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SSR Markers Linked with *Alectra vogelii* Resistance in Cowpea [*Vigna unguiculata* (L.) Walp]

Omoigui LO[1],*, Ugba MS[1], Bello LL[1], Gowda BS[2], Timlo MP[2], Motagi BN[3]

[1]Department of Plant Breeding and Seed Science, College of Agronomy, University of Agriculture, P.M.B. 2373, Makurdi, Nigeria
[2]Department of Biology, University of Virginia, Charlottesville, Virginia 22903, U.S.A.
[3]International Crop Research for the Semi-Arid Tropics (ICRISAT), Kano, Nigeria
*Email: luckyomoigui@gmail.com

Cowpea [*Vigna unguiculata* (L.) Walp.] is an important food legume grown in tropical and subtropical regions of the world, primarily in Sub-Saharan Africa. Despite the importance of cowpea, yield on farmers' field is still low due to variety of biotic and abiotic stresses that constrain its production. Among the biotic constraints, the parasitic flowering plant, *Alectra vogelii* (Benth.) is one of the more formidable limitations to cowpea production in the dry Savannas of West and Central Africa, a region which accounts for over 64 % of world cowpea production. Several control measures have been suggested for the control of the parasite. These include: cultural practices, application of ethylene chemicals, and host plant resistance. Among these control measures, the use of resistance cultivars appears to be the most attractive option to the resource poor farmers in sub-Saharan Africa Breeding resistance cultivars would be facilitated by marker-assisted selection (MAS). The objective of this study was to identify molecular markers tightly linked to *Alectra* resistance gene that would be useful in MAS in breeding cowpea for resistance to *Alectra vogelii*. F_2 population of a single cross, Banjar (susceptible parent) × B301 (resistant parent) was screened for reaction to *Alectra* using pot culture technique. DNA was extracted from parental genotypes and F_2 lines from young leaves of plant at 14 days after planting using FTA® PlantSaver cards. 50 SSR cowpea, 40 SSR rice bean and 50 SSR asparagus bean primers, previously reported to give amplification products in cowpea, were used to screen DNA from B301 and Banjar for polymorphism. Of the 140 primers screened 20 primers were polymorphic between B301 and Banjar and these were used in the technique of BSA performed with DNA bulks of highly resistant and highly susceptible F_2 lines to select those that co-segregate with the resistant gene. Two of the markers (RB16 from rice bean and CLM0356 from asparagus bean) were found to be consistently associated with the resistance gene. The utility of these two markers were validated using 150 F_2 lines for marker segregation and association analysis. Similarity index (SI) revealed that these markers were closely linked (90.23%) with *Alectra* resistance gene. Cluster analysis as depicted by dendogram also showed a tight association (>0.75) between these markers, suggesting that these markers can be explored in MAS targeting breeding for *Alectra* resistance in cowpea.