summer when large numbers of mushrooms were evident throughout the woods. For D. affinis--which has a population flush much earlier in the year--the regression of abundance on time was in fact negative in sign, but not significantly different from zero.

Thus, extensive trapping has failed to reduce population size of D. affinis significantly despite the fact that flies were probably not immigrating in numbers large enough to replace the trapped individuals. Apparently, replacements are abundantly available from within the small isolated woodlot.

This work was supported by the Faculty Research Committee at Bowling Green State University.

References: Dobzhansky, Th. and S. Wright 1943, Genetics 28:304-340; Johnston, S. and W.B. Heed 1975, Am. Nat. 109:207-216.

Gupta, J.P. Banaras Hindu University, Varanasi, India. A list of drosophilid species so far known from India.

There has always been a conspicuous gap in our knowledge of world distribution of Drosophila where India is concerned. Although a beginning of such study in the subcontinent of India was made as early as 1920, only about a decade ago have workers shown renewed interest in such study. During these years several collections undertaken by various workers in different parts of the country have yielded considerable data on Indian species. Recently our extensive surveys in different localities of northeast India have uncovered several interesting new species inhabiting this region. A few of them have already been published; manuscripts for those remaining are in preparation and have also been included in this list. In this report an attempt is made to include all species so far described and recorded from India. However, the final picture of the Indian drosophilid species seems to be far from complete. There are undoubtedly more species awaiting discovery.

Genus Amiota Loew	1. shillongensis	Singh & Gupta (in press)
Genus Cacoxenus Loew	2. punctatus	Duda 1924, Syn. of Gitonides perspicax Knab 1914. Ref. McAlpine 1968, Canad. Entomol. 100(5):514.
Genus Chymomyza Czerny	3. vaidyai	Okada 1976, Nom. nov. for Chymomyza pararufithorax Vaidya & Godbole 1973, DIS 50:71.
Genus Curtonotum Macquart	4. neoangustipennis	Dwivedi & Gupta (in press)
Genus Gitonides Knab	5. perspicax	Knab 1914
Genus Hypselothyrea de Meijere	6. guttata	Duda 1926
	7. varanasiensis	Gupta 1974
Genus Leucophenga Mik	8. albicincta	(de Meijere 1908)
	9. flavicosta	Duda 1926
	10. guttiventris	(de Meijere 1911)
	11. interrupta	Duda 1924
	12. neoangusta	Vaidya & Godbole 1976
	13. shillongensis	Dwivedi & Gupta (in press)
	14. subpollinosa	(de Meijere 1914)
Genus Liodrosophila Duda	15. angulata	Dwivedi & Gupta (in press)
	16. okadai	Dwivedi & Gupta (in press)
	17. penispinosa	Dwivedi & Gupta (in press)
	18. rufa	Okada 1974
Genus Lissocephala Malloch	19. metallescens	(de Meijere 1914)
	20. sabroskyi	Wheeler & Takada 1964
Genus Microdrosophila Malloch	21. purpurata	Okada 1956
Genus Mycodrosophila Oldenberg	22. gratiosa	(de Meijere 1911)
Genus Paraleucophenga Hendel	23. invicta	(Walker 1857)
Genus Scaptomyza Hardy	24. cristata	Singh 1976
	25. graminum	(Fallén 1823)
	26. pallida	(Zetterstedt 1847)
	27. plumata	Singh 1976

