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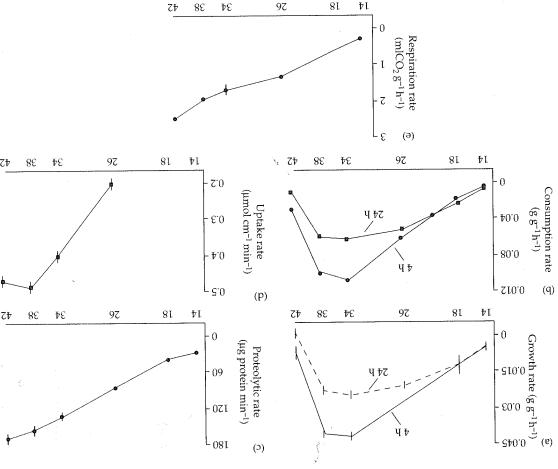
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-redəs c pue 4 gainimex9 yd be sy are commonly es than in the ni svitostis essi -suədwoo ıguı ıs (Kingsolver and actions between perature range tion of the fifth ,0°14 and 42°C, elevel nietorq wo h-instar larvae of growth rates. In

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(d) methionine absorption rate, and (e) mass-specific respiration rate. over the temperature range 14-42°C for (a) mass-specific growth rate, (b) mass-specific consumption rate, (c) proteolytic digestion rate, Figure 2.17 The thermal sensitivity of growth and feeding in Manduca sexta caterpillars, illustrated by performance curves measured

food quality, and natural enemies are most likely

In temperate regions, interactions of temperature,

included in the diet, resulting in lower growth rates.

moulting at low temperatures and when rutin was

function of temperature. More time was spent

dilution and rutin on larval growth rate were a

the most important being that the effects of diet

phenolic, rutin. Numerous interactions were found,

between temperature, nutrients, and a common

caterpillars (M. sexta) as influenced by interactions

involved. Stamp (1990) measured growth of

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Source: Physiological Zoology, Kingsolver and Woods, 70, 631–638. © 1997 by The University of Chicago. All rights reserved. 0031-935x/97/ Note: Growth and consumption rates (a and b) were measured over 4 and 24 h.

Temperature (°C)

1995). Insect performance may be altered by the spheres (Ayres 1993; Lincoln et al. 1993; Watt et al. response of plants grown in enriched CO2 atmochange. Reduced foliar nitrogen is a consistent nutrition is critical in the context of global climate Finally, the interplay between temperature and

that are suboptimal in terms of food quality and

but forces caterpillars to forage in microhabitats

contrast, solitary behaviour reduces predation risk

to affect gregarious spring-feeding caterpillars. In

temperature (for review see Stamp 1993).

NUTRITIONAL PHYSIOLOGY AND ECOLOGY

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rotein levels lead les reduce rates of dietary protein