PHYLLOMEGALY: PROBABLE CAUSE AND EFFECTS IN SOME PLANTS OF SOCIO-ECONOMIC IMPORTANCE

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In scientific dictionary, this new term phyllomegaly is not existing or used. Etymologically, it is coined from the ancient Greek word *phyllon*, meaning leaf and Gr. *megas, megal*, meaning large; megaly indicating bigness or enlarged; suggests enlargement of leaf. In bio-medical science, words like splenomegaly and hepatomegaly are available denoting abnormal enlargement of spleen and liver respectively. With this background in mind, herein, it is tried to hypothesize its probable cause and effects in some plant species in West Bengal, India.

The hypotheses related to phyllomegaly are:

i) Herbs or grasses grown in shadows of cultivated paddy fields in saturated water condition may have enlargement of leaves.
ii) Sewerage and drainage inhabiting wetland plants and its adjacent dryland embankment plants may have bigness of leaves

Both these two hypotheses are the outcome author's observation. The first one was from childhood experience called '*aotar ghas*' (grass growing in shade). This relates to rice paddies and *Cyperus* plants (*Mutha ghas*) grown closely associated with homestead rice fields under the densely leaf-set canopy shade of mango and other trees. The second one is evidenced from present day observation made from suburban Kolkata. This relates to plants grown on silt laden wetlands especially alongside drainage system or *nayanjuli* of sprawling Kolkata megacity. The former suggests enriched nutrient availability from organic (provision of cow dung, dug out pond mud/ silt, oil cakes, *etc.* to rice fields) and inorganic manure (chemical manure including urea, ammonia, super phosphate, *etc.*) supplied for cultivation of paddies. The second hypothesis finds support of nutrient enriched sewerage and drainage system of relatively densely populated suburban Kolkata. The sewage supported wetlands or drainages having free flowing sewerages are found to profusely grow Taro (*Kochu*) in the flat drainage channel and its adjacent embankment inhabited by Fig plants (*Dumur*) have highly enlarged leaves causing phyllomegaly (Figs. 1- 3). In overall, the probable effects of phyllomegaly appears to be lower yield of rice and smaller fruit size and lower seed or fruit production in plants.

Somewhat similar condition of cause and effects are evident with other wetland plants like Chest nut (*Paniphal*), Typha (*Hogla*), Nymphaea (*Shaluk*), *etc*., grown in railway *jheels* of Haora, Hugli, Purba Bardhaman and Purba Medinipur districts of West Bengal (Nandi *et al*., 1999, 2017). All these plants are of much socio-economic significance in West Bengal as well as in India. Thus, an adequate and in-depth investigation into the impact of water, solar radiation, shade, temperature, nutrients, etc. (Boyer, 1970) are needed to throw light on physiological function and molecular mechanisms of leaf size towards food security.

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Fig. 1. Showing large-sized Taro (Kochu) leaves

Fig. 2. Showing large-sized Fig (Dumur) leaves

Fig.3 Showing lower production of Fig fruits beside large-sized Taro (*Kochu*) leaves