Our estimates of the critical oxygen tension of *C. elegans* were based on polarographic measurements of oxygen consumption. The strain of *C. elegans* and method of culture on petri dishes were those of Brenner (2). Worms were rinsed from the agar surface and separated from bacteria in 15-ml centrifuge tubes with three washes of N-buffer (50 mM sodium chloride plus 25 mM potassium phosphate buffer pH 6.0). Washed worms, approximately 15 mg dry weight, were introduced into the reaction chamber. The suspension media was 2.7 ml of N-buffer maintained at 20°C and stirred continuously. The oxygen tension within the chamber was monitored with a Clark type electrode, Radiometer model E5046-0, which had a zero current of less than $10^{-10}$ amps. Measurements of oxygen consumption were made over a wide range of oxygen tensions which included the critical oxygen tension.

A plot of oxygen uptake versus oxygen tension was made for each of 12 experiments and the critical oxygen tension was estimated (Fig. 1). For this experiment, the critical oxygen tension was 27 mm Hg; on the basis of 12 experiments, the average critical oxygen tension was $27.4 \pm 4.9$ mm Hg. There was no evidence of conformity at higher oxygen tensions. A possible explanation for the discrepancy between these results and those of Bair (1) lies in the different methods of measuring oxygen consumption. Bair's technique could result in establishment of a large oxygen gradient within the closed respiration chamber. The average oxygen tension in the chamber need not be close to the oxygen tension in the immediate environment of the worms. This situation could result in an error on the high side for estimation of critical oxygen tension. On the basis of polarographic measurements, the critical oxygen tension of 27 mm Hg is consistent with the classification of *C. elegans* as a regulator. This species apparently fits the generalization that the free-living nematodes are regulators.

**LITERATURE CITED**


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**The Face View of Trichodoridiae**

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Many authors (1, 2, 6, 7, 8, 10, 11) have illustrated different species of *Trichodoridiae* by using the light microscope. Most of these illustrations show 16 papillae: an inner circle of 6 papillae equidistantly surrounding a round oral aperture and an outer circle of 10 papillae arranged in 4 pairs (2 subdorsal pairs and 2 subventral pairs) plus a single lateral papilla in front.

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of each slit-like amphidial aperture (Fig. 1-B). On illustrations of some species (1, 8), a circular line exists between the two circles of papillae. Except for Paratrichodorus (A.) pachydermus (8) and P. (A.) porosus (10), all species are depicted in face view with a distinct rectangular or hexaradial line situated between the level of the outer circle of papillae and the level of the amphidial aperture. The oral aperture is illustrated as being rounded for all the species although a study of the ultrastructure of the feeding apparatus of Paratrichodorus (N.) christiei showed a triradiate stomatal opening (5).

Scanning electron micrographs of the face view of Trichodorus n. sp. Paratrichodorus (P.) allius (Jensen, 1963) Siddiqi, (Allen, 1957) Siddiqi, 1973 were obtained by a previously reported method (9). These micrographs show the same basic arrangement of the papillae in both genera and permit observation of certain morphological structures not seen, or interpreted with difficulty, under the light microscope (Fig. 1-A).

The oral aperture is triradiate (Fig. 1-C,F). The inner circle of 6 slightly elevated papillae (2 subdorsal, 2 subventral, 2 lateral) is equidistantly arranged around the oral aperture. The papillae of the outer circle are arranged in the following way: 4 prominent protuberances (2 subdorsal and 2 subventral) containing two papillae each, two smaller lateral protuberances contain a single papilla each (Fig. 1-A,D). The papillae of this so-called outer circle occur at two levels: the lateral single papillae are anterior to the level of the subdorsal and subventral double papillae, and the double papillae are located at amphidial level (Fig. 1-A,D). The large, slit-like amphid apertures often produce an exudate (Fig. 1-C,D). No indication of an incisure between the inner and outer circle of papillae nor between the lip region and the body was observed in face views.

The two circles of 6 + 10 papillae are in accordance with the general scheme of the relative symmetry in the distribution of the sensitive organs in the cephalic region of nematodes (3, 4).

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