## PHALLUS CALONGEI G. MORENO & KHALID – A NEW RECORD FOR INDIA

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The state of Sikkim exhibits enormous variability of biological resources including macrofungi (Das 2009), due to its altitudinal and climatic variations. During a macrofungal survey and collection tour to Khangchendzonga Biosphere Reserve in Sikkim, the senior author came across *Phallus calongei* which after thorough study and literature survey appeared a new record for Indian mycoflora.

Macro-morphological characters were noted from the fresh samples in the field. Micro-morphological characters were studied with dry materials mounted in 5% KOH, Lactophenol Cotton Blue, Distilled water and 30% Glycerol. Colour codes and terms mentioned are after Kornerup & Wancher (1981). Micro-photograph was taken with the aid of Olympus CX-41 fitted with digital camera E-410 at original magnification of 1000x for basidiospores. For measuring basidiospores, 25 basidiospores were observed. Quotient (Q = L/W) was calculated considering the value of length (L) and width (W). Herbarium name used is after Holmgren & al. (1990).

Phallus calongei G. Moreno & Khalid, Mycotaxon 108: 458. 2009. (Fig.1).

Unexpanded basidiomata (egg)  $30-48 \times 28-40$  mm, globose to ovoid, chalky (A1), rhizomorph white (A1), branched. Exoperidium thin, membranous, chalky (A1); mesoperidium gelatinous, hyaline; endoperidium chalky (A1); gleba olive yellow (2C8, 2D7, 2D8, 3D7 or 3D8) surrounding the unexpanded orange white (5A2 to 6A2) stalk that develops as a pseudostipe with maturity. Pseudostipe in a fully expanded basidiomata 140 - 230 × 20 - 38 mm, cylindrical, gradually broader towards base, with perforated truncate apex, hollow, spongy, white (A1) to reddish white (7A2). Receptacle (pileus) conical to campanulate, 35-60 mm high, 30-50 mm wide at base, surface coarsely reticulate with strong ridges and pits, mostly light orange (5A4), pale orange (6A3), salmon (6A4) or paler to reddish white (7A2 or 8A2) and white (A1) at the wider base. Indusium poorly developed on the pseudostipe (near apex) beneath the receptacle, expanded up to 3/4th of the receptacle length, white (A1), membranous. Gleba gelatinous, olive brown (4D8), golden brown (4D7), olive yellow (3D8) or golden (4C6). Volva (around the pseudostipe-base) 40-55 × 30-43 mm, white (A1) to orange white (5A2 or 6A2). Odour foetid and disagreeable, detectable 10-12 meters away.

Basidiospores  $2.8 - 4 \times 1.2 - 2 \mu m$  (Q = 1.6 - 2.5), ellipsoid, elongate or cylindric, smooth, hyaline. Indusium never pseudoparenchymatous, composed of intermixed, hyphae; hyphae up tp 5  $\mu m$  broad, branched, septate.

*Habitat:* Gregarius to caespitose, growing on decaying or decomposed wood in the temperate (2572 m) mixed forests.

*Specimen examined:* India, Sikkim, Bakhim, N 27° 25′ 40.8″, E 88° 11′ 20.8′′, 2572 - 2600 m msl., leg. *K. Das* 28.08.2009, KD-1219 (BSHC 41082, SFSU).

*Notes:* Present taxon belongs to the family Phallaceae (Kirk & al. 2008) and can easily be distinguished in the field by the white egg, coarsely reticulate salmon to pale orange receptacle, presence of poorly developed indisium which is never pseudoparenchymatous and the habitat as decomposed wood. The Holotype differs from the Indian material by absence of indusium beneath the receptacle of basidiomata (Moreno, Khalid & Alvarado 2009). Other species growing on wood *i.e. Phallus pygmaeus* Baseia, *P. minusculus* Kreisel & Calonge, *P. tenuis* (E. Fisch.) Kuntze can be separated from this species in discussion by having smaller pseudostipe (Calonge 2005). Further, *P. pygmaeus* has smooth receptacle and reticulate pseudostipe whereas, *P. tenuis* has yellow pseudostipe.

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**Fig. 1:** *Phallus calongei* G. Moreno & Khalid: a. A colony with several basidiomata; b. Unexpanded basidiomata (egg); c. Indusium beneath the receptacle; d. Receptacle; e. Unexpanded and expanded basidiomata; f. Basidiospores. Bar =  $20 \mu m$ .

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