

Propagation seems to be impossible under such conditions. Therefore either this population was not autochthonous or the pool had just been "cleaned" from such vegetation.

O. albistylum is a progressive Caspian faunal element (G. DE LATTIN, 1967, *Grundriß der Zoogeographie*; Fischer, Stuttgart) with a postglacial west extension as far as to the shore of the Gulf of Biscaya. In the west stable populations are to be found only south of the Central and Western Alps. It must be emphasized that this species is not a mediterranean faunal element as stated by D. ST. QUENTIN (1960, *Zool. Jb. Syst.* 87: 301-316). A detailed zoogeographical analysis of it is in preparation.

The above mentioned location is situated right within the "Burgundian Gate" that lies between the Vosges in the north and the Swiss Jura in the south, being a well known passage for South European species invading to the north along the Rhine basin. Only two other records of *O. albistylum* are known from this region: 1965 Neuenburg near Freiburg i.Br., German Federal Republic (H. KAISER & F. FRIEDRICH, 1974, *Mitt. bad. Landesver. Naturk. Naturschutz*, N.F., 11: 145-146), and 1972 Dampfreux northeast of Porrentruy, Switzerland (C. DUFOUR, 1978, *Étude faunistique des Odonates de Suisse romande*; Conserv. faune canton Vaud, Lausanne). The first record originates from the Rhine basin the second from the Swiss Jura.

H. Lohmann, Biologisches Institut I (Zoologie), Albert-Ludwigs-Universität, Albertstr. 21a, D-7800 Freiburg, German Federal Republic.

A NOTE ON THE ODONATA OF THE CHANNEL ISLANDS, UNITED KINGDOM

In furtherance of the Book Review by Jean BELLE (1978, *Notul. odonatol.* 1: 31-32) I want to make the following note: First paragraph, p. 31 Note (1): — about the finding of *Sympetma fusca*, *Lestes barbarus*, *L. viridis* and *Crocothemis erythraea* by W.J. Le Quesne in the Channel Islands. They have never been known to breed there again. In case they should be written off as a "myth", I wish to put it on record that I named them for Le

Quesne in 1946 at the British Museum of Natural History, London. He was then a student on his way to college in England. He brought the adults and their exuviae to me, and told me they had been found breeding in Jersey, in some anti-tank ditches dug by the Germans during the occupation of the Channel Islands.

C. Longfield, The Park House, Cloyne, Co. Cork, Eire.

NOTABLE INSTANCES OF AVOIDANCE BEHAVIOR IN ODONATA

It is not uncommon to observe dead dragonflies in spider webs (A. KUMAR & M. PRASAD, 1977, *Odonatologica* 6: 19-20; R. RAM & M. PRASAD, 1978, *Notul. odonatol.* 1: 25-26; A. LAROCHELLE, 1978, *Cordulia* 4: 29-34, with references). Although teneral zygopterans are the usual victims, I observed in 1978 two examples of mature, robust anisopterans, *Tanypteryx hageni* (Sel.) and *Gomphus intricatus* Hag., which had died in spider webs. The circumstances of such demises are not known; however, I observed and will describe an unmistakable example of an anisopteran deliberately avoiding a spider web.

Libellula saturata Uhler is a common and conspicuous dragonfly in central California. On 18 September 1977 I observed a male perched by a narrow cattail-lined pool near Putah Creek, Yolo County (38° 31'N; 122° 05'W; elev. 55 m). As I approached it flew the length of the pool directly toward a large spider web spanning open water between cattails on each side. It stopped abruptly in front of the web, hovered in an almost vertical position, dropped down about 0.5 m, and flew under the web and away from the pool. There is no question that it had avoided the spider web.

