https://doi.org/10.29321/MAJ.10.A04619

Preparation of grain The grain is husked and the glumes are removed just as in the case of the Italian millet. The ratio of pounded grain to whole grain is 3:8 by volume and 40 per cent by weight. The husked grain is mixed with *ragi* (*Eleusine coracana* Gaertn.) flour and made into a pudding commonly known as *kali* in Tamil. Very rarely it is made into *rotties* (cakes). This grain is considered superior to *Panicum miliare* Lamk. (Tam. *samai*). Many *ryots* use this grain during certain months of the year.

Acknowledgment My thanks are due to Sri M. Vaidyanathan, Agricultural Demonstrator, Madakasira taluk, Anantapur district, for the information supplied by him.

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Economic Entomologists and Scientific Names of Insects*

By Dr. T. V. R. Ayyar, Ph. D.

It is not uncommon nowadays to find workers in the economic aspects of zoology, especially Economic Entomologists, finding themselves in very awkward situations when they attempt to call by scientific names some of those organisms with which they have to deal. While the field entomologist is quite sure of the identity and the various features and idiosyncrasies of the beetle, bug, grasshopper or moth he has been dealing with, perhaps for many years, the scientific apellations of those insects get frequently changed at the hands of our systematists. It has of course to be admitted that every one dealing with an insect, or for the matter of that, any organism, has necessarily to know the which particular creature it is that he is dealing with and its correct identity; but having assured himself of the latter by continuous touch with it for years, it becomes rather funny, if not annoying, to find that the name once given to a creature is in some cases frequently changed. Fernald was quite right when he said that "the work of dealing with the constantly changing scientific names is indeed a difficult problem". Most of us know that the names of some of our common insects have been changing from time to time from one to another and in some cases reverting to the same old name which were rejected some time back! Numerous examples could be pointed out of such nomenclatural acrobatics connected with insects. It is felt rather funny when we find the name of our old friend, the common fruit fly-'*Dacus*', changed to '*Chaetodacus*' and then again to find that in course of time he is '*Dacus*' again. The castor semilooper which was at first '*Achaea*' became '*Ophiusa*' and has again been labelled

* Paper read at the Indian Science Congress, Baroda, 1942.

'*Achaea*'! Similarly with numerous specific names of common insects we can point out such funny changes. For example '*Crambus zonellus*' became '*Chilo simplex*' and there was a sudden permutation and combination and the creature became '*Chilo zonellus*'. '*Chloridea armigera*' became '*C. obsoleta*', changed to '*Heliothis obsoleta*' and then again put on the coat of '*Heloithis armigera*'! The nomenclatural thunderstorms and cataclysms through which our friend the rice stem-borer, at present labelled '*Schoenobius incertellus*', has passed have been unique, the insect having passed through not less than twenty or twenty five *aliases!* In the words of Fletcher, "this is one of those unfortunate insects to which so many names have been applied that it is difficult without extensive incursions into literature to ascertain its correct synonymy; within two years after its discovery the insect received no less than six names. God knows whether that poor creature inside the rice stem may not perhaps, have to answer to a different name in the near future." A good deal of confusion in that way has also been created with the names of the borers of sugar-cane and millets, and we cannot be quite sure whether our systematists have as yet come to any definite conclusions as regards the names of these important economic forms. The minute groundnut leaf miner is another victim who has suffered from numerous fresh christenings. It may also be added that often in connection with these ever-changing apellations we are liable to be hauled up for some minor crimes in nomenclatural practice; when you use a scientific name and you omit the author's name with it you are caught; you must not add a comma between the name of the insect and that of the priest who baptized it. Again if you use the abbreviated form of the author's name by using the initial letter or letters of his name as has been done for decades, you are guilty, since recent regulations require that you must use only approved abbreviations. While the writer of this paper knows that he has managed to describe and baptize a few insects and get published a few papers in standard publications without such rigorous restrictions, he has not so far become aware as to what the approved abbreviation is for his name for use in later references! It might at the same time be added that these codes, restrictions and strict rules have not been followed even in some well known books and publications. We are all aware that there are standard works in Entomology where scientific names are used without the author's name. In Lefroy's *Indian Insect Life,* Imm's *Text Book of Entomology,* and in some of the old Reports of our Imperial Entomologist and good many other instances, we do not find such restrictions and systematic dogmas closely followed; and yet those publications continue to be valuable and have not received any black mark or dissatisfaction from any quarters A very recent publication has appeared on "Indian Forest Insects" by Beeson where too the numerous insects noted stand quite naked without the author's flag.

