spots were also observed on petals. A richly sporulating species of the genus *Cladosporium* Link. ex Fr. was repeatedly isolated in pure culture on P.D.A. from such infected flower buds, which on inoculation in the laboratory proved to be a virulent pathogen, thus successfully reproducing the characteristic symptoms of the disease within a period of about 8–10 days. The fungus grew best and sporulated profusely with sub-aerial, wooly, grayish olive-green colonies on P.D.A., onion-extract agar, Sabouraud's agar and Asthana and Hawker's agar at room temperature (25–28° C). Mycelium of the fungus is septate. olivaceous and highly branched. Conidiophores simple, erect, olivaceous brown, slender, long, septate, slightly bulged at the apex with distinct scars and bearing catenulate conidia in whorls. Conidia light-brown to olive-green, mostly 1–2 celled (rarely 3–4 celled), mostly oval to oblong with tapering ends and varying in shape and size, measure $3 \cdot 8–26 \cdot 6 \times 3 \cdot 8–7 \cdot 6\,\mu$ (1–2 celled conidia) and $15 \cdot 2–24 \cdot 7 \times 4 \cdot 7–7 \cdot 6\,\mu$ (3–3 celled conidia). On the basis of detailed morphology and cultural characters the fungus under study was identified as *Cladosporium cladosporioides* (Fres.) deVries[1]. This disease is a new outbreak not previously reported in literature. The material is deposited in the Ajrekar Mycological Herbarium at M.A.C.S., Poona, under number AMH 1822.

The writers are grateful to Prof. M. N. Kamat, for the supply of material from his garden and evincing keen interest and to Dr. J. A. von Arx, Director, C.B.S., Baarn (The Netherlands) for kindly confirming the identity of the fungus.

M.A.C.S. Research Institute,
Poona-4 (India),
July 23, 1973.

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* Contribution No. 468 from the Department of Mycology and Plant Pathology.

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REVIEWS AND NOTICES OF BOOKS

Pramana (A Journal of Physics). Vol. 1, No. 1, July 1973. (Published by The Indian Academy of Sciences, Bangalore-6; In collaboration with The Indian Physics Association and The Indian National Science Academy). Pp. 1–60; Annual Subscription: Foreign—Institutions and Libraries, $ 30 or £ 12; Individuals, $ 20 or £ 8; Domestic: Institutions and Libraries, Rs. 75·00; Individuals, Rs. 25·00; Members of IPA, Rs. 20·00; *Bona-fide* students, Rs. 10·00; Reduced Rates for subscription from Afro-Asian countries are available on request. *Pramāṇa* is not sold as single issues.

Pramāṇa, Vol. 1, No. 1, is the first issue of a new journal of Physics. It is to be published monthly by the Indian Academy of Sciences in collaboration with the Indian Physics Association and the Indian National Science Academy. The editors hope to remedy an unsatisfactory situation that exists in India today by which the major part of the good work done is published in foreign journals. A Nationwide desire to remedy such a situation has come none too soon. The wide support that the venture has so far received, both from individual scientists and professional organisations, is encouraging and if sustained, will surely enable the objectives being attained. The volume of good work in Physics in India today is such that time is ripe and opportune to try out a new journal of this kind. Printing and get-up are good. The papers in this number are of good quality and range over widely differing branches of physics.

S. B.

Annual Review of Physiology. By J. H. Comroe Jr., I. S. Edel Man and R. R. Sonnenschein. (Annual Reviews, Inc., 4139, Caminoway, Palo Alto, California 94306), 1973. Pp. vii + 495. Price $ 10.00 U.S.A.; $ 10.50 elsewhere.

The review covers a wide range of topics including certain interdisciplinary areas. Special features highlighted are:

Sugar and aminoacid transport and medullary concentrating mechanisms in the kidney;

Excitation-contraction coupling sequence in heart muscle through analysis of movements of calcium, elastic properties of the ventricle and the indicator dilution method of measuring blood flow, microcirculation and local control of regional blood flow;

Pulmonary mechanics as elucidated by the anatomy, airways and elasticity of the lungs;

Neuro endocrime aspects of thermoregulation with emphasis on the role of hypothalamus in synchronizing the outflow from the sympathico-adrenomedullary system and some aspects of acclamatization to heat;

Chemistry, synthesis, regulation, release and classification of gastro-intestinal hormones;

The influence of the pineal gland on brain particularly on its electrical activity and pituitary function; and

Hypothalamic hypophysiotropic inhibitory factors regulating adenohypophysial secretions.

The central neural structures involved in aggressive reactions are functionally and anatomically interrelated and hypothalamus is the focal structure in the elaboration of agonistic behaviour patterns is the inference drawn by the review 'Neurological substrates of aggressive behaviour'.

The 'associate' silent areas of the brain are not really silent but function with vigour is revealed by neurophysiological observations on sensory phenomena in the alert animal.

Communication among primates reviews the methods of studying social interaction, means of communication available to the primates and social interactions in the specific context of sexual behaviour.

In the introductory chapter, Philip Bard, after his autobiographical sketch, deplores the present tendency of curtailing the teaching of physiology in medical schools to a minimum and emphasises its demoralizing effect on teachers of physiology and other medical sciences.

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