believing that speciation is a process.

11. "Junonia coenia and J. nigrosuffusa have different oviposition and larval foodplant preferences in Texas." Unequivocally true; "habitat selection" might have been added, too.

12. "Larval foodplant preferences... in areas of sympathy are probably related to the effects of both competition and hybridization." Well, maybe, but as usual, references to competition in phytophagous insects are basically baloney: there is little evidence that it even exists, let alone being a major organizing force in communities.

So much for the first chapter in the unraveling of the Buckeye problem. Before summing up, let me—as a member of the Editorial Board of U.C. Publications in Entomology—put in a good word for "house organs." Far too many theses or other studies which form unified wholes are chopped up more or less arbitrarily to generate journal articles. U.C. Pubs. in Ent. offers an important outlet for work which should be kept together and which transcends the length limits of most journals. It is particularly attractive for biosystematic work. Its past record includes such classic revisionary work as MacNeill's on Hesperia and Burns' on Erynnis. Alas, the physical format of recent volumes is not so attractive as in the "old days," but efforts are being made to change that. Contributions to the U.C. series are refereed, both in- and out-of-house.

The Buckeyes are still a fearful muddle. Who out there is ready to take on the Caribbean basin populations?

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**Butterflies East of the Great Plains: An Illustrated Natural History.**

This is not a field guide. In fact, it is not certain what it is, but whatever it is, it is outstanding.

*Butterflies East of the Great Plains* is a medium-large format book, 8 3/4" x 11 1/4", about the size of many college textbooks. Although there is no way it can fit in a pocket, it is in many ways the logical successor to A. B. Klots' *Field Guide to the Butterflies of North America, East of the Great Plains*. It covers the same well-worked yet constantly surprising fauna (but for the U.S. only). The introduction, by Jerry Powell, gives Klots the credit he so richly deserves for making the living butterfly the focus of our attention; it is thus somewhat annoying to see the jacket blurb praise the present book as "like no other... the first butterfly book ever to emphasize the butterfly as a living organism rather than a specimen." At any rate, the book is in a lineal tradition from William Henry Edwards and Samuel Hubbard Scudder through Alexander Barrett Klots, and that in itself is a strong recommendation.

Opler and Krizek do *update* Klots, incorporating a great deal of information accumulated since 1951 on biology, behavior, and especially host-plant relations and geographic distribution. These are not referenced as a rule—this is a popular, not a scholarly, treatise—but they are presented with some care, so that the
speculative and the dubious are not “validated” once again by citation. (My own 1966 record of a second brood of *Thymelicus lineola* is cited as exceptional on p. 225. In fact, it was almost surely an error based on an atypical late emergence—a matter I am pleased to set right.) Rather generalized range maps are presented for most species, with distant outliers given as dots. The range maps are mostly more detailed than any presented before, however. They are derived from the very ambitious mapping scheme developed by Opler in the context of his Fish and Wildlife Service work on endangered species, and combine published and museum data with an extensive correspondence. Many of them are extremely interesting, if not readily explicable. They should be of tremendous interest to plant geographers and others interested in Quaternary dispersal phenomena in eastern North America. The skipper data are especially rich: among them see particularly *Erynnis lucilius* (p. 214), *E. persius* (p. 215), *Pyrgus centaureae wyandot* (p. 215), *Hesperia ottoe* and *leonardus* (p. 228), *H. metea* (p. 229), *Atrytone arogos* (p. 240), *Poanes massasoit* (p. 243), *Problema byssus* (p. 242), *Atrytonopsis hianna* (p. 253), and *Amblyscirtes hegon* (p. 255). Are the disjunctions mapped here real, or artifacts of poor collecting or habitat destruction? Some of these maps potentially falsify hypotheses I advanced in my 1971 skipper-biogeography paper (J. Res. Lepid. 9:125-155, addenda 16:173-175), while others seem to sustain them. I hope there will be lively discussion in their wake, and a renaissance of interest in the much-maligned skippers, which in spite of their reputed difficulty of identification, are where most of the remaining “goodies” are in our eastern fauna.