Genus Sinophthalmus Coquillett	28. creberii	Singh 1976
Syn. of subgenus Erima Kertész of genus Amiota Loew. Ref. Okada 1971, Kontyû 39:83.	29. pictus	Coquillett 1904
Genus Stegana Meigen	30. subexcavata	Vaidya & Godbole 1976
Genus Zaprionus Coquillett	31. indiana	Gupta 1970
	32. multistriata	Sturtevant 1927
	33. paravittiger	Godbole & Vaidya 1972
	34. striata	Nirmala Sajjan & Krishnamurthy 1975
Genus Drosophila Fallén	35. albomicans	Duda 1924
	36. ananassae	Doleschall 1858
	37. andamanensis	Gupta & Ray-Chaudhuri 1970
	38. andamanensis	Parshad & Singh 1971. Syn. of D. andamanensis Gupta & Ray-Chaudhuri 1970. Ref. Gupta 1980, DIS 55.
	39. annulipes	Duda 1924
	40. anomelani	Reddy & Krishnamurthy 1973
	41. bambuphila	Gupta 1971
	42. birarmipes	Malloch 1924
	43. bicolovittata	Singh 1974
	44. bifasciata	Pomini 1940
	45. bipectinata	Duda 1923
	46. brachynephros	Okada 1956
	47. brevis	Parshad & Singh 1971; Homonym
	*48. brindavani	
	49. brunettii	Ray-Chaudhuri & Mukherjee 1941
	50. bryani	Malloch 1934
	51. busckii	Coquillett 1901
	52. chamundiensis	Nirmala Sajjan & Krishnamurthy 1975
	53. chandraprabhiana	Gupta & Ray-Chaudhuri 1970
	*54. charmadensis	
	55. coei	Okada 1966
	56. confusa	Staeger 1844
	57. coonorensis	Reddy & Krishnamurthy 1973
	58. coracina	Kikkawa & Peng 1938
	59. curviceps	Okada & Kurokawa 1957
	60. daruma	Okada 1956
	61. ebonata	Parshad & Duggal 1966
	62. emulata	Ray-Chaudhuri & Mukherjee 1941. Syn. of D. melanogaster Meigen 1830. Ref. Parshad, Narda & Paika 1964.
	63. epiobscura	Parshad & Duggal 1966
	64. eugracilis	Bock & Wheeler 1972. Nom. nov. for D. (Tanygastrella) gracilis Duda 1926, not gracilis Walker 1853.
	65. ficusphila	Kikkawa & Peng 1938
	66. fusciostata	Okada 1966
	67. giriensis	Prakash & Reddy 1977
	68. gundensis	Prakash & Reddy 1977
	69. guptai	Dwivedi (in press)
	70. helvetica	Burla 1948
	71. hoozani	Duda 1923
	72. hypocausta	Osten Sacken 1882
	73. immacularis	Okada 1966
	74. immigrans	Sturtevant 1921
	75. jambulina	Parshad & Paika 1964 (identified in error as seguyi Smart in Gupta & Ray-Chaudhuri 1970c:59).
	76. kikkawai	Burla 1954
	77. krishnamurthyi	Nirmala Sajjan & Reddy 1975

Genus Drosophila Fallén (continued)	78.	kurseongensis	Gupta & Singh 1977
	79.	lacertosa	Okada 1956
	80.	latifshahi	Gupta & Ray-Chaudhuri 1970
	81.	lucipennis	Lin 1972
	82.	malerkotliana	Parshad & Paika 1964
	83.	maryensis	sp. nov.
	84.	mediobandes	sp. nov.
	85.	meijerei	Wheeler 1959
	*86.	meijerei indicus	
	87.	melanogaster	Meigen 1830
	88.	mercatorum pararepleta	Dobzhansky & Pavan 1943
	89.	minima	Okada 1966
	90.	montium	de Meijere 1916
	91.	multispina	Okada 1956
	92.	mundagensis	Nirmala Sajjan & Reddy 1975
	93.	mysorensis	Reddy & Krishnamurthy 1970
	94.	nasuta	Lamb 1914
	95.	neoelegans	Gupta & Singh 1977
	96.	neokuntzei	Singh & Gupta (in press)
	97.	neonasuta	Nirmala Sajjan & Krishnamurthy 1973
	*98.	neotruncata	
	99.	nepalensis	Okada 1955
	100.	notostriata	Okada 1966
	101.	novaspinofera	Gupta & Singh (in press)
	102.	novazonata	sp. nov.
	103.	obscuricornis	(de Meijere 1915)
	104.	orissaensis	Gupta 1972
	105.	parabipectinata	Gupta & Ray-Chaudhuri 1970
	107.	parazonata	sp. nov.
	108.	penidentata	Singh & Gupta (in press)
	109.	penispina	Gupta & Singh (in press)
	110.	pentaspina	Parshad & Duggal 1966
	111.	pentavittata	Gupta & Ray-Chaudhuri 1970
	112.	prashadi	Brunetti 1923
	113.	prolongata	Singh & Gupta (in press)
	114.	prostipennis	Lin 1972
	115.	pulchrella	Tan, Hsu & Sheng 1949
	116.	punjabiensis	Parshad & Paika 1964
	117.	pseudoananassae	Bock 1971
	118.	quadrilineata	(de Meijere 1911)
	119.	rajasekari	Reddy & Krishnamurthy 1968
	120.	ramamensis	Dwivedi (in press)
	121.	raychaudhurii	Gupta 1969. Syn. of D. rajasekari Reddy & Krishnamurthy 1968. Ref. Bock & Wheeler 1972.
	122.	repleta	Wollaston 1858
	123.	rhopaloa	Bock & Wheeler 1972
	124.	riverata	Singh & Gupta 1977
	125.	rufa	Kikkawa & Peng 1938
	126.	setaria	Parshad & Singh 1971
	127.	setitarsa	sp. nov.
	128.	silvalineata	Gupta & Ray-Chaudhuri 1970
	129.	subtilis	Kikkawa & Peng 1938
	130.	suzukii indicus	Parshad & Paika 1964
	131.	takashii	Sturtevant 1927
	132.	testacea	van Roser 1840
	133.	tricombata	Singh & Gupta (in press)
	134.	trilutea	Bock & Wheeler 1972
	135.	trisetosa	Okada 1966

Genus Drosophila Fallén (continued)	136. tristipennis	Duda 1924
	137. trizonata	Okada 1966
	138. truncata	Okada 1964
	139. varietas	Singh 1972

*Indicates names were reported for new species, but no description of these supposedly new species has been published so far.

