



2004-015: Draft annex to ISPM 27:2006 - Genus *Anastrepha*

Comm no.	Para no.	Comment type	Comment	Explanation	Country
1.	G	Substantive	I support the document as it is and I have no comments		Lao People's Democratic Republic, Georgia, Thailand, United States of America, Canada, Mexico, New Zealand, Ghana, Korea, Republic of, OIRSA, Malawi, Burundi, Belize, Gabon
2.	G	Substantive	<u>Suggest to supplement the relevant materials for this standard is not full.</u>	This standard describe the identification of Genus <i>Anastrepha</i> . But there is large difference in the research for morphological classify and molecular biology , especially the complex species of <i>Anastrepha fraterculus</i> is in the researching. The scientific basis is disputed.	China
3.	G	Substantive	<u>The standard is well-written and detailed in terms of diagnostics. The keys are relevant and they work.</u> <u>This standard is very relevant to the Caribbean</u> <u>Paragraph 46: It is recommended that another clearing agent other than xylene be used.</u> <u>It is recommended that the labels on the Figures are consistent with the characters mentioned in the keys. E.g. [204] Figure 2</u> <u>The captions for the Figures should be placed beneath the relevant diagram</u>	The use of xylene is being phased out due to its carcinogenic property. The diagrams appear after the captions and usually on the other page.	Jamaica, Trinidad and Tobago, Saint Kitts And Nevis, Dominica, Barbados, Antigua and Barbuda

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4.	G	Substantive	<p><u>This Diagnostic Protocol (DP) presents the characteristics of the most economically relevant species. However there are many other species, what means that we can find Anastrepha species that are not contemplated in the protocol. As it is very difficult to get key to all species, we suggest (since it was a group of experts that drew up the protocol) that should be placed as an annex, a key that includes the largest number of species as possible.</u></p> <p><u>For species key in the larval stage it would be recommended to include optical microscope images in addition to electron microscope photos, because they show better how the structures of the key would be seen. Observation with electron microscope is not a routine procedure and in many countries is costly, so that is not used in routine daily work. Therefore it would be convenient to have images showing the key structures under optical microscope. We are proposing to include some new figures, and if the proposal is accepted, numbering of Figures should be fixed accordingly.</u></p> <p><u>It would also be useful to include an identification key for adults of Anastrepha. Although the PD includes a genus description it may be useful to include a key for differentiate the Anastrepha genus from other Tephritidae genus. In this regard we propose the TPDP to consider the inclusion of Hernandez-Ortiz key.</u></p>	<p>This Diagnostic Protocol (DP) presents the characteristics of the most economically relevant species. However there are many other species, what means that we can find Anastrepha species that are not contemplated in the protocol. As it is very difficult to get key to all species, we suggest (since it was a group of experts that drew up the protocol) that should be placed as an annex, a key that includes the largest number of species as possible. For species key in the larval stage it would be recommended to include optical microscope images in addition to electron microscope photos, because they show better how the structures of the key would be seen. Observation with electron microscope is not a routine procedure and in many countries is costly, so that is not used in routine daily work. Therefore it would be convenient to have images showing the key structures under optical microscope. We are proposing to include some new figures, and if the proposal is accepted, numbering of Figures should be fixed accordingly. It would also be useful to include an identification key for adults of Anastrepha. Although the PD includes a genus description it may be useful to include a key for differentiate the Anastrepha genus from other Tephritidae genus. In this regard we propose the TPDP to consider the inclusion of Hernandez-Ortiz key.</p>	COSAVE, Uruguay, Brazil, Peru, Chile, Argentina
5.	G	Substantive		<p>1) Suggest using "A. fraterculus species complex" instead of a number of different names as used in this protocol such as "A. fraterculus sensu lato" in paragraph [79], or "A. fraterculus (species complex)" in paragraph [132], or "A. fraterculus" in paragraph [134] and [136], and adding a description of the features of each known local population to appropriately reflect the recent progress in taxonomic research on A. fraterculus. 2) Add clear pictures or figures of the habitus (thorax in dorsal aspect, abdominal tergites and wings) of every species, as such pictures or figures are useful for</p>	Japan

