

Research Support Facilities

5.1 Animal House Facility

Rabbits, pigeons, domestic fowls, laboratory mice, etc. are being maintained as per the guidelines issued by the concerned authorities. The animals are being procured from Indian Veterinary Research Institute, Rae Bareli, Uttar Pradesh. The animals were housed at 22, Sham Nath Marg, Delhi and were used as blood meal source to mosquitoes of different species and strains maintained at the Institute. Laboratory mice were used in screening the antimalarials, host-parasite interaction studies and maintenance of rodent plasmodia at the parasite

bank. Sick animals were treated as and when found necessary and carcasses were destroyed as per standard guidelines. Experiments on animals were performed with the approval of the Scientific Advisory Committee (SAC) and Institutional Animal Ethics Committee (IAEC) of the Institute.

5.2 Repository of Biological Material

5.2.1 Mosquito species

Different species of mosquitoes being maintained in the Insectary are listed below:

Mosquito species	Strain/Origin	Karyotype	Sibling species
<i>Anopheles culicifacies</i>	Burari	Sub	A
<i>An. culicifacies</i>	Dehra	Sub	A
<i>An. culicifacies</i>	Rameswaram	Sub	A
<i>An. culicifacies</i>	Rourkela	Sub	A
<i>An. culicifacies</i>	Haldwani (Refractory strain)	Acro	B
<i>An. culicifacies</i>	Ladpur	Acro	B
<i>An. culicifacies</i>	Jabalpur	Sub	C
<i>An. culicifacies</i>	Rourkela	Sub	C
<i>An. fluviatilis</i>	Rourkela		T
<i>An. fluviatilis</i>	Hardwar		T
<i>An. fluviatilis</i>	Haldwani		T
<i>An. fluviatilis</i>	Hardwar		U
<i>An. stephensi</i>	Delhi		
<i>An. stephensi</i>	Punjab		
<i>An. stephensi</i>	Haryana		
<i>An. stephensi</i>	Okhla, Delhi		
<i>An. stephensi</i>	Hardwar		
<i>An. stephensi</i>	Safiabad		
<i>An. stephensi</i>	Sonepat		
<i>An. stephensi</i>	Kutch		
<i>Culex quinquefasciatus</i>	BSSS (Sensitive to biocide)		
<i>Aedes aegypti</i>	Delhi		
Mutant Lines			
<i>An. stephensi</i>	Black larvae		
<i>An. stephensi</i>	Black larvae– White eye		
<i>An. stephensi</i>	Golden yellow		
<i>Culex quinquefasciatus</i>	Scarlet eye		
<i>Cx. quinquefasciatus</i>	Red eye		

5.2.2 Parasite species

Human Plasmodia

- Non-adapted cryopreserved isolates of *P. falciparum*, *P. vivax* and *P. malariae*
- Sera/plasma from infected patients

Plasmodium falciparum

- Adapted/Characterised isolates
- Different stages of the parasite from culture
- Merozoites (from culture supernatant)
- Ring (by synchronisation)
- Gametocytes (by Hypoxanthine treatment)
- Free parasites for antigen preparation (by Saponin lysis and ultrasonication)

Plasmodium vivax

- Sporozoites harvested from artificially fed mosquitoes

Cell lines

- Hepatoma cell line: Hep G2 A16 used in *in vitro* cultivation of pre-erythrocytic stage malaria parasites
- Myeloma cell line: SP2
- Hybridomas: 2A 10 (anti-*P. falciparum* sporozoite antibody secreting cells); 2 F2 1A7 (anti-*P. vivax* sporozoite antibody secreting cells)

Non-human Plasmodia

- Different species of avian, simian and rodent plasmodia
- Rodent plasmodia infected rats/mice
- Sera/plasma from respective vertebrate hosts

Non-human malaria parasites in the Parasite Bank

Simian malaria parasites

- P. cynomolgi bastianelli* (CDRI, Lucknow)
- P. cynomolgi bastianelli* (NICD, Delhi)
- P. knowlesi* (NICD, Delhi)
- P. knowlesi* (CDRI, Lucknow)
- P. fragile* (CDRI, Lucknow)

Avian malaria parasites

- P. gallinaceum*
- P. relictum*

Human malaria parasites in the Parasite Bank

Parasite species	Collection sites (States and Districts)	No. of isolates
<i>P. falciparum</i>	Andhra Pradesh	
	Visakhapatnam	12
	Assam	
	Sonapur	20
	Tezpur	6
	Nalbari	1
	Chhattisgarh	
	Jagdalpur	14
	Bilaspur	26
	Delhi	
	Delhi	192
	Gujarat	
	Anand	4
	Kheda	7
	Haryana	
	Gurgaon	25
	Karnataka	
	Mangalore	14
	Madhya Pradesh	
	Mandla/Jabalpur	14
	Meghalaya	
	Tura	18
	Orissa	
	Rayagada	29
	Sundargarh	42
	Rajasthan	
	Alwar	25
Bharatpur	35	
Jaisalmer	38	
Tamil Nadu		
Chennai	4	
Ramanathapuram	1	
Uttar Pradesh		
Baharaich	22	
Gautam Budh Nagar	37	
Ghaziabad	17	
Allahabad	60	
West Bengal		
Kolkata	18	
Midnapore	1	
Total	682	
<i>P. vivax</i>	Karnataka	6
	Delhi, Uttar Pradesh, Orissa	53
	Tamil Nadu	9
	Total	68
<i>P. malariae</i>	Orissa	5

Rodent malaria parasites

- P. berghei* (CDRI, Lucknow)
- P. berghei*
- P. berghei*
- P. berghei* ANKA
- P. berghei* (NK65) (PGIMER, Chandigarh)
- P. chabaudi* (Paris)
- P. yoelii nigeriensis* (ICGEB, Delhi)
- P. yoelii nigeriensis* (CDRI, Lucknow)
- P. yoelii nigeriensis* (LSHTM, London)
- P. yoelii yoelii* (265 by) Paris

5.3 Library

The Institute has one of the best libraries in the country in the field of malaria having more than 6735 books, 4083 bound journals, 3573 reprints, 18 video cassettes, 27 audio cassettes, 20 microfilms, 19 theses and 106 national and international reports. About 52 journals (39 Foreign and 13 National) are being subscribed besides 8 journals which are received on complimentary and exchange basis. Two magazines and six newspapers are subscribed. About 201 new books had been added during this financial year.

The library renders its services not only to the scientists/research scholars of the Institute but also to various national and international universities and organisations. During the year modernisation



Selection of books for the library

process has been expedited and entry into LIBSYS software of about 6664 books and 2050 journals has been completed. Library has also been serving its users through DELNET. Other services such as information retrieval, citation index, internet facility, inter library loan facility, reprographic services, etc. are also being provided to the users. J Gate and JCCC@ICMR & Proquest Medical Database are being provided to the NIMR scientists in Delhi and its IDVC field units located in different parts of India. In the process of modernisation application of barcode system is in progress. Library provides abstracts, references, CAS and SDI services, Medline CD search, etc. to its users.