Gvozdev, V.A., T.I. Gerasimova, G.L. Kogan, Ya.M. Rosovsky, S.G. Smirnova. Institute of Molecular Genetics, USSR Academy of Sciences, Moscow 123182, USSR. A collection of G6PD mutations which suppress the lethal effect of mutations affecting 6-phosphogluconate dehydrogenase in D. melanogaster.

We have obtained 39 mutations in the Zw locus (1-63)(Lindsley and Grell 1968) of D. melanogaster. 32 mutations were induced with ethylmethane sulfonate (EMS), one with γ-irradiation as described earlier (Gvozdev et al. 1977), and six were selected as spontaneous mutations. All the mutations were selected as recessive X-linked suppressors which corrected the lethal effect of mutations inactivating 6-phosphogluconate dehydrogenase. The amount of protein product of the gene as assessed by immunochemical techniques remained unchanged in all cases. Meanwhile if mutant individuals kept an active enzyme its properties usually differed from the wild type enzyme. These results suggest that all the mutations affect the structural part of the locus. The frequency of mutations affecting G6PD was evaluated by comparing the number of sisters and revertant brothers in the progeny of the cross between C(I)RM, ywf females and mutagen-treated Pgd^- pn/w^+Y males (no treatment in the case of spontaneous mutagenesis). The frequency came to 6.6×10^{-5} for EMS-induced mutations and about 0.6×10^{-6} for spontaneous mutations. Both figures accord with other people's data (Green 1977; Mukai and Cockevham 1977; Schalet 1957, 1978; Simmons and Crow 1977). The mutants showed a broad range of G6PD activities as assessed under optimum conditions for the wild type: from complete inactivity (17 mutations) to the normal level.

A study of mutant G6PD activity in Drosophila extracts revealed considerable activity oscillations probably due to the high and uncontrollable lability of the mutant enzyme. In some cases the G6PD activity in mutant extracts exceeded the G6PD activity in wild type Drosophila extracts, which shows that mutations may increase the maximum rate of the reaction catalyzed by G6PD.

In accordance with the proposed biological mechanism of suppression (Gvozdev et al. 1977) all null-mutations proved to be good suppressors, i.e., the number of males in the progeny which carried a lethal mutation and a suppressor did not differ from the number of normal sisters carrying linked X chromosomes. Most of the mutants keeping some level of G6PD activity also showed a good suppression of the lethal mutations, although this group included some weak suppressors (5,12,15,23,26,28,47).

The table shows that in most of the mutants that keep G6PD activity the enzyme is different from normal G6PD. It is not always possible, however, to establish a correlation between the degree to which the enzyme is changed and the level to which viability is restored. This is not surprising since the data on G6PD activity in vitro do not necessarily reflect its activity in the cell (Olaniyi et al. 1976). A similar situation has been described for mutant forms of human G6PD when the emergence of a chronic haemolysis of erythrocytes could not be related to specific changes in the enzyme's functional properties (Johnson et al. 1977).

A comparison of the viability of heterozygotes for various mutant alleles of the Zw gene with the viability of the corresponding homozygous stocks revealed the possibility of interallelic complementation, but only for combinations of (su)14 with three other suppressors (2,9 and 12). The number of su2/su14 and su9/su14 heterozygotes was decreased 5 to 50 times as compared with the corresponding males and their development was considerably delayed. The number of su12/su14 females was halved.

References: Green, M.M. 1977, Proc. Nat. Acad. Sci. USA 74:3490; Gvozdev, V.A., T.I. Gerasimova, G.L. Kogan and Ya.M. Rosovsky 1977, Molec. gen. Genet. 153:191; Johnson, G.J., M.E. Kaplan and E. Beutler 1977, Blood 49:247; Lindsley, D.L. and E.H. Grell 1968, Carnegie Inst. Wash. Publ. 627; Mukai, T. and C.C. Cockevham 1977, Proc. Nat. Acad. Sci. USA 74:2154; Olaniyi, A., G. Babalola, J.G. Beetlestone and L. Luzzatto 1976, J. Biol. Chem. 251:2993; Schalet, A.P. 1957, Genetics 42:393; _____ 1978, Mutation. Res. 49:313; Simmons, M.J. and J.F. Crow 1977, Ann. Rev. Genet. 11:49.