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Revision of the Genera Ithyra Reitter and Neothalycra Grouvelle

(Coleoptera, Nitidulidae)

BY Paolo AUDISIO

(Istituto di Zoologia dell'Università, Roma, Italia)

AND Alexander G. KIREJTSHUK

(Zoological Institute of U.S.S.R. Academy of Sciences, Leningrad)

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The african fauna of Nitidulidae has not yet been appropriately studied. In a program of researches (also including the works of some other specialists of this family) devoted to review possibly all afrotropical Nitidulidae, we have taken the opportunity of the discovery of some new species belonging to the genera *Ithyra* Reitter and *Neothalycra* Grouvelle to prepare a revision of these two small groups, including at the present time only one and two described species respectively.

It is our pleasant duty to express our thanks, for their invaluable assistance in providing material for this study, to:

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- N. Berti (Muséum d'Histoire Naturelle, Paris: MP).

Some specimens of the studied species are now preserved in the collections of the Zoological Institute of U.S.S.R. Academy of Sciences. Leningrad (ZIN) and of the Zoological Institute at the University, Rome (UR).

Genus ITHYRA Reitter, 1873

Reitter, 1873: Syst. Eintheil. Nitid., Verh. nat. Ver. Brünn, 12, 1: 56 et 78. Type-species : Ithyra hirsutula Reitter, 1873.

Small, oval, fairly well convex, strongly and coarsely punctured and with dense long pubescence. Head short, with moderately raised eyes. Antennae with length less than head breadth; their club compact, somewhat longer than broad. Labrum feebly exposed from under frons; its anterior margin transversal, with medial shallow incision. Pronotum distinctly bordered along its whole edge. Elytra with moderately raised shoulders, the subsutural lines conspicuous in their distal third and with apices nearly abrupt, widely transversally curved. Pygidium with 8 arc-like impressions at basis, its apex more or less transversal in male, and widely rounded in female. Prosternal process slightly curved and rather high at lateral view, but almost parallelside or hardly dilated at ventral view. Mesosternum strongly deepened in its anterior part, but abruptly inclined in its posterior part. Metasternum convex, its hind margin between hind coxae shallowly emarginate. Caudal marginal lines of intermediate and hind coxal cavities distinct. The elytral epipleura nearly upwardly sloped outside. Legs moderately thickened. Anterior tibiae with some sharp teeth at their apices. First, second and third tarsal segments bilobed, tarsal claws longitudinally cleft. Genitalia: male-tegmen apex not divided into lateral bones; penis trunk acute at apex; female ovopositor long and narrow, its apex rather acute, with short styli strongly distant from top.

DIAGNOSIS. This genus is most closed to *subquadrata*-group (*) of the genus *Aethina* Erichson, distinct from the latter as well as from all other closed genera, by its tarsal claws completely longitudinally

^(*) The afrotropical species of *subquadrata*-group (i.e. species closely related to *Aethina subquadrata* (Motschulsky, 1858)) were described as members of the genus *Circopes* Reitter.

cleft and peculiarities of ovipositor structures, which are partly similar to those of representatives of the genus *Pocadius* Er. and of some other genera closely related to it. Moreover, it differs from the genus *Macroura* Reitter by its more convex and more oval body and narrower front tarsi, from the genus *Aethinopsis* Grouvelle by its 3-segmented compact antennal club. Finally, from other similar genera it differs by 8 arc-like impressions at pygidium basis, which are presented only by the species of *Aethina*-complex (*Aethina, Ithyra, Macroura, Aethinopsis*).

The genus *Ithyra* Reitt. is a small and homogeneous group somewhat well isolated from the genus *Aethina* Er., though species of the *A. subquadrata*-group and of *Ithyra* appear to represent the same evolutional phylon which had its origin possibly from ancestors common with species of the oriental *flavicollis*-group of *Aethina*. With these preliminary remarks, we can perhaps accept also a possible alternative interpretation, which regards the genus *Ithyra* as a well isolated subgenus or species-group of *Aethina*.

