

New Species of *Systole* Walker from Iraq (Hymenoptera, Eurytomidae)

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Abstract — Four species of *Systole* WALK. are described as new to science from Iraq: *S. apionivorans* sp. n., *S. longicornis* sp. n., *S. allergica* sp. n. and *S. brevithorax* sp. n. With 4 figures.

This is the first part of my work on Iraqi Chalcidoidea which has been carried out in the Hungarian Natural History Museum, Budapest. This part presents a description of four new species of the genus *Systole* WALK. which have been reared by me from seeds of various Umbelliferae from different parts of Iraq.

Systole apionivorans sp. n. (Fig. 1)

Predominantly dark brown species with yellow markings. Face and frons yellow; vertex brown with two yellow stripes laterally; occiput dark brown, scape yellow; pronotum with yellow shoulders; legs yellow with brown markings; gaster dark brown with yellow markings on dorsal and lateral sides; wings hyaline with surface hairs white.

Female. — Length 1.25–1.45 mm. Head in frontal view very slightly transverse, as wide as mesoscutum, almost 1.1 times as wide as long, with fine reticulate alutaceous surface sculpture; vertex strongly convex, height of vertex above level of eyes to height of eye as 1:4. Head from above about 1.8 times as wide as long; POL:OOL as 8:3, antennal scrobes shallow; face convex. Malar space to height of eye as 0.5:1. Antennae inserted dorsal to level of ventral margins of eyes; scape expanded medially, about 4 times as long as maximum width, nearly as long as four following segments and more than half the length of funicle and club combined; first funicle segment (Fig. 1) short, stout, about 1.5 times as long as basal width; succeeding funicle segments distinctly transverse; second funicle segment 1.5 times as wide as long and shorter than first; third segment short, twice as wide as long; fourth segment longer than third and 1.3 times as wide as long; fifth segment longer than fourth and 1.2 times as wide as long; club long, approximately twice as long as wide and longer than four preceding funicle segments; club and funicle clothed with short hairs.

Thorax short, about 1.2 times as long as wide; with fine alutaceous surface sculpture; pronotum twice as wide as long with narrow polished band posteriorly; mesoscutum distinctly shorter than pronotum; scutellum slightly longer than wide, less angled laterally. Propodeum nearly vertical, 1.5 times as wide as long, with reticulate surface sculpture. Fore wing with marginal vein short and usually as long as and sometimes slightly shorter than stigmal vein; postmarginal vein as long as stigmal vein.

Gaster long, not compressed laterally, longer than thorax and head combined; petiole very short; first gastral tergite about 0.3 the length of gaster; second tergite about twice as long as third; third and fourth tergites subequal; fifth tergite slightly shorter than fourth; sixth tergite about twice as long as fifth, with fine alutaceous surface sculpture, row of hairs present on its lateral sides; seventh tergite shorter than sixth, directed straight posteriorly; ovipositor sheaths about as long as seventh tergite, slightly turning upward.

Male. — As female, but usually smaller, length 1.1–1.2 mm.; colour darker; antennae longer; scape brown, compressed laterally and dilated ventrally; first funicle segment with short peduncles and about 1.8 times as long as wide, clothed with two rows of long hairs, distinctly longer than the segment itself; second segment shorter than first, with very short peduncles; third segment as long as second and slightly longer than wide; fourth segment longer than third and 1.7 times as long as wide; club long, slightly longer than two preceding segments combined, with pointed tip. Gaster approximately as long as thorax; petiole longer and about twice as wide as long, distinctly shorter than hind coxa.

Host: All the specimens have been reared by me from seeds of celery, *Apium graveolens* L. (Umbelliferae) in Iraq.

Material examined: Iraq: Baghdad, Kadhimiya, 1♀, 2♂♂ (1♀ holotype, 1♂ allotype, 1♂ paratype), emerged on 22. V. 1979, 2♀♀ (paratypes) em. 23. V. 1979, 3♀♀ (paratypes) em. 24. V. 1979 and 2♀♀ (paratypes) em. 25. V. 1979, M. S. ABDUL-RASSOUL.

