Coolieization of India

This refers to the guest editorial by Gangan Prathap¹. In April 2004, the Sri Ram Centre for Industrial Relations and Human Resources reported a study ‘Assessment of Export Potential and Employment Impact of IT sector in India’ under the supervision of P. P. Gupta, former Secretary, Department of Electronics. That study concluded, inter alia,

‘Although currently (2002–03) exchange earnings from software production and exports are higher than out-goings on hardware imports, in the coming years production and import contents of hardware are likely to outgrow software production and exports and India is likely to be net importer by 2008.

‘Although manpower demand and supply position in IT sector both in terms of quality and number is comfortable:

(i) IT enabled service sector needs mostly lower skilled jobs and this is the sector which is growing fastest. Lower skilled job scenario in IT is growing faster than higher skilled job scenario.

(ii) 20% of IT manpower at a given time in the country is migrating abroad. Most of such manpower is possessing higher skills.

(iii) Both the above observations indicate that the IT boom in its present form is generating a ‘cyber blue-collar’ force, with a brain-drain out of the country of ‘cyber white-collar’ force. There is also an internal brain-drain of white-collar workers who choose to become ‘cyber blue-collar’ because it is paying. This has negative implications on the quality of manpower available for other sectors, specifically the ones which are of strategic importance to the country.’

Our longitude-driven (cf. Kochhar) high-wage-island IT sub-economy is, it would seem, fuelling a metropolitan consumer-boom not with high disposable incomes of the many, but with the high incomes of the disposable few.

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Back to basics

While the whole world is celebrating the International Year of Physics to commemorate 100 years of Albert Einstein’s most important works in physics, let us pause and reflect on the relevance of this most basic of sciences.

Physics plays a key role in the future progress of mankind. It expands the frontiers of knowledge about nature and improves our quality of life. It requires deep thinking about simple things. A student of physics should have a fair amount of curiosity, imagination, innovation, problem-solving ability, grip over mathematics, ability to communicate ideas, etc. A study of this subject polishes all these qualities, sharpens his/her analytical abilities and makes him/her more proficient in life skills. Physics students are observed to be quick learners and flexible in their career options, which is the need of the hour.

Physics is closely linked to nature, and nature loves symmetry. Seeing the beauty and symmetry of Maxwell’s electromagnetic equations, a physicist once remarked, ‘Was it a God who wrote these lines?’

The mad rush for professional courses has taken some of the sheen off this once elite course. To embark on this exciting intellectual adventure and to make it an attractive career option for students, there should be strong focus on recruiting and retaining outstanding science teachers in schools.

This year saw most of the academic institutions busy organizing lectures, workshops, debates, quizzes, etc. to create and sustain the students’ interest in physics. Let us hope to see physics back in all its glory in the coming days.

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Corchorus pseudo-oltiorius Islam & Zaid: wrong interpretation of the original paper and misquotation of the authors

This refers to the correspondence entitled ‘Corchorus pseudo-oltiorius by Raju’¹. It is not clear what the author in the opening sentence wanted to convey, ‘It must be “Islam and Zaid” or “Islam et Zaid”, and not otherwise’. Did he mean, ‘Islam et Zaid/Islam & Zaid’ instead of ‘Islam and Zaid’?

However, the purpose of my correspondence is not to seek clarification in the author’s citation, but to point out that he did not interpret correctly our results² about C. pseudo-oltiorius. We did not even drop a hint that C. pseudo-oltiorius Islam & Zaid originated as a result of natural hybridization between C. oltiorius and C. trilocularis.

The following events occurred in 1958, when the Herbarium Collector, Babu
Baig collected a specimen of *Corchorus* in the Miami Forest close to Hyderabad city, Pakistan. The author was then in Sindh University, Hyderabad. When identification of the material could not be made using the standard literature, duplicates of the specimen were sent, one set to the Kew Gardens Herbaria and an identical set to the Royal Botanical Garden, Calcutta. The two herbaria identified the specimen as belonging to two separate *Corchorus* species. While the Herbaria at the Kew gardens identified it to be a taxon close to *C. trilocularis*, taxonomists at the other herbaria in India expressed a different opinion, describing it as a variant of *C. olitorius*. To resolve the problem, a biosystematic study was embarked upon. To verify which of the two identifications is correct, the unidentified specimen was crossbred with both *C. olitorius* and *C. trilocularis*. Whereas the cross, *C. pseudo-olitorius × C. olitorius* produced a small population of semi-fertile progeny, there was only fruit set without any seeds in the other combination, namely *C. pseudo-olitorius × C. trilocularis*. On the basis of the results, the unidentified specimen was given the status of a distinct species and named *C. pseudo-olitorius* Islam & Zaid because of its close morphological resemblance with *C. olitorius*.

The author came across another error in connection with an FAO publication. This is about author citation. Sinha et al. have erroneously cited Islam & Zaid to be the author of *C. pseudo-capularis* and Schweinf, the author of *C. pseudo-olitorius*; i.e. swapping the authors’ names. These errors would not have occurred, if a little more attention was paid to the original paper on *C. pseudo-olitorius*.

