



Diversity of *Striga gesnerioides* on cowpea in Ghana

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Abstract:

Striga gesnerioides is a devastating parasitic weed of cowpea in West Africa, including Ghana. It represents a major constraint over cowpea yield in northern Ghana. Based on the interaction of host varieties carrying known resistance genes, at least seven races of the parasite have been identified across West Africa, but as yet neither the identity of the races presents in Ghana nor their diversity have been studied. Here, the distribution and diversity of *S. gesnerioides* in Ghana have been characterized. The parasite was found to occur over a large area of the northern part of the country. Both purple and white flowered types are present, although the former predominate by about 3:1. The reaction of 27 cowpea varieties to eight *S. gesnerioides* populations sampled from three separate regions of northern Ghana revealed that some of the material was resistant to all of the populations, some was susceptible to all of the populations and some showed a differential response. The existence of the differential response implied the presence of more than one race of *S. gesnerioides* in Ghana. A genotypic survey of 27 samples of *S. gesnerioides* based on 73 newly developed PCR markers revealed two main clusters, supporting the suggestion that multiple strains of the parasite are present in Ghana. The identities of the races present in Ghana are likely SG3, SG2 and SG5.

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