The female holotype and male allotype and 1♀ paratype are deposited in the Hungarian Natural History Museum, Budapest. Two paratypes 1♀ + 1♂ are in the British Museum (Natural History), London and 5 paratypes (3♀♀ + 2♂♂) in the Natural History Research Centre, Baghdad, Iraq.

Systole apionivorans sp. n. resembling *S. bipunctata* ERDŐS, 1952. Therefore, I have compared my new species with the holotype and authentic specimens of *S. bipunctata* and found it differs as follows: smaller body; a different colour; marginal vein shorter; thorax shorter; scutellum longer and less angled laterally; propodeum less transverse; first funicle segment in female antenna shorter and thicker; club longer than four preceding funicle segments; female gaster not compressed laterally; ovipositor sheaths slightly directed upward.

Systole longicornis sp. n. (Fig. 2)

Predominantly black. Head, thorax and gaster black; antennae dark brown, annellus reddish; femora apically, fore tibiae entirely, mid and hind tibiae basally and apically and tarsi on basal two thirds yellow; wings with hairs dark over whole surface.

Female: — Length 1.7–2 mm. Head in front view slightly transverse, about 1.2 times as wide as long, distinctly wider than mesoscutum, with reticulate alutaceous surface sculpture; vertex domed between eyes, height of vertex above level of eyes to height of eye as between 1:3 and 1:4. Head from above twice as wide as long; POL:OOL as 2:1, antennal scrobes shallow; frons slightly convex. Malar space half height of eye; eyes 2.8 times longer than wide. Antennae inserted dorsal to level of ventral margins of eyes; scape elongated 4.5 times as long as maximum width, distinctly shorter than four following segments; first funicle segment (Fig. 2) more than twice as long as basal width; following four segments subequal, slightly longer than wide and sometimes quadrate; club not less than 3 times as long as maximum width, slightly longer than three preceding funicle segments; club and funicle clothed with long hairs.

Thorax long 1.6 times as long as wide; surface sculpture alutaceous with scattered small punctures; pronotum approximately twice as wide as long with narrow polished band posteriorly; mesoscutum somewhat as long as pronotum; scutellum longer than mesoscutum and about as long as wide. Propodeum slightly sloping; coarsely reticulated. Fore wing with marginal vein somewhat longer than stigmal vein; postmarginal vein as long as or very slightly longer than stigmal vein; discal cilia of both wings dark, giving the appearance of a dark wings.

Gaster shorter than thorax and head combined; petiole short and 1.5 times as wide as long; second gastral tergite about twice as long as third; fourth and fifth tergites subequal, slightly longer than third; sixth and seventh tergites short, subequal, with fine alutaceous surface sculpture and scattered hairs; first-fifth tergites smooth and shining; ovipositor sheaths slightly exposed.

Male — As female, but usually smaller, length: 1.2–1.4 mm.; antennae longer, scape compressed laterally and dilated ventrally; funicle segments long; first and second funicle segments with short peduncles; first segment more than 2.5 times as long as wide and about twice as long as pedicel; second segment twice as long as wide and slightly shorter than first segment; third segment as long as second; fourth segment short, slightly less than twice as long as wide; second-fourth segments clothed with two rows of long hairs; club more than 3 times as long as maximum width, distinctly pointed apically, longer than two preceding funicle segments. Gaster with petiole somewhat as long as wide and shorter than hind coxa.

Host: All the specimens have been reared by me from seeds of carrot, *Daucus carota* L. (Umbelliferae) in Iraq.

Material examined: Iraq: Basra, 1♀ (holotype), 1♂ (allotype) emerged on 16. IV. 1979, 2♀♀, 1♂ em. (paratypes) 17. IV. 1979, 2♂♂ (paratypes) em. 19. IV. 1979 and 2♀♀ (paratypes) em. 20. IV. 1979, M. S. ABDUL-RASSOUL.

