

THE RESPIRATORY AND CIRCULATORY SYSTEMS DURING EXERCISE

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I. GENERAL INTRODUCTION

Exercise is the stress which animals most frequently experience and may be defined as work performed on the environment by the locomotory muscles. Exercise is accompanied by an increase in the rate of energy conversion from the resting rate. This increase provides for the energy requirements of the locomotory muscles as well as for extra work performed by the heart and respiratory muscles in supplying oxygen demanded in exercise.

In this chapter the emphasis is placed on the ability of fish to increase the rate of gas exchange at the gills and tissues and the changes which occur in the components of the respiratory and circulatory systems facilitating this increase in gas exchange. On many