A different type of avoidance behavior was observed with *Zoniagrion exclamationis* (Sel.). I first observed full mature adults at Solano Lake, Solano County, California (38° 29'N; 122° 01'W; elev. 40 m) on April 9, 1978, a rather warm day. One week later I returned to the same area on a cool, breezy, and partly cloudy morning following a day of rain. Much of the vegetation was still wet. The tempera-

ture was about 15°C. Zoniagrion was first observed about 11:30 a.m. and only then in sunlit areas protected from the wind. I was attempting to photograph a male perched on a horizontal twig when a cloud obscured the sun. As I approached, the male disappeared from view by moving around to the underside of the perch where it was pressed against the twig. If I moved my hand to one side of the twig, the male would immediately move to the opposite side. This behavior was repeated several times before the specimen was collected by hand. It seems likely that without the heat provided by the sun this individual was unable to fly and was thus avoiding danger by hiding. Although not strictly analogous, a somewhat similar taxis behavior has been reported for *Mecistogaster ornatus* Ramb. (G.H. BEATTY & A.F. BEATTY, 1963, *Proc. N. cent. Brch ent. Soc. Am.* 18: 153-155).

H. B. White, III, Department of Chemistry, University of Delaware, Newark, Delaware 19711, United States.

CHIRONOMID (DIPTERA) LARVAE AND HYDROPTILID (TRICHOPTERA) PUPAE ATTACHED TO A MACROMIID NYMPH (ANISOPTERA)

Examination of a *Macromia georgina* (Sel.) nymph collected from a channelized stream on October 20, 1978 (South Carolina: Horry County, Buck Creek at S.C. Hwy 905) revealed that four mature caddisfly pupae and three chironomid larvae were attached to its dorsum (Fig. 1). The caddisflies were determined as *Oxyethira azteca* (Mosely) (Hydroptilidae) and the midges as *Rheotanytarsus exiguus* Johannsen. The relationship between the chironomid, hydroptilid, and the odonate was probably phoretic rather than nutritive.

This appears to be the first record of Trichoptera pupae in a phoretic relationship with an odonate nymph. A.W. STEFFAN (1967, in S.M. Henry, Ed., *Symbiosis*, chapter 4: Academic Press, New York - London) mentions no relationship between midges or caddisflies and odonates, although more recently D. ROSENBERG (1972, *Quaest. ent.* 8: 3-4) did report *Paratanytarsus* sp. attached

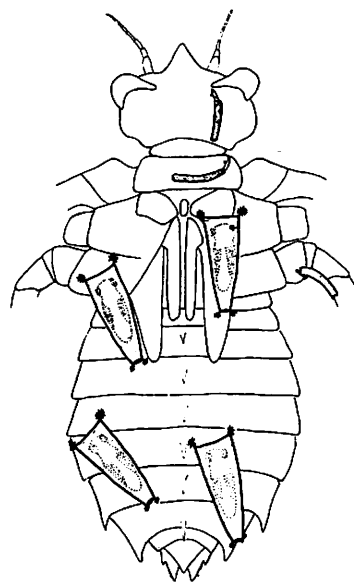


Fig. 1. Position of chironomid and hydroptilid "hitchhikers" on *Macromia georgina* (Sel.) nymph. (Drawn from nature).

to *Sympetrum* sp., probably *S. internum*, in Canada.

Immatures of *Oxyethira* have been found attached to vegetation and rocks within the stream (H.H. ROSS, 1944, *Bull. Ill. nat. Hist. Surv.* 23 (1): 1-326; — G.B. WIGGINS, 1977, *Larvae of the North American caddisfly genera (Trichoptera)*; Univ. Toronto Press, Toronto - Buffalo). Since channelization removes the natural habitat of these pupae, they must utilize an alternate place of attachment. This appears to have been one of the choices.

We would like to thank Dr. Kenneth J. TENNESSEN, Mr. William M. BECK, Jr., and Dr. John C. MORSE, respectively, for assistance with the odonate, chironomid, and hydroptilid determinations.

The research was supported in part by Water Resources Research Institute funds, and this note is being published by permission of the Director, S.C. Agr. Exp. Sta. Tech. Contribution No. 1671.

T. R. White and R. C. Fox, Department