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- TODA, G.
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22, 184 (1974); 23, 98 (1975); 23, 110 (1975); 23, 139 (1975); 23, 171 (1975);
24, 73 (1976); 24, 149 (1976); 26, 1 (1978); 26, 25 (1978); 26, 63 (1978);
27, 17 (1979); 27, 79 (1979); 28, 97 (1980); 28, 189 (1980); 28, 209 (1980);
28, 279 (1980); 28, 347 (1980); 29, 95 (1981); 30, 195 (1982); 31, 77 (1983);
32, 1 (1984); 32, 19 (1984)

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21, 172 (1973); 21, 187 (1973); 22, 68 (1974); 24, 219 (1976); 25, 91 (1977);
28, 89 (1980); 28, 223 (1980); 29, 25 (1981); 31, 53 (1983)

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22, 184 (1974); 28, 389 (1980)

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25, 175 (1977)

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26, 7 (1978)

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28, 305 (1980)

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21, 95 (1973); 21, 132 (1973); 22, 172 (1974); 23, 40 (1975); 25, 37 (1977);
26, 101 (1978); 26, 107 (1978); 27, 1 (1979); 27, 95 (1979); 30, 137 (1982);
31, 39 (1983)

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21, 70 (1973); 22, 88 (1974); 22, 195 (1974); 23, 164 (1975); 23, 193 (1975);
26, 53 (1978); 32, 37 (1984)

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24, 83 (1976); 25, 45 (1977); 26, 131 (1978)

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26, 15 (1978); 26, 85 (1978); 27, 63 (1979); 28, 119 (1980); 28, 137 (1980);
28, 243 (1980); 28, 249 (1980); 28, 293 (1980); 29, 1 (1981); 31, 67 (1983)

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30, 111 (1982); 32, 49 (1984)

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29, 151 (1981); 30, 61 (1982); 30, 191 (1982)

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