Key to species of the genus Ithyra

- 1 (4) Body unicoloured: pitchy dark brown to pitchy black; only antennae, legs and mouth parts somewhat lighter.
- 2 (3) Apex of prosternal process more or less acute; most length of penis trunk less than twice more than its width. Length 1,4-2,7 mm. Figs. 1-7. South and tropical Africa, Yemen, Sicily (North Africa ?) hirsutula Reitter, 1873
- 4 (1) Similar, but the disc of each elytron with more or less distinct testaceous or reddish spot.

Ithyra hirsutula Reitter, 1873 (figs. 1-7)

Ithyra hirsutula Reitter, 1873: Verh. nat. Ver. Brünn, 12, 1: 78.

Material. More than 350 specimens from South Africa (Cape of Good Hope), tropical Africa (Tanzania, Uganda, Ruanda, Zaïre, Ivory Coast, Sierra Leone, Kenya, Ethiopia, Somalia, Eritrea, Sudan), Yemen and Sicily (BM, IPE, MHU, MRAC, SM, UR, ZIN, ZMK, ZMM, UH, MP).

This species has been somewhat well described by Reitter (1873) and represented by Audisio (1979). Body sizes and form strongly variable (length 1,4-2,7 mm). A certain range of variation also occurs in puncturation and reticulation of body surface.

Genitalia. Aedeagus and ovipositor moderately sclerotized, with a certain degree of variation in the shape of male genitalia (figs. 3-6).

Diagnosis. It is distinguished from both *I. rossii* sp. n. and *designata* sp. n. by its body colouration, somewhat more slender prosternal process and different aedeagus.

Biological notes. The species has been collected in Sierra Leone (Audisio, 1982) by the botanist Dr. W. Rossi of Rome on flowers of *Britlantaisia lamium* (Nees) Benth. (Acanthaceae); consequently, we can suppose that Acanthaceae are host-plants of *Ithyra hirsutula* Reitt. and perhaps of all other species of this genus. Naturally, a wider polyphagy is possible for each species; at the present time, no other biological record is known to us.

Ithyra simillima Audisio et Kirejtshuk, sp. n. (figs. 8, 9)

Material. 1 & (holotype): Madagascar, Tamatave, ex coll. Breuning (MRAC).

Male (holotype). Length 2,6, breadth 1,6, height 0,8 mm. Strongly similar to *I. hirsutula* Reitt., but with distinct its widely rounded apex of prosternal process and male genitalia. Except for these two distinctive features, the new species is so similar to the preceding one that a detailed description is unnecessary.

The pair of I. simillima sp. n. and I. designata sp. n. from Madagascar is probably vicarious with the pair of I. hirsutula Reitt. and I. rossii sp. n., which spread in african continent.

Ithyra rossii Audisio et Kirejtshuk, sp. n. (figs. 10-16)

Material. 1 d (holotype): Kenya, Nairobi, X.1975, W. Rossi leg. (UR); 1 d (paratype): Tanzania, « Mt. Meru, versant NO, Olkokola »,2500-2600 m, 3-8.VII.1957, P. Basilewsky and N. Leleup (MRAC); 1 q (paratype): ibidem, « versant sud, 2400 m, Prairie à immortelles », 22-30.V.1957, P. Basilewsky and N. Leleup (MRAC); 2 q (paratypes): ibidem, « versant sud, 2700-2900 m, Prairie à immortelles », 23-26.V.1957, P. Basilewsky and N. Leleup (MRAC); 1 d (paratype): ibidem, « versant sud, 2700-2900 m, Prairie à immortelles », 23-26.V.1957, P. Basilewsky and N. Leleup (MRAC and ZIN); 1 d (paratype): ibidem, « versant sud, 2900-3200 m, Prairie subalpine », 23.V.1957, P. Basilewsky and N. Leleup (ZIN).

Male (holotype). Length 1,9, breadth 1,1, height 0,8 mm. Oval, convex; pitchy dark brown, legs somewhat lighter, elytral discs with small reddish spot; shiny; with long and contrasting yellow pubescence, forming on elytra longitudinal rows and dense brush along pronotal and elytral sides.

Head weakly convex, with shallowly emarginate anterior margin; clypeus undistinctly isolated from frons. The surface with shallow and oval punctures somewhat larger than eye facets, separated approximately by a puncture diameter, the space between punctures smoothedly reticulated. Antennae nearly $\frac{2}{3}$ as long as head broad. its chub composing almost $\frac{1}{4}$ of total antennal length.