Response:

The purpose of my correspondence on *Corchorus pseudo-olitorius* Islam & Zaid (Tiliaceae) was primarily twofold. First, it was to point out the common error in the citation of authors of scientific names of plants and to suggest avoiding author citations of taxa in the titles of papers (for brevity as well as to avoid mistakes), unless inevitable. When two authors are involved in the publication of the name (new species, new combination, etc.), there should be ‘et’ or an ampersand (&) between the authors (Article 46C.1 of St. Louis Code), and not ‘and’. Often, the proof readers (even the authors of papers) substitute ‘and’ for ‘&’ (by default or deliberately) as they opine that they mean the same. Unfortunately, my paper, which tried to point out this folly was again the victim of “and” (it can be verified with the original electronic manuscript) and as a consequence, some ambiguity crept into the minds of readers. The third sentence in my letter published reads: ‘It must be “Islam and Zaid” or “Islam et Zaid”, and not otherwise’ instead of ‘It must be “Islam & Zaid” or “Islam et Zaid”, and not otherwise’.

Second, the species was reported already as an addition to Indian flora in a subjective and national journal. Here, one gets into the dilemma that two letters appeared in *Current Science*, carrying the same reference ‘Singh, H. B. and Viswanathan, M. V., Bull. Bot. Surv. India, 33, 319−320’ but cite the year of publication differently as 1994 (Vatsavaya S. Raju) and 1991 (H. B. Singh). In taxonomic publications, the actual date of publication is important (for Priority of Publication: Art. 11 and 12 of the code) than the intended year of publication. The said volume (33) of *Bulletin of Botanical Survey of India* could have been published in 1991, but was actually published on 2 March 1994. If one considers the year of publication as 1991, it appears that Daniel and Chandrabose (who belong to Botanical Survey of India and worked out the genus *Corchorus* in *Flora of India*), failed to include the new record published in their own journal.

More knowledge about plants will certainly reveal that many of them are of hybrid origin. Hybridization results in intermediacy between parents in many characters. It is becoming increasingly difficult to identify these hybrids, which exchange genes with either of the parents or both. When they are sympatric, plant invasion through hybridization is now realized and established. It is manifested through hybridization between the two native taxa, two exotics, an exotic and a native congener and by the introduction and subsequent spread by hybrids. It is the case with hybrid swarms of *Datura*, *Physalis* and *Solamum* of Solanaceae and *Senna* of Caesalpiniaeae in India. The identification of these variants is increasingly difficult. In this context, I have a standing interest in *Corchorus*.

May be that Islam and Zaid described their *C. pseudo-olitorius* as a natural species and named it with the intention that it is closer to *Corchorus olitorius*. Prior to its description as a new species, similar specimens sent by them for identification were determined differently as *C. trilocularis* (at Kew) and *C. olitorius* (at Calcutta). The two crosses they made, *C. pseudo-olitorius × C. olitorius* and *C. pseudo-olitorius × C. trilocularis*, provided fertile seeds in the former and fruits without seeds in the latter. But, Islam and Zaid preferred to describe it as a new species. Nevertheless, they established its clear affinities with the possible parents, *C. olitorius* on one hand and *C. trilocularis*, on the other. The somatic chromosome number (2n) reported in all the three species is 14. Later, Ghafoor considered *C. pseudo-olitorius* as a natural hybrid.

Islam is right that there was a slip in the citation of authors for *C. pseudo-capularis* and *C. pseudo-olitorius* in the text of the paper by Sinha et al. But, it is also to be admitted that in the same paper, the same writers cited the authors of the two species correctly in tables 2 and 3. Incidentally, Islam has brought to my notice useful data gathered by Sinha et al. in their table 2 on six quantitative traits of eight species of *Corchorus*, which help to underscore my argument, clearly establishing the intermediacy of *C. pseudo-olitorius* between the believed parents (Table 1).

Although *C. pseudo-olitorius* was originally described as a true breeding sexual species (orthospecies), it turned out to be a natural hybrid (nothospecies), with the parentage postulated/determined. As a hybrid, with possible backcrossing, it is expected to be variable. Singh and Viswanathan have to emend its description when they reported it as a new entrant to Indian flora. Islam is aware of

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natural hybrids in *Corchorus* and did indulge in artificial hybridization successfully.

Since its description, *C. pseudo-olitorius* has been discovered in newer territories. Therefore, it is conceived here as a reproductive nothospecies. Pending the publication of my manuscript and to avoid further confusion in the interpretation of the dynamic (ecological/evolutionary) nature of this taxon, the following status is proposed:


Parentage: *C. olitorius* L. x *C. trilocularis* L.

Nototype: Pakistan, Sind, Hyderabad 22-08-1957, Babu Baig 1068 (RAW; nothoisotype: K).

Wert and Wagner Jr. proposed that an ‘x’ placed in brackets better designates the reproductively competent species of hybrid origin. It is adopted here since it is informative, may be it is not yet integral to the botanical code.

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**Structure and tectonics of Kutch basin and earthquakes**

There is now a growing appreciation amongst earth scientists at both national and international levels that precise understanding of the tectonic history of Kachchh region, Gujarat is likely to provide us clues about the high seismic susceptibility of the terrain. We are thus left with little option but to reassess the geology of the region for finding a rational explanation of this unusually sensitive seismic belt. While attempting to educate us on the mechanism of rifting and magmatism, Biswas grossly oversimplified the issue of geological evolution of a region, which has a multi-event geological history. His comments on the genesis of Kachchh lineaments help only to reiterate his conviction, which may not stand any critical scientific scrutiny. A serious lack of understanding of these features cannot escape attention of any knowledgeable reader. Without elaborating further, I would emphasize the need of a thorough geological reinterpretation of the Kachchh region, which would provide us an answer to the high seismic susceptibility of the SCR region.

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