Unsatisfactory scientific practice among the students of plant sciences

The very foundation of biological sciences is based on the primary knowledge regarding diversity of life forms, their characterization and classification in the process of resolving the evolutionary lineage[1]. Scientists working in the field of natural sciences, both basic and applied, recognize the value of proper identification of plant species[2]. Plant taxonomy research requires true dedication, rigorous field work and herbarium consultation. Good taxonomists engaged in exploration rarely come out with publications of a few pages. There are many professionally dedicated researchers who have spent a lifetime on a particular genus or family[3]. Unfortunately, at present, very few taxonomists take the trouble to study in India's herbaria, even though they are the most important national resource and source of learning, preferring instead to rush into generating poorly researched and hasty publications for the sake of career advancement[4]. Students from applied fields such as biotechnology, pharmaceutical sciences, etc. often do not consult plant taxonomists or pay adequate attention to identification and naming of plants during registration for Ph D[5]. At the far end or somewhere in the middle of their work, they approach the Botanical Survey of India (BSI) or other related institutions for a plant identification certificate. In maximum number of cases, it has been found that the plant chosen by them is not the actual one required for their research; hence all previous work done by them has gone in vain. At that stage, the students become reluctant to start fresh research; instead some try to modify their Ph D title and others cleverly escape the situation.

The rapid increase of paid journals has become a serious cause of concern, as research papers contributed by a considerable fraction of students in these journals are of worst quality. These journals demand money for publishing, and obviously, their business model is to get as many papers published as possible, thereby maximizing their profits, irrespective of whether the paper deserves to be published. To attract more researchers, they also use tricky words like 'American', 'European', 'International', 'peer reviewed', etc. in the journal title[6]. In reality, however, their locations are continents away[7]. Also, submitted papers are never reviewed by an expert of that field before publication. The author of this note has noticed that students of many Indian universities are publishing their research papers in such paid journals, to get eligibility for Ph D thesis submission. With the advent of the internet, it has become much easier to compile a bogus thesis or a junk article in the field of plant taxonomy or ethno-botany without doing any field work or only partially doing field work. These researchers usually report medicinal uses of plants with mistaken identities and often make fake claims that they have found a particular plant which can cure dangerous diseases such as cancer, AIDS, etc. without any authentic proof. This kind of junk information is gradually accumulating day by day in the printed as well as in electronic literature. I have also noticed that the students of plant taxonomy prefer to publish their work on flora, new species and new distributional records, etc. by citing any herbarium acronyms, as if they have already deposited the respective voucher specimens to a particular herbarium; but soon after publication they usually forget to deposit the cited voucher specimens. For this reason, all their findings become questionable, since no material is available for subsequent researchers of that field.

To rectify the situation, my suggestions to fellow students and UGC are as follows: (1) Students/researchers should refrain from publishing junk articles in paid journals. (2) UGC should prepare a list of reputed journals in the relevant field and ask the students to contribute their quality works for getting eligibility before thesis submission. (3) Students from applied sciences should consult a plant taxonomist and must pay serious attention to identification and naming of plants, before starting their research and accordingly, a species identity certificate must be obtained from BSI. (4) Before publishing any floristic work, new species and new distributional records, etc. students of plant taxonomy should deposit their voucher specimen to a publically available herbarium. (5) While making any medicinal claims, students of ethno-botany or pharmaceutical sciences should at least provide an authentic proof of the claim to the associated institution.

The views expressed in this note are the author's own and do not necessarily represent the views of associated institution.

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