The female holotype and male allotype and 1♀ paratype are deposited in the Hungarian Natural History Museum, Budapest. Two paratypes (1♀ + 1♂) are in the British Museum (Natural History), London, and 4 paratypes (2♀♀ + 2♂♂) in the Natural History Research Centre, Baghdad, Iraq.

Systole longicornis sp. n. is closely allied to *S. tuonela* CLARIDGE, 1959, and *S. conspicua* ERDŐS, 1951, but differs from the types of both species by the above combination of charac-

ters mainly the long antennae in both sexes, particularly in female and in male by the long second gastral tergite, which is much longer than third tergite; propodeum with coarsely reticulate surface sculpture.

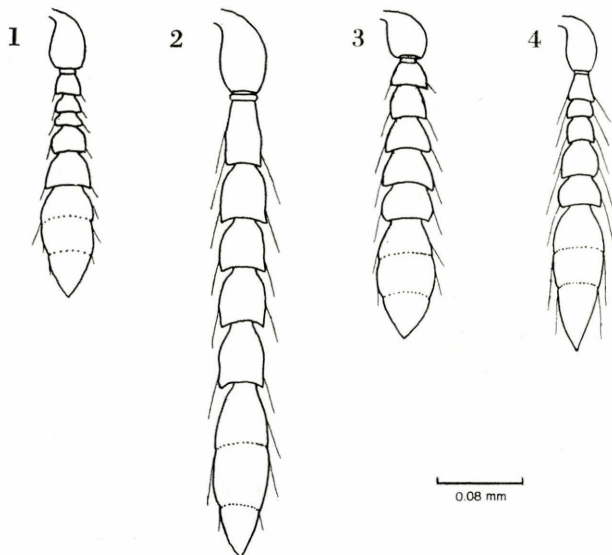
Systole allergica sp. n. (Fig. 3)

Predominantly black. Head, thorax and gaster black with dark yellow markings; clypeus yellow; antennae dark yellow; legs dark yellow with brown markings; wings hyaline with surface hairs white.

Female — Length 1.2–1.5 mm. Head in front view slightly transverse, 1.2 times as wide as long, distinctly wider than mesoscutum, with reticulate alutaceous surface sculpture; vertex less domed between eyes, height of vertex above level of eyes to height of eye about as 1:6. Head from above twice as wide as long; POL:OOL as 2:1; antennal scrobes somewhat deeply excavated; frons slightly convex. Malar space slightly more than half height of eye; eyes about 2.4 times longer than wide. Antennae inserted dorsal to level of ventral margins of eyes; scape not reaching median ocellus, 4 times as long as maximum width, distinctly longer than four following segments; pedicel globular, 1.2 times as long as wide; first funicle segments (Fig. 3) shorter than pedicel and about 1.3 times as long as basal width; second segment quadrate longer than first segment; succeeding funicle segments distinctly transverse, less than twice as wide as long; club slightly longer than three preceding funicle segments and twice as long as maximum width; club and funicle clothed with long hairs.

Thorax about 1.7 times as long as wide; surface sculpture finely alutaceous with scattered small punctures; pronotum about twice as wide as long with narrow polished band posteriorly; mesoscutum approximately as long as or slightly shorter than pronotum; scutellum as long as wide, distinctly longer than mesoscutum, less angled laterally. Propodeum sharply declived, transverse, 2.4 times as wide as long, shallowly concave medially and coarsely reticulated. Fore wing with marginal vein distinctly longer than stigmal vein; postmarginal vein slightly longer than stigmal vein; discal cilia of both wings pale giving the appearance of a white wings.

