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Pseudovivipary in *Isachne globosa*, family Poaceae

The precocious and continuous growth of offspring on the maternal parent is defined as the ‘vivipary’¹, which has been reported from at least 40 genera and 23 families². Pseudovivipary is observed in apomictically or asexually reproducing plants, which may be natural or induced, and confined to terrestrial habitat due to teratology, mechanical injuries, pathogenecity or abrupt environmental changes^{3,4}.

Beetle¹ has described vivipary and proliferation along with phyllody in grasses and its possible causes. The phenomenon is known from over 100 species of grasses worldwide^{1,4}. Most of these references were from the cold–wet, temperate–pastoral or alpine region^{1,5–8} and very few from the tropical world^{9,10}. In Poaceae species it has been considered as an ecological phenomenon, which depends on environmental influences to complete the cycle of offspring production, germination and establishment during the brief periods favourable to growth and reproduction in markedly seasonal environments^{2,9}.

During field visits of September 2011, we were able to notice pseudovivipary in

Isachne globosa (Thunb.) Kuntze from the rocky river bed of River Purna, Dangs, Gujarat. This species occurs in areas where the soils are usually shallow, with rocky outcroppings (Figure 1a). River beds are usually dry all year round, but flash flood occur following heavy rain. Pseudoviviparous and normal inflorescences were collected and dissected under stereo-microscope. *I. globosa* has an annual or perennial lifecycle and ascending to decumbent culms which vary according to available nutritional and environmental conditions. Inflorescence is generally panicle and spikelets are arranged solitary. During the observations, presence of leafy structures with prominent ligule at the junction of leaf sheath and blade was noticed on some inflorescences – characters of pseudovivipary (Figure 1b). Although, all parts of the spikelet (i.e. glumes, lemmas and paleas) depicted the pseudoviviparous characters, it is found to be pronounced in case of lemmas (Figure 1c).

Earlier reports^{3,8,11} suggest that pseudovivipary can be induced even due to drought conditions followed by availabi-

lity of optimal water, but detailed studies in the field and laboratory are needed. In addition, pseudovivipary is known from several tribes of the subfamily Panicoideae^{4,9–12}, but not from Isachneae.

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Figure 1. a, Pseudoviviparous population of *Isachne globosa*. b, Part of panicle showing normal and pseudoviviparous spikelets (red circle). c, Close-up of pseudoviviparous spikelet. LG, Lower glume; UG, Upper glume; LL, Lower lemma; UL, Upper lemma.