AIG-3483:COLLECTION, CHARACTERIZATION, PRELIMINARY EVALUATION, CONSERVATION AND SUPPLY OF SILKWORM GENETIC RESOURCES

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Introduction:

The important mandate of Central Sericultural Germplasm Resource Centre is the collection of silkworm (*Bombyx mori*) genetic resources with unique characteristics and new breeds developed by CSRTIs and State sericulture research Institutes and the breeds authorized by Central Silk Board. During the Phase-VII, all the conserved silkworm germplasms (443) were considered for the evaluation and generation of data to update in the SGIS database. Besides new collection silkworm races were also made and characterized, assigned accession numbers and enriched the silkworm germplasm.

Objectives:

- To collect silkworm genetic resources
- To characterize silkworm genetic resources
- To evaluate silkworm genetic resources for utilization
- To supply silkworm genetic resources for better utilization.
- To conserve silkworm genetic resources for posterity

Outcome:

- 23 new silkworm genetic resources [SWGRs] (8 MV and 15 BV) collected from 5 Institutes CSRTI, Berhampore (6), CSRTI, Pampore (4), APSSRDI, Hindupur (8), CSRTI, Mysore (4) and SSTL, Kodathi (1) and were accessioned by NBAIR, Bengaluru and added to the gene bank.
- 81 multivoltine, 365 BV and 20 mutants silkworm germplasm accessions were characterized for different descriptors, evaluated for 12 important economic traits and data updated in SGIS which confirmed their conservation as per passport data.
- 600 BV accessions were supplied to 15 indenters in 68 spells and 128 MV accessions to 10 indenters in 29 spells for PG research, evaluation and as breeding resource materials.
- Top performing multivoltine and bivoltine accessions were identified for multiple traits and also for individual traits.

List of accessions collected from different institutes

Sl. No.	Name of the race	Voltinism	Donor Institute	Institute Accn. No.	National Accn. No.
1	SK-6	Bivoltine	CSRTI, Berhampore	BBI-0371	NBAII-BBI-0371
2	SK-7	Bivoltine	CSRTI, Berhampore	BBI-0372	NBAII-BBI-0372
3	DUN-6	Bivoltine	CSRTI, Pampore	BBI-0373	NBAII-BBI-0373
4	DUN-22	Bivoltine	CSRTI, Pampore	BBI-0374	NBAII-BBI-0374
5	PAM-114	Bivoltine	CSRTI, Pampore	BBI-0375	NBAII-BBI-0375
6	PAM-117	Bivoltine	CSRTI, Pampore	BBI-0376	NBAII-BBI-0376
7	APS-12	Bivoltine	APSSRDI, Hindupur	BBI-0377	NBAII-BBI-0377
8	APS-45	Bivoltine	APSSRDI, Hindupur	BBI-0378	NBAII-BBI-0378
9	APDR-105	Bivoltine	APSSRDI, Hindupur	BBI-0379	NBAII-BBI-0379
10	APDR-115	Bivoltine	APSSRDI, Hindupur	BBI-0380	NBAII-BBI-0380
11	APDR-126	Bivoltine	APSSRDI, Hindupur	BBI-0381	NBAII-BBI-0381
12	PM (M)	Multivoltine	SSTL, Kodathi	BMI-0075	NBAII-BMI-0075
13	APM-2	Multivoltine	APSSRDI, Hindupur	BMI-0076	NBAII-BMI-0076
14	APM-3	Multivoltine	APSSRDI, Hindupur	BMI-0077	NBAII-BMI-0077
15	APDR-15	Multivoltine	APSSRDI, Hindupur	BMI-0078	NBAII-BMI-0078
16	Mcon-1	Multivoltine	CSRTI, Berhampore	BMI-0079	NBAII-BBI-0079
17	Mcon-4	Multivoltine	CSRTI, Berhampore	BMI-0080	NBAII-BBI-0080
18	Bcon-1	Bivoltine	CSRTI, Berhampore	BBI-0382	NBAII-BBI-0382
19	Bcon-4	Bivoltine	CSRTI, Berhampore	BBI-0383	NBAII-BBI-0383
20	Gen-2	Bivoltine	CSRTI, Mysore	BBI-0384	NBAII-BBI-0384
21	Gen-3	Bivoltine	CSRTI, Mysore	BBI-0385	NBAII-BBI-0385
22	L14	Multivoltine	CSRTI, Mysore	BMI-0081	NBAII-BMI-0081
23	L15	Multivoltine	CSRTI, Mysore	BMI-0082	NBAII-BMI-0082

Recommendations/ Utilization:

- ✓ Enrichment of gene bank through addition of 23 new silkworm breeds (8 MV and 15 BV) providing wider genetic base for the stakeholders in selection of potential parental stock for crop improvement programs.
- ✓ The identified top performing multivoltine and bivoltine accessions for multiple and individual traits can be utilized for crop improvement programs.
- ✓ The supply of 600 BV and 128 MV accessions for PG research, evaluation and as breeding resource materials promoted utilization of the conserved germplasm.