to this enzyme after dephosphorylation[5]. Another tetrapeptide, Ileu.SeP.Val.Arg. was only slowly attacked by leucine aminopeptidase, while the hexapeptide, Lys.Glu-NH_2.Ileu.SeP.Val.Arg., readily yielded a mixture of lysine, glutamine, glutamic acid and a large amount of the tetrapeptide possessing an amino-terminal *iso*leucyl residue[6].

Provided that essential phosphopeptides are produced during the breakdown of caseins, one could assume that, in this connexion, the phosphoserine residues might play an important part in controlling the selective splitting of peptide bonds. Additional support to this assumption is offered by the phosphatase specificity observed with certain synthetic substrates tested so far.

It is apparent from Fig. 2 that alkaline phosphatase dephosphorylates glycyl-D,L-(O-phospho)-serine (Gly.SeP) considerably faster than L-(O-phospho)-seryl-L-alanine (SeP.Ala), calculated as the monohydrate.

Acid phosphatase, on the other hand, was found to dephosphorylate L-(O-phospho)seryl-L-alanine faster than glycyl-D,L-(O-phospho)serine. The amount of phosphorus liberated was determined by the method of Fiske and SubbaRow[7].

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Ubiquinone (Coenzyme Q) in Insects

Lester and Crane[1] found that while tissues of vertebrates contain mostly the Q_{10}-homologue of ubiquinone (coenzyme *Q*), certain insects, notably the house-fly, *Musca domestica*, and the cabbage white butterfly, *Pieris rapae*, are characterized by the presence of the Q_9 homologue, that is, a ubiquinone with a side-chain of 9, instead of 10, isoprenoid units.

In continuation of our previous work on quinone-dependent respiratory systems in insects[2,3], we made an analysis of ubiquinone in the hawk-moth, *Celerio euphorbiae*. The fresh tissue was saponified, extracted with ether, the extract washed with water, concentrated to dryness, and the residue dissolved in absolute ethanol. The absorption of ultra-violet light due to the ubiquinone present in the ethanolic solution showed a peak at 272 mμ; but we found it impossible to shift it to 291 mμ by reduction with potassium borohydride. In order to purify the material, the ethanolic solution was kept at −15° for 2 days, the precipitate which had appeared was removed, and the supernatant solution instilled on Whatman chromatographic paper No. 1, impregnated with 'Vaseline'. The chromatogram was developed in 95 per cent ethanol, and the paper area corresponding to the ubiquinone eluted with absolute ethanol. In this solution it was possible to demonstrate the characteristic shift of the absorption maximum from 272 to 291 mμ, which occurs after reduction.

In order to identify the ubiquinone homologue obtained from the hawk-moth, the chromatographic method of Page *et al.*[4] was used. However, instead of dimethylformamide, 95 per cent ethanol was employed for developing the chromatograms. In this way, it has been possible to achieve a much better separation of authentic samples of the Q_9 and Q_{10} homologues, which had been prepared from the yeast *Torula utilis*, and ox heart, respectively, using a modified method of Crane *et al.*[5].

In addition to the hawk-moth, *Celerio euphorbiae*, desiccated material from two other species of insects has been examined, namely, the pupae of *Sphinx pinastri* (Lepidoptera) and the adult insects of *Anatis ocellata* (Coleoptera). Just like the hawk-moth, the other two species have been found to contain the Q_{10} homologue of ubiquinone.

A detailed account of the experiments will be published in *Acta Biochimica Polonica*.

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The Epoxide Nature of the Carotenoid, Neoxanthin

In his extensive investigation of the xanthophylls of leaves, Strain[1] described a common, widely distributed carotenoid which he named neoxanthin. Neoxanthin has since been reported by other workers, and the evidence suggests that, together with lutein and violaxanthin, it is one of the three major xanthophylls of leaves[1,2]. Despite its common occurrence, however, all that is known of this pigment is due to Strain.

Neoxanthin is characterized by: (1) its tight adsorption on chromatographic columns of magnesium oxide or aluminum oxide, where it is found above lutein, violaxanthin, and flavoxanthin; (2) its characteristic absorption spectrum, similar in shape and position to violaxanthin, and with more pronounced fine structure than lutein; (3) its solubility—neoxanthin is readily soluble in alcohol but only sparingly soluble in petroleum ether. On partition between 60 per cent aqueous methanol and petroleum ether, the pigment is found almost entirely in the hypophase[1].

Goodwin and Jamikorn[3] reported the presence of neoxanthin in the green flagellate, *Euglena gracilis*. Recently we too have found a pigment in this species which has similar spectral and adsorptive properties to the neoxanthin described by Strain. Strain worked much with barley. We have therefore compared this carotenoid to neoxanthin isolated from barley (*Hordeum*).