Pronotum with bisinuated basis at sides of scutellum, not-explanate side margins. The surface nearly as on head, but punctures larger, sparser and more distinct.

Elytra with well raised shoulders and scarcely exposed subsutural lines. The surface as on pronotum, but the space between punctures with more conspicuous reticulation.

Pygidium densely and coarsely punctured and reticulated, with abrupt apex.

Ventral surface more distinctly punctured with intervals almost smooth, but less conspicuously public public process nearly parallelsided with acute apex. The distance between intermediate coxae subequal and that between hind coxae twice more than the distance between the fore ones. Metasternum with shallow medial depression in distal third before almost stright hind margin. The last abdominal sternite rounded at apex.

Fore tibia 3/2 as wide as prosternal process or 5/4 as wide as antennal club; intermediate tibiae feebly and hind fairly slender. Femora twice wider than fore tibia. Fore tarsi 2/5 as wide as fore tibia, intermediate and hind somewhat slender.

Genitalia. Aedeagus well sclerotized.

Female. Outwardly differs from male only in rounded pygidium apex.

Genitalia. Ovopositor moderately sclerotized.

Variations. Length 1,9-2,9, breadth 1,1-1,4, height 0,7-0,8 mm. Elytral discal spots are rather variable, the least ones being in the holotype from Nairobi.

Diagnosis. Having a habitus very similar to *I. designata* sp. n., but at once distinct from the latter by its darker body colouration, contrasting discal spots on elytra and different male genitalia.

Ithyra designata Audisio et Kirejtshuk, sp. n. (figs. 17-20)

Material. 2 3 3 (holotype and paratype): Madagascar, Tamatave, ex coll. Breuning (holotype: MRAC; paratype: ZIN).

Strongly similar to preceding species, but somewhat lighter. Elytral spot in the holotype take up nearly $\frac{3}{4}$ of elytral length, reaching pronotal basis, but in the paratype only $\frac{1}{4}$ in the distal half. Antennal club larger than in *I. rossii* sp. n. Pronotal process rounded at apex. Fore tibia not wider than prosternal process. Fore tarsi almost $\frac{1}{4}$ as wide as fore tibiae. Holotype: length 2,7, breadth 1,6, height 0,8 mm; paratype: 2,4, 1,4 and 0,7 mm respectively.

Genitalia. Aedeagus well sclerotized.

Genus NEOTHALYCRA Grouvelle, 1899

Grouvelle, 1899: Ann. Soc. Ent. Belg., 43: 299.

Type-species: Neothalycra gigas Grouvelle, 1899.

Elongate, rather convex, finely punctured and with inconspicuous pubescence, only on elytra exposed longitudinal rows of short distinct ciliae. Head projected with long mandibles, especially in male, without separated clypeus. Labrum deeply incised in the middle. Antennae with comparatively small club which shorter or subequal with scapus. Pronotum bordered along its whole edge, with rounded corners, fore corners not or slightly projected ahead. Elytra with moderately raised shoulders, with subsutural lines approached to suture. Pygidium widely rounded in female, and with a rudiment of 8th tergum partially exposed in male. Maxillar and labial palpi elongate, their last segments stick-like. Prosternal process slightly curved and heightned at lateral view, but somewhat dilated to apex at ventral view. Mesosternum strongly deepened in its anterior part, but abruptly inclined in its posterior part. Metasternum longitudinally depressed in the middle. The caudal marginal lines of intermediate and hind coxal cavities following along hind edge of cavities. Elytral epipleura nearly upwardly sloped outside. Legs moderately thickened. Anterior tibiae with two or three more or less distinct teeth at external apical corner. First, second and third tarsal segments bilobed, tarsal claws simple or with tooth at their basis.

Genitalia: tegmen apex not divided into lateral lobes, in male; ovopositor with forked apex in female.

DIAGNOSIS. This genus is similar to the Palaearctic and Nearctic *Thalycra* Erichson (together with the Nearctic *Pseudothalycra* Howden) and the Australian *Thalycrodes* Blackburn, but differs from the both by its small antennal club, prolonged ahead mandibles (especially in male) and feebly projected fore corners of pronotum. The *Neothalycra* species are also characterized by their rows of punctures and short ciliae on their elytra.