Gaster long, as long as thorax and head combined; compressed from dorsal and ventral sides; first gastral tergite about 0.3 the length of gaster; second tergite (in dorsal view) as long as first; third tergite somewhat longer than second; fourth tergite as long as or slightly longer than third; fifth tergite shorter than fourth; sixth tergite as long as or slightly shorter than fifth and somewhat strongly compressed from dorsal and ventral sides; seventh tergite triangular, usually as long as sixth; ovipositor sheaths long, about as long as seventh tergite; second-seventh tergites with distinct aluta-



Figs. 1–4. Antenna in lateral view: 1 = *Systole apionivorans* sp. n., 2 = *S. longicornis* sp. n., 3 = *S. allergica* sp. n., 4 = *S. brevithorax* sp. n.

ceous surface sculpture; fifth-seventh tergites with long hairs; petiole short, transverse, more than twice as broad as long and distinctly shorter than hind coxa.

Male — As female, but usually smaller, length: 1.3–1.8 mm.; antennae longer; scape compressed laterally and dilated ventrally; pedicel globular; funicle segments elongated and convex dorsally; first funicle segment twice as long as wide and distinctly longer than pedicel; second segment slightly shorter than first and about 1.6 times as long as wide; third and fourth segments subequal and 1.5 times as long as wide; club about 3 times as long as maximum width and longer than two preceding segments. Gaster small, short, shorter than thorax; ventral sides of gaster nearly flat; second and third tergites subequal; third about twice as long as fourth; fourth-sixth tergites subequal; seventh tergite triangular, longer than sixth; second-seventh tergites almost with alutaceous surface sculpture; fifth-seventh tergites with long hairs; petiole short, transverse, approximately as wide as long and shorter than hind coxa.

Host: All the specimens have been reared by me from seeds of *Ormosciadium aucheri* (Umbelliferae) in Iraq.

Material examined: Iraq: Arbil, Jindian, 4♀♀, 3♂♂ (paratypes) emerged on 28. V. 1979, 2♀♀, 1♂ (paratypes) em. 29. V. 1979, 2♀♀ (paratypes), 4♂♂ (1♂ allotype and 3♂♂ paratypes) em. 30. V. 1979, 6♀♀ (1♀ holotype and 5♀♀ paratypes), 2♂♂ (paratypes) em. 1. VI. 1979, 3♀♀, 2♂♂ (paratypes) em. 2. VI. 1979 and 8♀♀ (paratypes) em. 3. VI. 1979, M. S. ABDUL-RASSOUL.

The female holotype, the male allotype and 5 paratypes (3♀♀ + 2♂♂) are deposited in the Hungarian Natural History Museum, Budapest. Four paratypes (2♀♀ + 2♂♂) are in the British Museum (Natural History), London, and 28 paratypes (19♀♀ + 9♂♂) in the Natural History Research Centre, Baghdad, Iraq.

Systole allergica sp. n. is closely allied to *S. albipennis* WALKER, 1832, but differs mainly by the alutaceous surface sculpture of the gaster in both sexes, particularly in female. Smaller body yellow clypeus; longer thorax; shorter mesoscutum; propodeum with coarsely reticulate surface sculpture; first funicle segment in female antenna shorter; funicle segments in male longer, pedicel globular. Gaster in female longer, distinctly compressed from dorsal and ventral sides and in male, with much transverse petiole.

Systole brevithorax sp. n. (Fig. 4)

Predominantly black. Head, thorax and gaster black; antennae dark yellow; legs with femora apically, tibiae basally and apically, and tarsi yellow; fore tibiae somewhat entirely yellow; wings with dark hairs over whole surface; venation brown.

Female — Length 0.93–1.2 mm. Head in front view slightly transverse 1.2 times as wide as long, distinctly wider than mesoscutum, with reticulate alutaceous surface sculpture; vertex less domed between eyes, height of vertex above level of eyes to height of eye about as 1:6. Head from above twice as wide as long; POL:OOL as 3:1; antennal scrobes somewhat narrow and shallowly excavated; frons gibbous between eyes. Malar space to height of eye about as 0.5:1; eyes less prominent, about 3 times as long as wide.