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				identification. 3) Point out the names of parts using arrows in the pictures or figures.	
6.	1	Substantive	<b>Draft Annex to ISPM 27:2006 – Major economic significance species of genus <i>Anastrepha</i> Genus <i>Anastrepha</i> (2004-015)</b>	The text was written only including 7 economic significance species of genus <i>Anastrepha</i> .	China
7.	6	Editorial	The family Tephritidae, <del>members of which are commonly known as true fruit flies,</del> comprises about 4 450 species in 500 or so genera (Norrbon <i>et al.</i> , 1999a, 1999b; Norrbom, 2004a) (the figure is about 4 700 species currently, A.L. Norrbom, pers. comm., <del>XXXX</del> 2014). The Tephritidae are distributed worldwide in temperate, tropical and subtropical regions. <i>Anastrepha</i> Schiner (Tephritidae: Toxotrypanini) is the largest genus of Tephritidae in the Americas, and is represented by more than 250 species that occur from the southern United States (Texas and Florida) to northern Argentina (Foote <i>et al.</i> , 1993; Hernández-Ortiz, 1992; Hernández-Ortiz and Aluja, 1993; Norrbom, 2004a; Norrbom <i>et al.</i> , 2012). At least <del>seven</del> <del>six</del> species of <i>Anastrepha</i> are considered major economic pests because of the great importance of the cultivated fruits they attack (e.g. mango and citrus) and their wide host range; for example, <del>the Mexican fruit fly, <i>A. ludens</i> (Loew); the West Indian fruit fly, <i>A. obliqua</i> (Macquart); the Caribbean fruit fly, <i>A. suspensa</i> (Loew), the guava fruit fly, <i>A. striata</i> Schiner, the sapodilla fruit fly, <i>A. serpentina</i> (Wiedemann); the melon fruit fly, <i>A. grandis</i> (Macquart); and the South American fruit fly, <i>A. fraterculus</i> (Wiedemann).</del> The latter has been recognized as a cryptic species complex (Hernández-Ortiz <i>et al.</i> , 2004, 2012). This diagnostic protocol for <i>Anastrepha</i> covers morphological identification of the genus and the species of major economic concern. For further general information about species of Tephritidae, see Norrbom (2010).	1. Superfluous text. 2. Date needed for pers comm. 3. Seven species: <i>A. ludens</i> , <i>A. obliqua</i> , <i>A. suspensa</i> , <i>A. striata</i> , <i>A. serpentina</i> , <i>A. grandis</i> and <i>A. fraterculus</i> , or refer to <i>A. fraterculus</i> separately. 4. Reference to common names is not necessary, complicates text and may generate difficulties in translation.	EPPO, European Union, Georgia, Serbia
8.	6	Editorial	The family Tephritidae, members of which are commonly known as true fruit flies, comprises about 4 450 species in 500 or so genera (Norrbon <i>et al.</i> , 1999a, 1999b; Norrbom, 2004a) (the figure is about 4 700 species currently, A.L. Norrbom, pers. comm., XXXX). The Tephritidae are distributed worldwide in temperate, tropical and subtropical regions. <i>Anastrepha</i> Schiner (Tephritidae: Toxotrypanini) is the largest genus of Tephritidae in the Americas, and is represented by more than 250 species that occur from the southern United States (Texas and Florida) to northern Argentina (Foote <i>et al.</i> , 1993; Hernández-Ortiz, 1992; Hernández-Ortiz and Aluja, 1993; Norrbom, 2004a; Norrbom <i>et al.</i> , 2012). At least <del>six</del> <del>seven</del> species of <i>Anastrepha</i> are considered major economic pests because of the great importance of the cultivated fruits they attack (e.g. mango and citrus) and their wide host range; for example, the Mexican fruit fly,	This protocol explains 7 species.	Japan

