

A record of a proliferating grass found in Kagawa Prefecture

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Spikelets of grasses sometime show incredibly wide modification. A specimen that was collected in Zentsuji city, Kagawa prefecture, has particularly curved spikelets and it looks significantly different from any other recorded grass species from this prefecture (Fig. 1). After detailed investigation, this strange grass was identified as a type of malformation which frequently occurs in the Poaceae. We record here this strange malformation, as a reference to avoid misidentification for floristic work.

The specimen was discovered on a road-side bank along an express-way in Inagi-cho, Zentsuji-city, Kagawa prefecture. About ten tussocks were scattered around on arid soil. All

individual plants had strongly curved spikelets (Fig. 1). Based on detailed observation, we found that each spikelet had many glumes and lemmas, but lacked palea, stamen and pistil in the florets (Fig. 2). Glumes and lemmas are prolonged and twisted.

There are three types of malformation that are known from grass family. These are vivipary, proliferation and phyllody (Gould and Shaw 1968). In the case of vivipary, flowers, lemmas and paleas are transformed into, or replaced by, bulbils or bulblets. Proliferation is when the glumes and lemmas develop a blade at the distal end and phyllody shows the metamorphosis of the glumes, lemmas and/or paleas into



Fig. 1. A voucher specimen deposited in a herbarium of Tokushima Prefectural Museum (Inagi-cho, Zentsuji-city, Kagawa prefecture., Y. Kikuma 14 Apr. 2013, TKPM)

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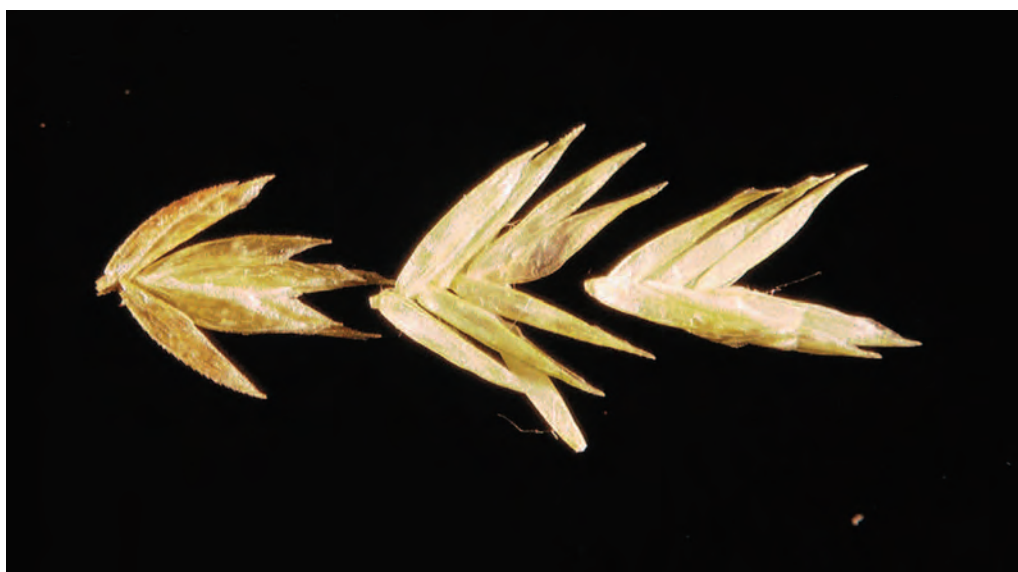


Fig. 2. Dissected one spikelet. Each spikelet has many glumes and lemmas, while its lacks palea, stamen and pistil in the spikelet.

leaves.

The causes for these different modifications are varied and may result from physical or insect damage, adverse environmental conditions and true vivipary. These variations occur in Pooideae, Chloridoideae, and Panicoideae, but were most frequent in the Pooideae (Gould and Shaw 1968). Additionally, it is common for grasses which continue to flower at the end of the season to have proliferating spikelets (Chapman 1996).

Based on our investigation, the sample might be better to be treated as a type of proliferation or phyllody. This means that the spikelets are abnormal and makes it difficult to identify the species. However, on examining the spikelet in detail we suggest that it may be a *Poa* sp.

Specimen examined

Inagi-cho, Zentsuji-city, Kagawa prefecture. (Y. Kikuma 14 Apr. 2013, TKPM-BSP081334 : Fig. 1)

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摘 要

香川県で発見されたイネ科小穂形態異常の記録

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筆者らの一人菊間は、高速道路法面の植物相調査中、見慣れないイネ科植物に気付いた。変わった形態をしていたので当初、新産婦化植物と思われたが、詳細な観察の結果、イチゴツナギ属の一種であると思われる。この標本では、小穂の包穎や護穎が異常に多く、一方で内穎、雌薬、雄薬などは全く観察されなかった。これらの穎は、いずれもやや伸張しており、ねじれたようになっていた。イネ科植物の小穂がこの様な形状になることは、しばしば見られる奇形の一種で、穎が苗条になる無性芽繁殖 (proliferation)、ないしは葉のようになる葉化 (phyllody) に相当することが示唆された。小穂の変形は、遺伝的な要素、昆虫などによる物理的外圧での奇形、その他外部環境の影響が原因になる。このような植物を見つけた場合、小穂を解剖すると、正常な雄薬や雌薬などが形成されていないことが多いので、この点を確認すると良い。

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