Key to species of the genus Neothalycra

- 1 (4) Tibiae of fore, intermediate and hind legs strongly narrower and elongate (fig. 30). Tarsal claws stout, with blunt basal tooth.

- 3 (2) Body always unicoloured: testaceous to reddish, only the knee articulation slightly darkened; punctures between punctural rows on elytra distinctly less than twice larger than those in rows (approximately 1,1-1,5 times); male and female mandibles not so large as in the preceding species; genitalia as male as female moderately sclerotized. Length 4,2-6,4 mm, breadth 2,1-3,1 mm. Figs. 23, 24, 28, 30. Tanzania, including Zanzibar hacquardi Grouvelle, 1899
- 4 (1) Tibiae of fore, intermediate and hind legs strongly wider and shorter. Tarsal claws weak, without a well distinct basal tooth. Body unicoloured, testaceous to reddish; genitalia as male as female moderately or slightly sclerotized. Length 2,6-3,9 mm, breadth 1,3-1,9. Figs. 25, 26, 29, 31, 32. Chad, Eritrea, Zambia *latitibialis* Audisio et Kirejtshuk, sp. n.

Neothalycra gigas Grouvelle, 1899 (figs. 21, 22, 27)

Neothalycra gigas Grouvelle, 1899: Ann. Soc. Ent. Belg., 43: 299.

Material. Lectotype, designated by A.G. Kirejtshuk (INB) and 20 paralectotypes (INB, MHU and ZIN): Tanzania, Usambara, « Nguelo »; Tanzania, « Zanguebar, Mhonda-Ouzigoua, A. Hacquard Mis., IV.1879-1^{er} Trim. 1880 », Coll. Oberthur and Grouvelle: (MP), 15 specimens; Tanzania, Lindi, Ndanda, 34.XII. 1958, C. Lindemann leg., a pair of specimens (seen but not studied by the AA.), in coll. K. Spornraft (Penzberg); « Uganda, Haesters, IX.1903 » (MHU), 1 specimen; Uganda, « Neu Bertid, IX.1903 » (MHU), 1 specimen; (Uganda ?), « Mittlerer Rafiyi, Schurfer » (MHU), 1 specimen; Zaïre, District Tanganika-Moëro, Niunzu, 1935, De Saeger leg. (MRAC), 8 specimens; Zaïre, Shaba, Kyankalumu, 23.X.1980, 900 m, F. Malaisse leg., on *Gonatopus boivinii* flowers (Araceae), 26 specimens (MRAC).

This species is well-defined as in the Grouvelle's description as in the key proposed by the authors of this paper.

Biological notes. The species seems to be attached to the flowers of *Gonatopus boivinii* (Araceae); also the following species could have the same host-preferences.

Neothalycra hacquardi Grouvelle, 1899 (figs. 23, 24, 28, 30)

Neothalycra hacquardi Grouvelle, 1899: l.c.: 300.

Material. Lectotype, designated by S. Endrödy-Younga (INB) and 25 paralectotypes (INB and ZIN): Tanzania, Usambara, « Nguelo »; Tanzania (?), « Ngulakula, VI.1910, Holltz leg. », 1 specimen (MHU); Tanzania, « Zanguebar, Mhonda-Ouzigoua, A. Hacquard Miss., IV.1879 - 1** Trim. 1880 » (Coll. Oberthur and Grouvelle: MP), 18 specimens; Tanzania, Lindi, Ndanda, 3-4.XII.1958, C. Lindemann leg., a pair of specimens (seen but not studied by the AA.) in coll. Spornraft (Penzberg). This species as the preceding one is completely defined and described in the mentioned work by Grouvelle and in the key here proposed. It's interesting to note the regular cohabitation of the both N, gigas and N, hacquardi in the same localities.

Neothalycra latitibialis Audisio et Kirejtshuk, sp. n. (figs. 25, 26, 29, 31, 32)

Material. 1 \circ (holotype): Chad, Farcha, 20-22.V.1973, R. Linnavuori leg. (UH); ibidem, 9 \circ \circ and 11 \circ \circ (UH, UR, ZIN, MRAC); NW-Zambia, « NW-Rhodesia, Shimaponda », VIII.1814, H.C. Dollmann leg., 1 \circ (BM); Eritrea, Bogos-land, Keren (= Cheren), 1870, O. Beccari leg., 1 \circ (MP).

