

reduce the loss of minerals and vitamins in the processed grain. This is worthy of more serious consideration. It is, moreover, a method which has been introduced in the United States for making "converted" rice.

This is, indeed, not an optimistic picture, but after thirty-five years of study of the possibilities and limitations of humid, tropical lowland soils, and their allied agricultural problems, it seems to me to be the realistic point of view, namely, that more and more of the people of the world, and especially of the tropics, will subsist on rice... and like it.

## PRIMARY CLASSIFICATION IN THE ORCHIDACEAE

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SCHLECHTER'S classification of the Orchidaceae, in Notizbl. Bot. Gart. Berlin 9: 567. 1926, is sound in principal and effective in operation, but some of the terms he used are no longer valid under the International Code of Botanical Nomenclature (1952).

Article 2 of the code states that "names... contrary to a rule cannot be maintained" and we must, therefore, alter the classification to conform with the code. Schlechter, following Swartz in Vet. Akad. Nya Handl. (Stockholm) 21: 205. 1800, divided the family into two subfamilies, the "Diandrae" and the "Monandrae", but according to article 29 "the name of a subfamily... is taken from the name of its type genus... with the ending —oideae". The type of the "Diandrae" is the genus *Cypripedium* L. (1753), and the name of the subfamily therefore should be *Cypripedioideae*. Similarly the type of the "Monandrae" is the genus *Orchis* (Tourn.) L. (1753), and the subfamily becomes the *Orchioideae*. Article 29 goes on to say "tribes are designated in a similar manner (to subfamilies) with the ending —eae and subtribes with the ending —inae" and these names must also be adjusted. Schlechter's tribe "*Ophrydoideae*" then

becomes *Orchieae*, his "Polychondreae" becomes *Epipactieae* (from *Epipactis* Zinn, 1757), and his "Kerosphaerae" becomes *Epidendreae* (from *Epidendrum* L., 1763).

Article 13 lays down the order in which the various categories are to occur and article 15 states that "the relative order of the categories... must not be altered". We cannot, therefore, have a "division" within a subfamily nor a tribe divided into "series". The present code does not give a category intermediate between subfamily and tribe but article 13 allows that "if the list... is insufficient it may be augmented by the intercalation of supplementary categories, provided that this does not introduce confusion or error". But it is difficult to find suitable categorical terms not already earmarked by article 13, and in any case the orchids present a special problem which will probably never be exactly duplicated in any other family. I propose therefore to call Schlechter's "divisions" *anther types* and give them tribal terminations thus — *Basitoneae* and *Acrotoneae*, but transposing the order in which they occur since the *Basitoneae* are now considered to be more advanced than the *Acrotoneae*. The "series" and "subseries" into which Schlechter divided his "Kerosphaerae" I propose calling *inflorescence types* and *growth forms* respectively. A summary of Schlechter's classification (see Hutchinson, Families of Flowering Plants 2: 184, 1934) would then become:

Family	<i>Orchidaceae</i> .
Subfamily I	<i>Cypripedioideae</i> .
Tribe (i)	<i>Cypripediaceae</i> ( <i>Cypripedium</i> , <i>Selenipedium</i> , etc.).
Subfamily II	<i>Orchioideae</i> .
Anther type (1)	<i>Acrotoneae</i> .
Tribe (ii)	<i>Epipactieae</i> ( <i>Spiranthes</i> , <i>Vanilla</i> , etc.).
Tribe (iii)	<i>Epidendreae</i> .
Inflorescence type A	<i>Acranthae</i> ( <i>Coelogyne</i> , <i>Liparis</i> , <i>Dendrobium</i> , etc.).
Inflorescence type B	<i>Pleuranthae</i> .
Growth form (a)	<i>Sympodia</i> ( <i>Bulbophyllum</i> , <i>Cymbidium</i> , <i>Oncidium</i> , etc.).