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			<i>A. ludens</i> (Loew); the West Indian fruit fly, <i>A. obliqua</i> (Macquart); the Caribbean fruit fly, <i>A. suspensa</i> (Loew); the guava fruit fly, <i>A. striata</i> Schiner; the sapodilla fruit fly, <i>A. serpentina</i> (Wiedemann); the melon fruit fly, <i>A. grandis</i> (Macquart); and the South American fruit fly, <i>A. fraterculus</i> (Wiedemann). The latter has been recognized as a cryptic species complex (Hernández-Ortiz <i>et al.</i> , 2004, 2012). This diagnostic protocol for <i>Anastrepha</i> covers morphological identification of the genus and the species of major economic concern. For further general information about species of Tephritidae, see Norrbom (2010).		
9.	7	Technical	The length of the tephritid life cycle varies according to <i>genus</i> <i>type</i> as well as environmental and climatic conditions (Basso, 2003). Female <i>Anastrepha</i> deposit their eggs inside fruits. The number of eggs deposited per fruit is variable, and depends mainly on features of the host fruit such as size and ripeness (Malavasi <i>et al.</i> , 1983), but each species also seems to have innate limits on the number of eggs laid (Aluja <i>et al.</i> , 1999). Within several days, deposited eggs hatch and larvae emerge. Larvae usually feed on fruit pulp, but in some cases also or exclusively on seeds. Mature larvae usually leave the fruit to pupate in the ground, but in certain cases pupation can take place within the fruit. Adults usually emerge after a pupal period of 16–25 days, and they require a period of sexual maturation of 5–20 days after emergence. During this process the flies obtain food from homopteran secretions, bird faeces, and juice produced by ripe fruits (Prokopy and Roitberg, 1984).	"Genotype" seems too specific - there are many genotypes in a species. Definitely life cycles vary between genera.	EPPO, European Union, Georgia, Serbia
10.	9	Editorial	The introduction of some cultivated exotic species such as <i>Mangifera indica</i> and <i>Citrus</i> spp. have allowed some pest species of <i>Anastrepha</i> to expand their original areas of distribution and enhance their reproductive potential. However, they still have marked preferences for certain native hosts, which is probably indicative of their original host relationships. In this regard, the species <i>A. suspensa</i> , <i>A. fraterculus</i> and <i>A. striata</i> breed mainly in hosts belonging to the family Myrtaceae, <i>A. ludens</i> in the Rutaceae, <i>A. obliqua</i> in the Anacardiaceae, <i>A. serpentina</i> in the Sapotaceae, and <i>A. grandis</i> in the Cucurbitaceae (Norrbom, 2004b).	" <i>A. triata</i> " to be replaced by " <i>A. striata</i> " (cf. paragraphs [6] ret [19]).	EPPO, European Union, Georgia, Serbia
11.	9	Editorial	The introduction of some cultivated exotic species such as <i>Mangifera indica</i> and <i>Citrus</i> spp. have allowed some pest species of <i>Anastrepha</i> to expand their original areas of distribution and enhance their reproductive potential. However, they still have marked preferences for certain native hosts, which is probably indicative of their original host relationships. In this regard, the species <i>A. suspensa</i> , <i>A. fraterculus</i> and <i>A. striata</i> breed mainly in hosts belonging to the family Myrtaceae, <i>A. ludens</i> in the Rutaceae, <i>A. obliqua</i> in the Anacardiaceae, <i>A. serpentina</i> in the Sapotaceae, and <i>A. grandis</i> in the	The correct scientific name is " <i>Striata</i> ".	COSAVE, Uruguay, Brazil, Peru

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			Cucurbitaceae (Norrbon, 2004b).		
12.	9	Editorial	The introduction of some cultivated exotic species such as <i>Mangifera indica</i> and <i>Citrus</i> spp. have allowed some pest species of <i>Anastrepha</i> to expand their original areas of distribution and enhance their reproductive potential. However, they still have marked preferences for certain native hosts, which is probably indicative of their original host relationships. In this regard, the species <i>A. suspensa</i> , <i>A. fraterculus</i> and <i>A. striata</i> breed mainly in hosts belonging to the family Myrtaceae, <i>A. ludens</i> in the Rutaceae, <i>A. obliqua</i> in the Anacardiaceae, <i>A. serpentina</i> in the Sapotaceae, and <i>A. grandis</i> in the Cucurbitaceae (Norrbon, 2004b).	The correct scientific name is "striata".	Chile
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15.	9	Technical	The introduction of some cultivated exotic species such as <i>Mangifera indica</i> and <i>Citrus</i> spp. have allowed some pest species of <i>Anastrepha</i> to expand their original areas of distribution and enhance their reproductive potential. However, they still have marked preferences for certain native hosts, which is probably indicative of their original host relationships. In this regard, the species <i>A. suspensa</i> , <i>A. fraterculus</i> and <i>A. striata</i> breed mainly in hosts belonging to the family Myrtaceae, <i>A. ludens</i> in the Rutaceae, <i>A. obliqua</i> in the Anacardiaceae, <i>A. serpentina</i> in the Sapotaceae, and <i>A. grandis</i> in the Cucurbitaceae (Norrbon, 2004b).	The 's' is missing from <i>A. striata</i>	Jamaica, Trinidad and Tobago, Saint Kitts And Nevis, Dominica, Barbados, Antigua and Barbuda
16.	10	Editorial	Among native hosts in the American tropics, there seems to be an ancestral association with plants that produce latex and particularly the	The term "group" is not defined. Or replace "group" by "speces complex" in the last sentence.	EPPO, European