Antennae inserted dorsal to level of ventral margins of eyes; scape not reaching median ocellus and about 5 times as long as maximum width; distinctly longer than four following segments; pedicel nearly globular and approximately twice as long as wide; first funicle segment (Fig. 4) shorter than pedicel and twice as long as basal width; second segment distinctly transverse, 1.5 times as wide as long and half length of first segment; third segment quadrate, slightly longer than second; fourth segment slightly longer than third and about 1.3 times as wide as long; fifth segment as long as fourth, more transverse and about 1.6 times as wide as long; club about 3 times as long as maximum width and longer than four preceding funicle segments.

Thorax short, about 1.2 times as long as wide, with reticulate alutaceous surface sculpture; pronotum approximately twice as wide as long with narrow polished band posteriorly; mesoscutum distinctly shorter than pronotum; scutellum much longer than mesoscutum and approximately as long as wide. Propodeum vertical, transverse, 2.2 times as wide as long; coarsely reticulated, slightly produced posteriorly. Fore wing with marginal vein as long as stigmal vein; postmarginal vein slightly longer than stigmal vein; discal cilia of both wings dark, giving the appearance of a dark wings.

Gaster small, globular, as long as thorax and head combined; first gastral tergite 0.3 the length of gaster; second tergite longer than first; third tergite longer than second; fourth tergite shorter than third; fifth, sixth and seventh tergites very short; ovipositor sheaths somewhat as long as seventh

tergite, turning slightly upward; first-fifth tergites smooth and shining; petiole short, approximately 3 times as wide as long.

Male — As female, but usually smaller, length: 0.83–1.0 mm.; antennae longer; scape compressed laterally and strongly dilated ventrally; pedicel globular; funicle segments elongated and convex dorsally; first funicle segment twice as long as wide, distinctly longer than pedicel, with short peduncles; second segment slightly shorter than first and 1.6 times as long as wide, with short peduncles; third segment slightly shorter than second and 1.4 times as long as wide; fourth segment slightly shorter than third and 1.2 times as long as wide; club 3 times as long as maximum width, distinctly longer than two preceding segments. Gaster small, slightly shorter than thorax; first gastral tergite about half the length of gaster; second and third tergites subequal (the rest segments are hidden in dried specimens); gastral petiole as long as wide and shorter than hind coxa.

Host: All the specimens have been reared by me from seeds of *Traebyspermum ammi* (L.) (Umbelliferae) in Iraq.

Material examined: Iraq: Karbala, Ain-Tamr, 5♀♀, 5♂♂ (paratypes) emerged on 1. VII. 1978, 3♀♀, 3♂♂ (paratypes) em. 2. VII. 1978, 5♀♀, 3♂♂ (paratypes) em. 3. VII. 1978, 3♀♀, 6♂♂ (paratypes) em. 4. VII. 1978, 8♀♀ (1♀ holotype and 7♀♀ paratypes) em. 5. VII. 1978, 9♀♀ (paratypes) 7♂♂ (1♂ allotype and 6♂♂ paratypes) em. 6. VII. 1978, 5♀♀ (paratypes) em. 7. VII. 1978, 5♂♂ (paratypes) em. 8. VII. 1978, 5♀♀ (paratypes) em. 9. VII. 1978 and 6♀♀ (paratypes) em. 10. VII. 1978, M. S. ABDUL-RASSOUL.

The female holotype, the male allotype and 15 paratypes (9♀♀ + 7♂♂) are deposited in the Hungarian Natural History Museum, Budapest. Nine paratypes (6♀♀ + 3♂♂) are in the British Museum (Natural History), London and 52 paratypes (33♀♀ + 11♂♂) in the Natural History Research Centre, Baghdad, Iraq.

Systole brevithorax sp. n. differs from all the species of *Systole* known to me by the following combination of characters: shorter thorax; propodeum declivous; gibbous between eyes; less prominent eyes; POL:OOL as 3:1; wings with discal cilia dark; Female antennae with short funicle segments and long club.

References

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