In placing these facts and observations before you I may add that I am not at all finding fault with the systematists or their ways, since they must

certainly have proper and sufficient reasons for these regulations, frequent changes and codifications. What I plead is that non-systematists who cannot be expected to be in close touch with this subject often suffer from those constant changes in the names of some common and well known insects. It may be emphasised and the fact cannot but be admitted that classification or taxonomy after all is not an end in itself, but only a means to an end and it is therefore highly necessary that there should be some limitations placed on this oft-occurring acrobatics in nomenclature. This was what Lefroy wrote thirty years ago—"It is easy to learn about *Acridium succintum* (this insect too has changed its name, the present one being *Patanga succinta*), as much as it is about the Bombay locust. Persons who see an insect in the field and know that it is *Pentodactylorthopteriodes vigintioctonigropunctulomaculata* N. are often apt to forget whether it is a grasshopper or a bee, or whether it is injurious or not. No good is done by hurling scientific names at an insect in the field. It is far more important to be able to recognise a cock-chaffer, to know that its grub lives in the ground, and eats roots, and to know that if one is found others are likely to be there and should be destroyed before they lay eggs." Though I would certainly not go to the extent of endorsing all these funny remarks of Lefroy, since it is highly essential to know exactly which particular creature we are dealing with, what one often feels is that these nomenclatural changes unfortunately produce a lot of confusion and we, Economic Entomologists, have to find a way to steer clear of these constant and, perhaps, inevitable changes and make our progress smooth in this direction.

It is, perhaps, known to good many of you that the American Association of Economic Entomologists has tried to work out a method to overcome this nomenclatural difficulty by preparing sets of popular names for all well-known insects and get these sets approved for use among Economic Entomologisis. Periodically a set of names is prepared and sent up by different workers for approval to a committee which finally approves or modifies these names and the approved ones are added to the permanent list of common popular names. Thus when any author uses, say a name like 'Fluted scale' in a particular paper or report, any one in the field of Entomology knows he is referring to *Iceryo purchasi* whatever mutations and combinations are made in the future by our species-makers with its scientific name. I would invite the kind attention of friends who are anxious to know something about this subject to the pages of the *Journal of Economic Entomology (America) Vols. XXIV* and *XXVI*. I am wondering whether it is not time for us in India to do some such thing and save ourselves from the constant pricks and disturbances from our systematist friends. I may perhaps be wrong in my ideas and remarks, and that is the very reason for submitting my views to you to get your valuable criticisms and suggestions on this subject of nomenclatural acrobatics in systematic entomology.

As a sample I might here add a small list of a few of the many popular names with which most of our Agricultural Entomologists are familiar and

know which these insects are however frequently their scientific apellations change.

Popular Name.	*Present Scientific Name.*
The rice swarming caterpillar ...	Spodoptera mauritia
Rice stem-borer	Schoenobius incertellus
Rice Hispa	Hispa armigera
Rice bug	Leptocorisa acuta
Rice grasshopper	Hieroglyphus banian
Rice case worm	Nymphula depunctalis
Rice gall fly	Pachydiplosis oryzae
Deccan grass-hopper	Colemania sphenarioides
Behar Hairy Caterpillar	Diacrisia obliqua
Cane top shoot borer	Scirpophaga nivella
Cane leaf hopper	Pyrilla perpusilla
Castor semilooper	Achoea janata
Capsule borer	Dichocrocis punctiferalis
Pink bollworm of cotton	Platyedra gossypiella
Cotton leaf roller	Sylepta derogata
Red cotton bug	Dysdercus cingulatus
Dusky cotton bug	Oxycaraenus latus
Sweet potato weevil	Cylas formicarius
Diamond back moth	Plutella maculi-pennis
Mustard saw fly	Athalia proxima
Anar butter fly	Virachola isocrates
Rhinocerus beetle	Oryctes rhinocerus

SELECTED ARTICLE

Compost and its Fertilising Value

The 'Grow More Food' campaign has of late engaged the serious attention of the public. The cessation of import of rice and wheat coupled with the increase in demand of food stuffs for the army has precipitated a food shortage in our country. The difficulty has been further increased by the fall in production of the food crop and restriction of transport. These difficulties were discussed in a recent Food Drive Conference held at Delhi under the presidency of Hon'ble Mr. N R. Sarker who drew a food crop map of India and stressed the need of making each province self-sufficient in food crops.

The problem of growing more food now is essentially one of increasing the fertility of the soil. Recently in a 'Grow More Food' meeting held at the Calcutta University Institute Dr. C. R. Harler read a paper on Compost and in a similar meeting at Firpo's Restaurant Mr E. F. Watson spoke on Compost. The following note is adapted from their papers.

Meaning of the fertile soil At the very outset we should have a clear idea as to what we mean by a fertile soil that will grow a healthy plant to its fullest development. In plant kingdom the word 'healthy' does not simply imply 'free from disease', it means an inherent power on the part of the plant to resist disease. For a long time we have been taught to value our soils on the amounts of nitrogen, phosphorus and pottassium salts present in them. As is generally indicated soil is not a dead inorganic matter, but it is a vast store house of living organisms on whose activity our agriculture largely depends. There is one particular group of microscopic fungi, the micorhiza, living in combination with the roots of plants and eventually absorbed into their tissues, that transcends all