There are 324 color photos. Most are by Krizek. According to the blurb all of them are of live and unstupefied animals—a sharp contrast to the *Audubon Society Field Guide*, which has all too many faked photos. (The only suspect ones in this book are figs. 49, 107, 119 and 216, all of which I will give the benefit of the doubt.) There are no misidentifications, and the locality of every photo is given in its caption, as is usually the identity of the plant the butterfly is on. There are no text-page references in the plates section—an unfortunate omission, but not as important as in a field guide. The color reproduction is excellent. The skipper section includes some very rare species and shots, but few readers would feel confident identifying species from them!

An unusual aspect of the book is Krizek’s hobby of tracing the etymology (not entomology!) of butterfly names. This is given more or less haphazardly. The omissions do not seem to be predicated on difficulty: *mandan*, not explained, was the name of a major Indian tribal unit in the Great Plains. On the other hand, I have no idea what *pegala* means, who the Mitchell of Mitchell’s Satyr was, or who the Carter was whose head was memorialized in *Carterocephalus*. I would love to know.

I found two matters of fact and one of judgment to argue with in this quite large book. (In the Audubon Society guide it averaged nearly one a page.) On p. 216 (map 206) the range of *Pyrgus communis* is shown in two tones of shading, indicating a core permanent range and a seasonal temporary one further north. As I stated in my New York faunal list, however, *communis* overwinters quite successfully every year in western and central New York. This in fact forms the basis for the authors’ assertion that “midwestern populations may be more cold-tolerant than those found east of the Appalachians”—the upstate New York populations colonized from the west early in this century. The status of the upper midwest populations needs to be clarified. On p. 220 (map 210) the same criticism applies to the
treatment of *Nastra* Iherminier. It is shown as only a temporary resident in SE Pennsylvania, southern New Jersey, and the New York City area. Based on nearly 20 years' experience, however, I can confirm my statement in *Butterflies of the Delaware Valley* (1966) that this species overwinters reliably on the Coastal Plain (but not upland) every year. I still do not understand the assertion that it is an immigrant. The matter of judgment concerns the treatment of *Euphyes dion* and *alabamae*, derived from a personal communication by John Burns: for once I think the Miller & Brown checklist may be correct in treating them as full species.

Ah, yes, the Miller & Brown list. Readers waiting with baited breath will be pleased to learn that Opler and Krizek are conservative at the generic level: most of the swallowtails are still *Papilio*, the coppers *Lycaena*. Since the specific epithets are up-to-date (the abominable *hyllus* for *thoe*, for example), we must assume the generic names used represent a conscious choice. And let us say, Amen.

The introductory matter includes thumbnail sketches of aspects of butterfly population biology and the techniques used for studying them (warning: do not use the marking system illustrated with a Buckeye in fig. 5, p. 7—the marks are too near the margin and very vulnerable to being lost by fraying or especially predator attack. What are those eye-spots for?). There is a well-deserved emphasis on phenology, a subject in which Opler has long held a major interest.

I have not yet found one typographical error in this book. I cannot say the same of any other book I have read this year.

Who will buy *Butterflies East of the Great Plains*? It has something for everyone with an interest in butterflies, and I recommend it heartily to all, price notwithstanding. Its mission is not clearly defined, but I think I see a special role for it. Buy it for a teenage Lepidopterist you know. It is at just the right level of sophistication to lead him or her into an appreciation of what the interesting scientific problems are. (If you are like me, you'll read the book before giving it away. You will then buy a second copy for yourself.)

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*Butterflies of Saudi Arabia and its Neighbours.*
Larsen, Torben B. Stacey International, London; 160 pp., incl. 23 colour plates, ill.; size ca. 22 x 29 cm.

The handsome book under review consists of two separate parts: (1) a general account of butterflies tailored to the needs of the Arabian environment and readers (but very useful outside that region), and (2) attractive colour plates featuring all species of Papilionoidea and Hesperiidae of the Arabian Peninsula, based on good colour photographs taken by the author (but, unfortunately, suffering from not entirely constant reproduction by the printers, if judged by stringent standards).

Topics dealt within the general part include such things as: What is a butterfly?; butterfly life cycles; Arabian butterflies; butterfly variation; butterfly structure; butterfly behaviour; butterfly migrations; where butterflies are found; enemies and defense; butterfly geography; butterflies as pests; conservation and collecting of butterflies.

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