Male (holotype). Length 3,8, breadth 1,9, height 1,2 mm. Elongate, rather convex, yellowish, with faint fat lustre, dorsal surface inconspicuously pubescent, only on each elytron 10 rows of well visible ciliae subequally separed one from another and a row of ones along its side margin as well as pygidium with diffuse pubescence.

Head slightly convex, with transversal impression between antennal rots, its fore edge angulately incised and with broadly rounded side corners. Mandibles fairly well prolonged ahead. The surface with distinct and shallow oval punctures as large as eye facets, separated nearly by a puncture diameter, the space between them smoothedly reticulated. Antennae with length about ³/₄ of head breadth, their club small and strongly compact, approximately as long as scapus.

Pronotum evenly convex, its basis and sides narrowly bordered. The surface nearly as on head, but punctures larger and somewhat more deepened, as well as on disc only with traces of reticulation.

Scutellum with rounded apex, as punctate as head, but the space between punctures distinctly reticulated.

Elytra with subsutural lines strongly approached to suture and shoulders well raised. The surface with 10 longitudinal bolsters scarcely raised between which and on the top of which are more or less right rows of oval punctures subequal with those of prothorax (the punctures on top of the bolsters bearing well visible ciliae); the space between punctures with smoothed reticulation.

Pygidium with surface about similar to that on head, but punctures denser and more deepened and reticulation more distinct. Under from pygidium apex there is a visible anal sclerite (a rudiment of 8th tergum), well distinct also at dorsal view. Ventral surface more conspicuously publicated than dorsal, especially on mentum. Prosternum, except process, unpunctured, but densely reticulated; prosternal process as well as abdominal sterna with rather small and shallow punctures; the space between them distinctly reticulated; metasternum nearly as punctate as dorsal surface of head, but somewhat sparser and the space between punctures on the medial part of metasternum smooth. Prosternal process before narrowly rounded apex rhomb-like widened, its most width scarcely more than that of antennal club. The distance between fore coxae subequal with those between intermediate and hind ones. Metasternum with medial longitudinal dark line; its hind edge with a « V »shaped emargination. The last abdominal sternum with widely rounded and slightly bisinuate posterior edge.

Legs enlarged. Tibiae almost twice wider prosternal process. Femora 5/4 as wide as tibiae; tarsi subequal, $\frac{1}{3}$ as wide as tibiae; their claws weak, simple.

Genitalia. Aedeagus moderately sclerotized.

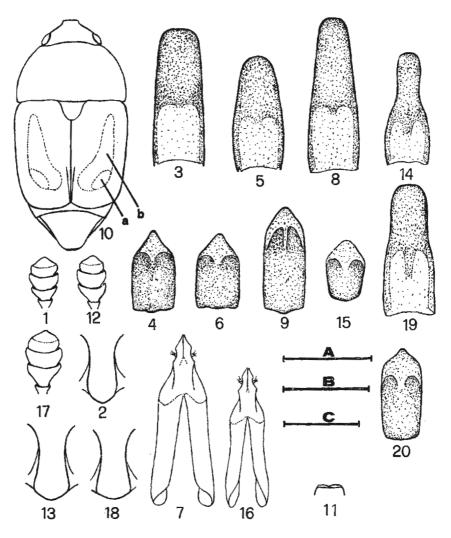
Female. Similar to the male, without a rudiment of 8th tergum at pygidium apex; fore tarsi narrower; ovopositor slightly sclerotized.

Variations. A certain degree of variation occurs in the density of elytral punctures; length 2,6-3,9 mm, breadth 1,3-1,9 mm.

DIAGNOSIS. A new species very distinct from the both formerly disoussed N. gigas and N. hacquardi by its strongly wider and shorter tibiae, simple tarsal claws, peculiarities of aedeagus and ovopositor structures, as well as by other characters given in the key to species.

