

Fruit-eating Birds and Bird-dispersed Plants in the Tropics and Temperate Zone

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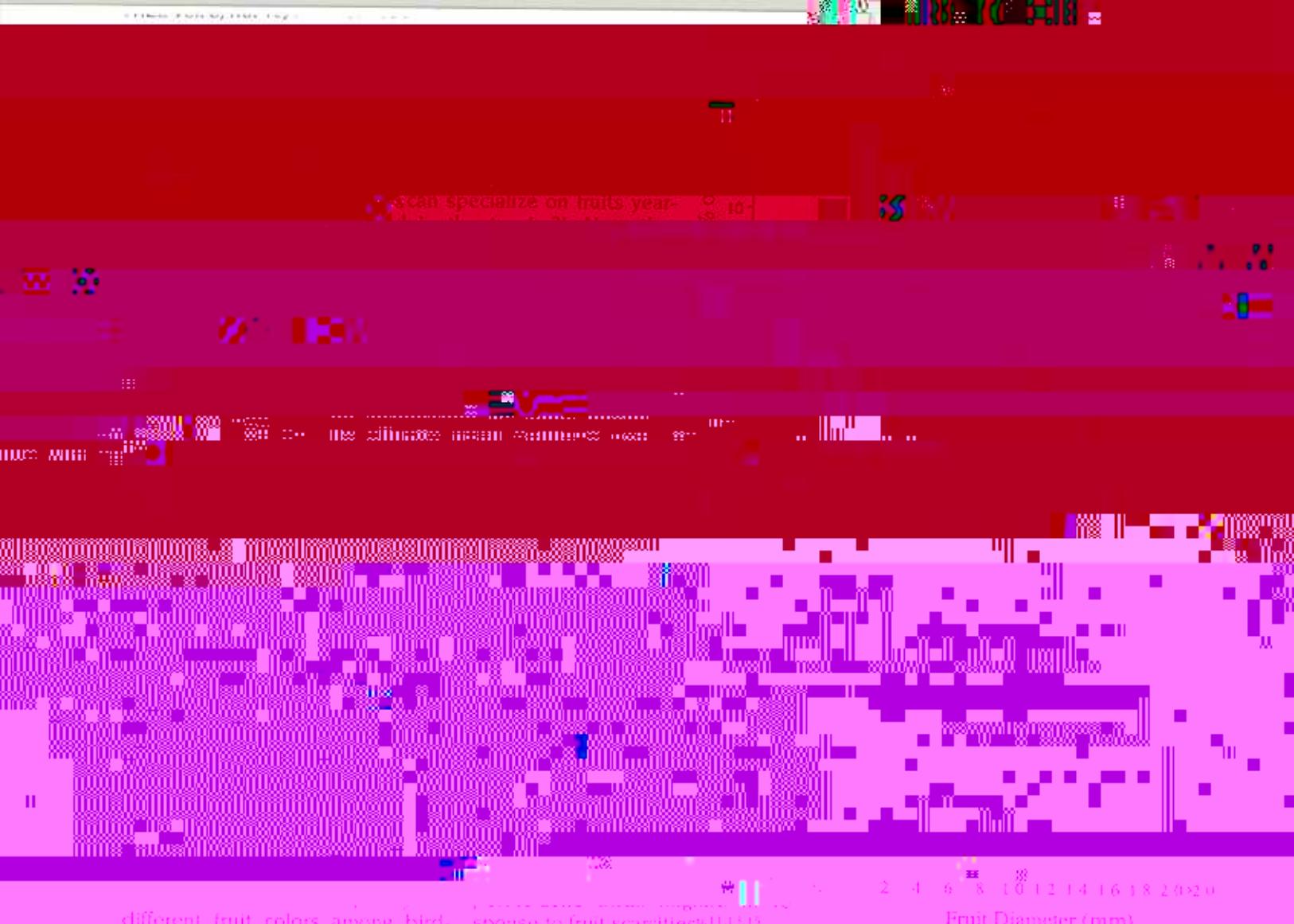
cal forests have bee

tats in part because the tropics contain more plant species. At least 250 species of bird-dispersed plants occur within a 16 km² area in Costa Rica⁸; 90 bird-dispersed tree species co-occur within the lowland montane rainforest in New Guinea^{9,10}. In contrast, mixed forests and mediterranean

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different fruit colors among bird species in response to fruit scarcity^{10,11,13,15}

between sites, in spite of major geographical differences in floras¹¹.

The frequency distribution of fruit size shows a right-hand skew in all habitats, although the tail of

Traits of fruit-eating birds

Tropical birds, like fruits, span a greater size range than their temperate zone counterparts^{9,14}. In the Amazonian fruit-eaters the size of guans

Fig. 1. Frequency distributions of fruit diameters from Spanish mediterranean scrub¹⁰, U.S. mixed forest¹⁰, Costa Rican lower montane wet forest¹⁰, and New Guinean lower montane rainforest¹⁰. Tropical forests include considerably larger fruits than temperate zone forests, and have greater variance in fruit diameter. Most habitats have similar median fruit sizes.

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subset of large fruit-eating birds that disperse their seeds, has tended to forgo some unusual the way they handle them, but no and winter. American robins (*Turdus migratorius*), for example, distinguish tropical from temperate- an invertebrate diet.





that can survive on an exclusive diet of small, often dull-colored fruits. One wonders how many species have been overlooked.

It is also interesting to note that the coevolutionary process may be more complex than we have

imagined. For example, it has been shown that

the lack of specificity of many

pollinators, Fig. 21 and led to finely tuned specificity of many

conclude that there is a differentiation criterion² and that coevolution may be relatively as seed dispersers. Do human plants and other

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