translated by Professor Chowdhury Bangladesh University
(translators notes in brackets)

Genus Brachyopa Meigen (Type species not mentioned)

Morphology: Body of the larvae (Fig 132, 1) elongated oval, swollen at dorsal and ventral sides, respiratory tube well developed, - hooks absent.

Body with considerably clear segments, 1st body segment comparatively shorter, tapering anteriorly, length shorter than width at base. Anterior end of body with areas of distinct sclerotised tubercles surrounding the mouth opening (Fig 132, 4). On the dorsal side of the segment the tubercles are replaced by spines and setae. 1st segment of body without spines for a considerable extent between spiracles, only with large papillae surrounded by grass-like bent rows of sclerotised plates (Fig 132, 3). Sclerotised tubercles near spiracles absent. All body segments short and broad, the last one comparatively longer but still transverse (considerably wider than long).

Body segments with well developed papillae (Fig 132, 7). The thoracic and first five abdominal segments each bear 6 dorsal, 4 ventral and 3 lateral papillae on either side. 6th abdominal segment with only 4 dorsal papillae. The papillae on last two segments reduced and the lateral ones modified into soft, elongated processes. All papillae roughly equal in size, the lateral ones slightly longer that the dorsal ones. The 6th abdominal segment with only 4 dorsal papillae arranged in a semicircle. Dorsum with large spines and ventrum with shorter and blunter spines. (132, 5 and 6).

Prothoracic spiracle (132,2) not large, oval. The posterior ones placed on well developed respiratory tubs which are 3 to 4 times longer than wide. Respiratory ... . Perispiracular glands with bunches of hairs.

Key to the species of the genus Brachyopa Meigen.

1(6). Tergites on last three segments not darker than the rest. Papillae and processes surrounding tergites brownish as the papillae on the rest of the body. Sclerotised tubercles at the anterior end of body (132,4) situated directly on the surface of the segment. On the dorsal side of segments tubercles replaced by large spines. On each of the central segments of body spines nearer dorsally and arranged in 4 transverse rows (132, 1).

2(3) All segmental surfaces including papillae and cuticular processes on dorsal and lateral sides thickly covered with setae. (132,5, 7). ..... B. bicolor Fall.

3(2) Without such setae on segmental surfaces ...

4(5) Tubercles of anterior end of body sclerotised only at the tips (133, 3). Spines homogenously covers the entire ventral surface of body. Length of respiratory tubes 4 times its width..... B. insensilis Coll.

5(4) Tubercles at anterior end of body entirely sclerotised. Spines on ventral surface of body arranged in isolated transverse areas. Length of respiratory tubes 6-7 times greater than width. ..... B. pilosa Coll.

6(1) Tergites of last 3 segments considerably darker than rest of the body surface. Papillae and processes arranged around tergites strongly sclerotised, almost black, considerably darker than the

rest of the papillae. Sclerotised tubercles of the anterior end of body (134, 3) placed on large sclerotised plates. On the dorsal surface of the segment the tubercles are replaced by fine setae. On each of the central segments dorsally the spines are arranged homogenously on the whole surface .... B. conica Panz.

Brachyopa bicolor Fallen

Morphology: Length 11mm, body converse dorsally and flat ventrally (in the generic description he said body is swollen dorsally and ventrally, NAE the conradiction), elongated oval.

Anterior end of body with not large (he does not say "small") tubercles which do not have sclerotised plates at base (132,4). Tubercles along periphory replaced by thick spines. Entire dorsal surface been spiracles (132, 3) without spines, with a few large papillae and innumerable fine setae. Bears a few rows of dark, oval sclerotised plates.

All body segments with well developed dark papillae, dorsal and lateral papillae on 3 thoracic and first 5 abdominal well developed, the lateral ones slightly bigger and their size increases (gradually? he does not say so, but I believe so) to the end of body. Ventral papillae not large.

Tergites on last segments of body only slightly darker than the rest of the surface. Dorsal and lateral sides of body covered with pointed spines, and on dorsal side of abdominal segments arranged in 4 transverse rows. Papillae, spines and the entire lateral and dorsal surface of body thickly covered with small, fine setae (132, 5, 7). Neutral side with usual blunt spines (132, 6).

Prothoracic spiracles (132, 2) with 2 oval openings, respiratory tube 5 times longer than wide. Ecology: larvae grows in fermenting sap of trees.

Material: Tellermanovskii forsot, Voronezcki region, in sap exuding from elm, 28.9.1960. 2 larvae, 2 puparium and 2 image.

Brachyopa insensilis Collin

Morphology: Length 9mm. Body swollen dorsally and flat ventrally, elongated oval.

Anterior end with not large light-coloured tubercles, blackened only at the very tip (133, 3). Dorsally these are replaced by large spines. Dorsum between spiracles without spines and setae (133, 1), only with papillae between which are situated rows of grass-like, bent round sclerotised spots. All body segments with well developed brownish papillae. Lateral papillae only slightly larger than the dorsal ones. On 4th and 5th abdominal segments lateral papillae transformed into processes as in last 3 segments. (133, 5).

Body surface covered with rare, large, elongated and pointed spines arranged in transverse rows (133, 2). On lateral sides spines are distributed more homogenously. Each of the first 5 abdominal segments bear 4 rows of spines. On last 3 segments the spines are further rare (we would say "less common") and arranged in small groups. On ventral sides of segments are thickly and homogenously distributed short, blunt spines. (133, 4). Papillae and spines on dorsal surface marked, without setae.

Prothoracic spiracles with 3 oval openings. Respiratory tube 4 times as long as wide.

Ecology: larvae grow in fermenting sap of trees.