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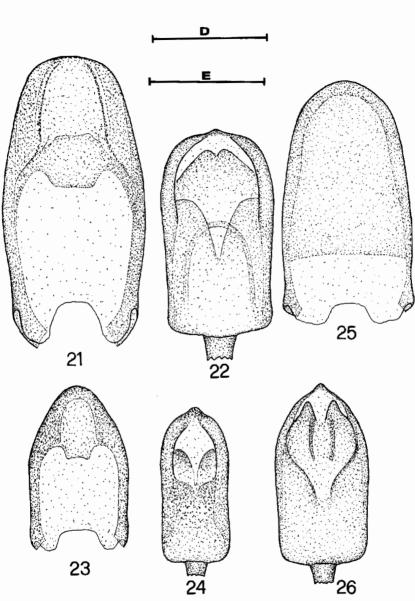
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Figs. 1-20. — 1. antennal club of *Ithyra hirsutula* Reitter, 3 from Uganda; -2. prosternal process of the same; -3. tegmen of *Ithyra hirsutula* Reitter, 3 from Yemen; -4. median lobe of aedeagus of the same; -5. tegmen of *Ithyra hirsutula* Reitter, 3 from Uganda; -6. median lobe of aedeagus of the same; -7. ovipositor of *Ithyra hirsutula* Reitter, 9 from Yemen; -8. tegmen of *Ithyra simillima* n. sp., holotypus 3 from Madagascar; -9. median lobe of aedeagus of the same; -10. habitus of body in *Ithyra rossii* n. sp., holotypus 3 from Kenya, with smaller elytral red spot (a), and paratypus 3 from Tanzania, with larger and more elongate red elytral spot (b); -11. clypeus and labrum of *Ithyra rossii* n. sp., paratypus 3 from Tanzania; -13. prosternal process of the same; -14. tegmen of the same; -15. median lobe of aedeagus 9 from Tanzania; -17. antennal club of *Ithyra designata* n. sp., holotypus 3 from Madagascar; -17.

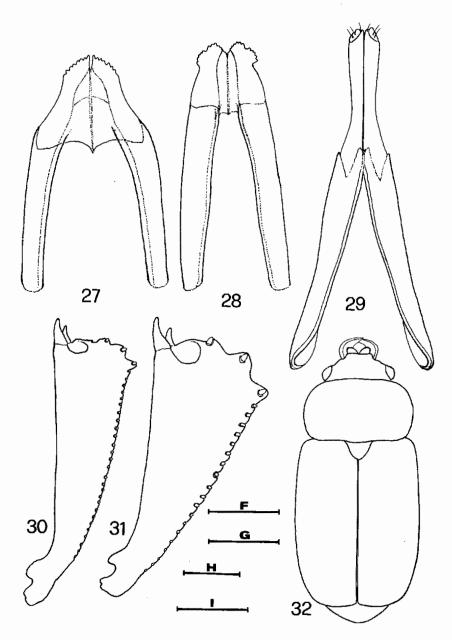
prosternal process of the same; - 19. tegmen of the same; 20. median lobe of aedeagus of the same.

Scale A (fig. 10) = 1,00 mm; - Scale B (fig. 11) = 0,50 mm; - Scale C (figs. 1-9, 12-20) = 0,50 mm.



Figs. 21 - 26. — 21. tegmen of Neothalycra gigas Grouvelle, 3 from Tanzania; 22. median lobe of aedeagus of the same; - 23. tegmen of Neothalycra hacquardi Grouvelle, 3 from Tanzania; - 24. median lobe of aedeagus of the same; 25. tegmen of Neothalycra latitibialis n. sp., paratypus 3 from Chad; 26. median lobe of aedeagus of the same.

Scale D (figs. 21-24) = 0,50 mm; - Scale E (figs. 25, 26) = 0,25 mm.



Figs. 27 - 32. — 27. ovipositor of Neothalycra gigas Grouvelle, φ from Tanzania; - 28. ovipositor of Neothalycra hacquardi Grouvelle, φ from Tanzania; - 29. ovipositor of Neothalycra latitibialis n. sp., paratypus φ from Chad; - 30. right fore tibia of Neothalycra hacquardi Grouvelle, & from Tanzania; - 31. right fore tibia of Neothalycra latitibialis n. sp., paratypus & from Chad; - 32. habitus of body in Neothalycra latitibialis n. sp., paratypus φ from Zambia.

Scale F (figs. 27, 28) = 0,60 mm; Scale G (fig. 30) = 0,30 mm; Scale H (figs. 29, 31) = 0,13 mm; - Scale I (fig. 32) = 1,00 mm.