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.


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.

<table>
<thead>
<tr>
<th>Genus Amiota Loew</th>
<th>1. shillongensis</th>
<th>Singh &amp; Gupta (in press)</th>
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<tr>
<td>Genus Curtonotum Macquart</td>
<td>4. neoangustipennis</td>
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<td>7. varanasiensis</td>
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<td>8. albicincta</td>
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<td>9. flavicosta</td>
<td>Duda 1926</td>
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<td>10. guttiventris</td>
<td>(de Meijere 1911)</td>
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<td>11. interrupta</td>
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<td>12. neoangusta</td>
<td>Vaidya &amp; Godbole 1976</td>
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<td>13. shillongensis</td>
<td>Dwivedi &amp; Gupta (in press)</td>
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<td>14. subpolinosa</td>
<td>(de Meijere 1914)</td>
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<td>Genus Liodrosophila Duda</td>
<td>15. angulata</td>
<td>Dwivedi &amp; Gupta (in press)</td>
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<td>16. okada</td>
<td>Dwivedi &amp; Gupta (in press)</td>
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<td>17. penipinosa</td>
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<td>18. rufa</td>
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<td>Genus Lissocephala Malloch</td>
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<td>Genus Microdrosophila Malloch</td>
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<td>Genus Scaptomyza Hardy</td>
<td>24. cristata</td>
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<td>25. graminum</td>
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<td>26. pallida</td>
<td>(Zetterstedt 1847)</td>
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<td>27. plumata</td>
<td>Singh 1976</td>
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</tbody>
</table>
Genus Sinophthalmus Coquillett
Syn. of subgenus Erima Ker-
tész of genus Amiota Loew.
Genus Stegana Meigen
Genus Zaprionus Coquillett
Genus Drosophila Fallén

28. creberii Singh 1976
29. pictus Coquillett 1904
30. subexcavata Vaidya & Godbole 1976
31. indiana Gupta 1970
32. multistriata Sturtevant 1927
33. paravittiger Godbole & Vaidya 1972
34. striata Nirmala Sajjan & Krishnamurthy 1975
35. albomicans Duda 1924
36. ananassae Doleschall 1858
37. andamanensis Gupta & Ray-Chaudhuri 1970
38. andamanensis Parshad & Singh 1971. Syn. of D.
39. annulipes Duda 1924
40. anomelani Reddy & Krishnamurthy 1973
41. bambuphila Gupta 1971
42. birarmipes Malloch 1924
43. bicolovittata Singh 1974
44. bifasciata Pomin 1940
45. bipyctinata Duda 1923
46. brachynephros Okada 1956
47. brevis Parshad & Singh 1971; Homonym
48. brindavani Ray-Chaudhuri & Mukherjee 1941
49. brunettii Malloch 1934
50. bryani Coquillett 1901
51. busckii Kikkawa & Peng 1938
52. chamundiensis Nirmala Sajjan & Krishnamurthy 1975
53. chandraprabhiana Gupta & Ray-Chaudhuri 1970
54. charmadensis Parshad & Duggal 1966
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
of D. melanogaster Meigen 1830.
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. fuscostata 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. hypocauta Osten Sacken 1882
73. immacularis Okada 1966
74. immunis Sturtevant 1921
75. jambulina Parshad & Paika 1964 (identified in
error as seguyi Smart in Gupta &
76. kikkawai Burla 1954
77. krishnamurthyi Nirmala Sajjan & Reddy 1975
Genus Drosophila Fallén
(continued)

78. kurseongensis Gupta & Singh 1977
79. lacerota 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 Meigen 1830
87. melanogaster Dobzhansky & Pavan 1943
88. mercatorum parareplata Okada 1966
89. minima de Meijere 1916
90. montium Okada 1956
91. multispina Nirmala Sajjan & Reddy 1975
92. mundagensis Reddy & Krishnamurthy 1970
93. nasuta Lamb 1914
94. neoelegans Gupta & Singh 1977
95. neokuntzei Singh & Gupta (in press)
96. neonasauta Nirmala Sajjan & Krishnamurthy 1973
97. nepalensis Okada 1955
98. nepalensis indicus Okada 1966
99. novoaspinofera Gupta & Singh (in press)
100. novazonata sp. nov.
101. obscuricornis (de Meijere 1915)
102. orissaensis Gupta 1972
103. parabipectinata Gupta & Ray-Chaudhuri 1970
104. parazonata sp. nov.
105. penidentata Singh & Gupta (in press)
106. pentaspina Parshad & Duggal 1966
107. pentavittata Gupta & Ray-Chaudhuri 1970
108. prashadi Brunetti 1923
109. prolongata Singh & Gupta (in press)
110. prostipennis Lin 1972
111. pulchrella Tan, Hsu & Sheng 1949
112. punjabiensis Parshad & Paika 1964
113. pseudoananassae Bock 1971
114. quadrilineata (de Meijere 1911)
115. rajasekari Reddy & Krishnamurthy 1968
116. ramamensis Dwivedi (in press)
118. repleta Wollastion 1858
119. rhopaloa Bock & Wheeler 1972
120. riverata Singh & Gupta 1977
121. rufa Kikkawa & Peng 1938
122. setaria Parshad & Singh 1971
123. setitarsa sp. nov.
124. silvalineata Gupta & Ray-Chaudhuri 1970
125. subtilis Kikkawa & Peng 1938
126. suzukii indicus Parshad & Paika 1964
127. takashii Sturtevant 1927
128. testacea van Roser 1840
129. tricombata Singh & Gupta (in press)
130. trilutea Bock & Wheeler 1972
131. 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.

We have obtained 39 mutations in the Zw locus (1-63) (Lindsley and Grell 1968) of D. melanogaster. 32 mutations were induced with ethyl-methane 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 x 10^-5 for EMS-induced mutations and about 0.6 x 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/sul4 and su9/sul4 heterozygotes was decreased 5 to 50 times as compared with the corresponding males and their development was considerably delayed. The number of su12/sul4 females was halved.