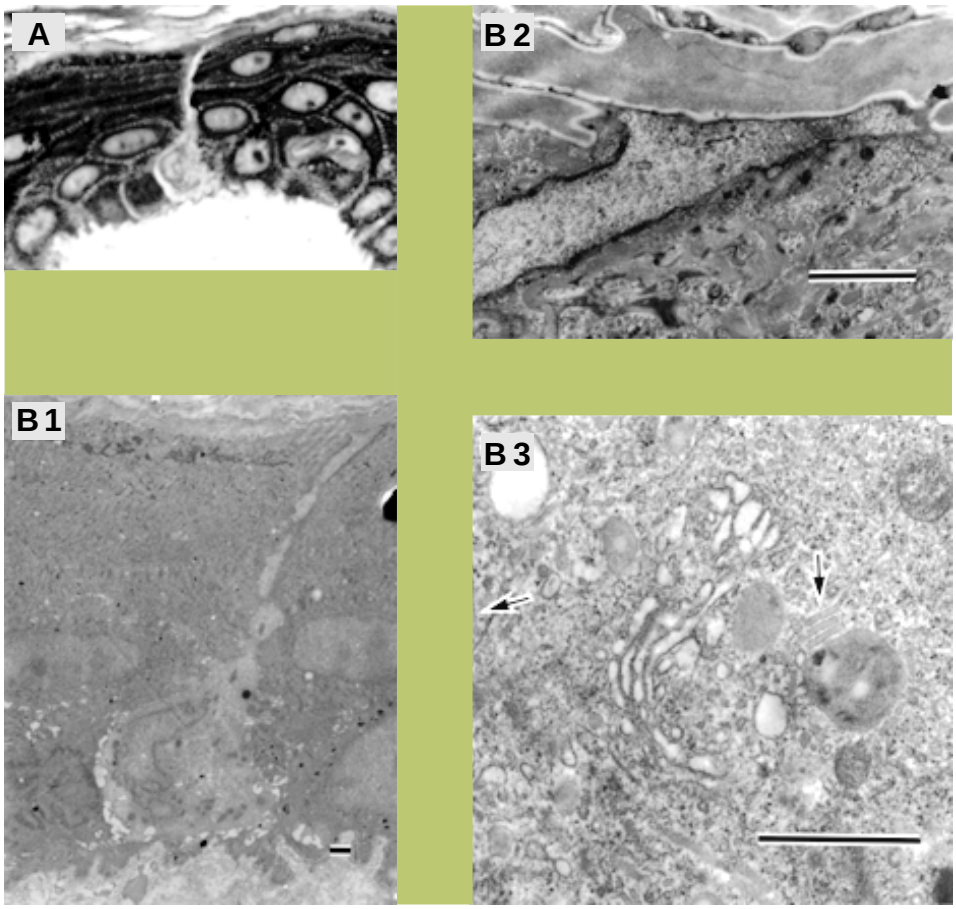

Fig. 4. A Langerhans cell (LC) with a long process approaching to the cornified layer of the epidermis. **A:** The body and the process are clearly recognized between the well-stained keratimocytes. The cell body is in the basal layer. × 750 (oil). **B1:** An electron microscopic view of the whole cell. × 2,700. **B2:** The terminal of the process contacts firmly with the horny layer, but the swelling is not clear in this micrograph. × 13,500. **B3:** The Golgi region of the cell. Birbeck granules are found (arrows). × 21,000 (bar = 1 μm).

The location of the LCs with the button

Most LCs with buttons were in the spinous layer of the epidermis, but rarely in the basal layer extending the process to the cornified layer and thereby forming the button (Fig. 4).

The connection between the button and the cell body of the LC

In most cases, the connection of the button with the LC body was affirmed by serial sectioning, but a few could not be confirmed by any means (Fig. 5).

The characteristics of electron microscopic features

Electron density

The electron density of the LCs including buttons corresponds well to the "clear" image of light microscopy (LM), but sometimes the cytoplasm of the keratinocytes adjoining the LC processes in the granular layer appear to become dense (Figs. 2 and 3). In some cases, the cytoplasm of the button and its process appear dense, and therefore contrary to the LM image, in the electron micrograph (Figs. 5B1 and B2).