Material: Khust, Zakarpatski region, in sap of Buk (beech) (I don't know the English name of this tree), 17.7.1963. 2 larvae, 1 puparium and 1 image.

Brachyopa pilosa Collin

Morphology: Length 6mm. Body swollen dorsally and flat ventrally, elongated oval.

Anterior end of body with not large sclerotised tubercles. On dorsal side of segment tubercles replaced by narrow spines (133, 7). Dorsal surface between spiracle, naked, without spines.

All segments with well developed light-coloured papillae. Lateral papillae only slightly bigger than dorsalous. Only on last segments these are modified into processes. Dorsal and lateral surfaces with rare, elongated spines arranged in transverse rows (133, 8). Rows in front of papillae not distinct and behind papillae the spines one in two rows. On ventral side of segments are small (he says "not large" again) spines forming separate groups (he says "fields) (133, 9). On each abdominal segment are 3 distinct fields of spines, the last of which is divided into two halves, each of which bears comparatively larger spines in the centre - comparable with - hooks in other genera. Papillae and spines on dorsum naked, without setae.

Anterior spiracles (133, 6) with 2 elongated openings. Respiratory tubes 6-7 times longer than wide.

Ecology: Larvae found in moist tunnels beneath barks that are peeling off.

Material: Kadnikovski, Vologodskaya region, under bark of Osin (Aspen) (sorry, again I do not know the English name of the tree). 16.7.1962. 3 larvae, 1 image.

Brachiopa conica Panzer

Morphology: Length 11mm. Body elongated cylindrical, yellowish to dark brownish dorsal plats on last segments (134, 2).

Anterior end with very large dark tubercles distributed on oval, sclerotised plates (134, 3). Tubercles surrounded by very fine light-coloured setae. Entire dorsum between spiracles of 1st segment naked, with only 2 large papillae with grass-like bent rows of small sclerotised plates.

All body segments with not large dark papillae, distributed as in the previous species but on each side of segments not 3 but 4 lateral papillae. All papillae on Thoracic and first 5 abdominal segments 'not large', their sizes practically same. On last 3 segments the papillae are larger, strongly sclerotised and surround dark, oval plates (134, 2). Body surface covered with yellowish spines which are long and pointed on dorsal and lateral sides and shorter and blunt on ventral side (134, 4-6).

Prothoracic spiracle with 3 oval openings (134, 7) Resp. tube 4 times as long as wide.

Lymexylidae

Ecology: Larvae develop in tunnels made by larvae of ... beetles (he is using a common Russian name of some coleoptera that I do not know).

Material: Nakhabino, Moscow region, under bark of Picea ..... (some Russian name of a tree). 11.5.1964. 10 puparia, 9 image, Kvas, Zakarpatski region (again the same tree, the Russian name in English letters will sound something like "yelovi pnia"), 18.6.1963.

Genus Hammerschmidtia Schummel

Morphology: Body (of larva) elongated oval, dorso-ventrally compressed, narrowed and rounded in pout, slightly attenuated posteriorly (135, 1). Respiratory tube short but massive.

Body segments distinct. 1st segment (135, 1) not large, much less long than wide. Dark sclerotised tubercles surrounding mouth opening at anterior end (135, 4). Large sclerotised tubercles near spiracles absent. Next two thoracic segments short, abdominal segments somewhat longer but still their length several times less than width. Posterior segments shorter and wider (135, 1), only slightly narrower than the ones in front.

Papillae (135, 6) present not only on dorsal and lateral sides but also on ventral side. In most cases these are represented by small projections bearing pointed processes and only on lateral sides of segments these are foaming processes. Papillae dark, brownish. On ventral side of body - hooks absent. Surface of body both on dorsal and ventral sides covered with various spines (135, 5, 7).

Prothoracic spiracles (135, 3) large, cylindrical, bluntly truncated out top. Respiratory tubes bearing posterior spiracles well developed but not elongated. Its length is 3-3½ times its width. Posterior spiracles bear 3 irregular openings. Perispiracular glands with bundles of small, weakly developed setae.

Hammerschmidtia ferruginea Fallen

Morphology: Length of body 13mm, colour - yellowish-brown.

Anterior end thickly covered with not large sclerotised tubercles, changing to similar, dark papillae on dorsum (135, 4). Tubercles light coloured at base. Entire dorsal surface of 1st segment except two not large, oval areas uniformly covered with dark, long spines. Antennae (135, 2) dark at tip.

All body segments except the last are short and broad, their length several times less than width. Papillae well developed. Thoracic and 1st 5 abdominal segments each bear one row of 6 papillae dorsally, one row of 3 papillae laterally and one row of 4 papillae. On the posterior abdominal segments the number of these papillae decrease. All papillae dark, with dark pointed processes. Dorsal and ventral papillae not large but those on lateral sides very large on all abdominal segments, each of them representing an outgrowth thickly covered with setae (135, 1). Size of outgrowths increases to posterior end. On last three segments on each side are two outgrowths.

Surface of segments sclerotised and uniformly coloured, thickly covered with dark spines (135, 5, 7), which are long on dorsal and lateral sides but short and blunt ventrally

Each prothoracic spiracle with 3 oval openings. Respiratory tube 3½ times longer than broad.

Ecology: Larvae grow under rotting bark in moist tunnels.

Material: Kadnikovski, Vologodskaya region, under bark of .... (some tree) 16.7.1962. 2 larvae, 4 puparia and 4 images.

Note:- I have tried not to alter his language since in a taxonomic paper it might mean quite different, but the English sounds queer. Fig (134, 7) has not been labelled in original text. It is clearly the respiratory spiracle with 3 openings. I have labelled the figures on the body of text figures. In the text he uses the term 'sclerotised' repeatedly but in the legend to figures says "cuticular structures".