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			family Sapotaceae. Sapotaceous fruits are frequent hosts of species of the <i>dentata</i> , <i>leptozone</i> , <i>serpentina</i> , <i>daciformis</i> , <i>robusta</i> and <i>cryptostrepha</i> groups ( <a href="#">cryptic species complexes</a> ). The Myrtaceae are also very important hosts: about 26 <i>Anastrepha</i> species, in particular belonging to the <i>fraterculus</i> group, have been reported in plants belonging to this family (Norrbon and Kim, 1988; Norrbom <i>et al.</i> , 1999c).		Union, Georgia, Serbia																
17.	19	Editorial	<p><b>Table 1.</b> Common names and synonyms of fruit fly species of major economic significance belonging to the genus <i>Anastrepha</i></p> <table border="1"> <thead> <tr> <th>Common name</th> <th><i>Anastrepha</i> species</th> <th>Synonyms</th> </tr> </thead> <tbody> <tr> <td rowspan="7">South American fruit fly</td> <td rowspan="7"><b><i>Anastrepha fraterculus</i></b>(Wiedemann, 1830)</td> <td><i>Tephritis mellea</i> Walker, 1837</td> </tr> <tr> <td><i>Trypeta unicolor</i> Loew, 1862</td> </tr> <tr> <td><i>Anthomyia frutalis</i> Weyenbergh, 1874</td> </tr> <tr> <td><i>Anastrepha fraterculus</i> var. <i>soluta</i> Bezzi, 1909</td> </tr> <tr> <td><i>Anastrepha peruviana</i> Townsend, 1913</td> </tr> <tr> <td><i>Anastrepha braziliensis</i> Greene, 1934</td> </tr> <tr> <td><i>Anastrepha costarukmanii</i> Capoor, 1954</td> </tr> <tr> <td><i>Anastrepha scholae</i> Capoor, 1955</td> </tr> <tr> <td></td> <td></td> <td><i>Anastrepha pseudofraterculus</i></td> </tr> </tbody> </table>	Common name	<i>Anastrepha</i> species	Synonyms	South American fruit fly	<b><i>Anastrepha fraterculus</i></b> (Wiedemann, 1830)	<i>Tephritis mellea</i> Walker, 1837	<i>Trypeta unicolor</i> Loew, 1862	<i>Anthomyia frutalis</i> Weyenbergh, 1874	<i>Anastrepha fraterculus</i> var. <i>soluta</i> Bezzi, 1909	<i>Anastrepha peruviana</i> Townsend, 1913	<i>Anastrepha braziliensis</i> Greene, 1934	<i>Anastrepha costarukmanii</i> Capoor, 1954	<i>Anastrepha scholae</i> Capoor, 1955			<i>Anastrepha pseudofraterculus</i>	1) The date (1942) is missing for the description of the species <i>A. lathana</i> which is a synonym of <i>A. ludens</i> .	EPPO, European Union, Georgia, Serbia
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			Capoor, 1955  Anastrepha lambayecae Korytkowski and Ojeda, 1968		
		Melon fruit fly	<b>Anastrepha grandis</b> (Macquart, 1846)	<i>Anastrepha schineri</i> Hendel, 1914 <i>Anastrepha latifasciata</i> Hering, 1935	
		Mexican fruit fly	<b>Anastrepha ludens</b> (Loew, 1873)	<i>Anastrepha lathana</i> Stone <a href="#">1942</a>	
		West Indian fruit fly	<b>Anastrepha obliqua</b> (Macquart, 1835)	<i>Anastrepha mombinpraeoptans</i> Sein, 1933 <i>Anastrepha fraterculus</i> var. <i>ligata</i> Lima, 1934 <i>Anastrepha trinidadensis</i> Greene, 1934	
		Sapodilla fruit fly	<b>Anastrepha serpentina</b> (Wiedemann, 1830)	<i>Urophora vittithorax</i> Macquart, 1851	
		Guava fruit fly	<b>Anastrepha striata</b> Schiner, 1868	<i>Dictya cancellaria</i> Fabricius, 1805  (see Norrbom <i>et al.</i> , 1999b)	
		Caribbean fruit fly	<b>Anastrepha suspensa</b> (Loew, 1862)	<i>Anastrepha unipuncta</i> Sein, 1933 <i>Anastrepha longimacula</i>	

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Comm. no.	Para. no.	Comment type	Comment	Explanation	Country																						
			<a href="#">genus <i>Anastrepha</i>, and to consider whether this protocol should add the species such as, <i>A. bistrigata</i>, <i>A. ocrexia</i>, <i>A. antunesi</i>, <i>A. antunesi</i> etc.</a>																								
19.	19	Technical	<p><b>Table 1.</b> Common names and synonyms of fruit fly species of major economic significance belonging to the genus <i>Anastrepha</i></p> <table border="1"> <thead> <tr> <th>Common name</th> <th><i>Anastrepha</i> species</th> <th>Synonyms</th> </tr> </thead> <tbody> <tr> <td rowspan="8">South American fruit fly</td> <td rowspan="8"><i>Anastrepha fraterculus</i> (Wiedemann, 1830)</td> <td><i>Tephritis mellea</i> Walker, 1837</td> </tr> <tr> <td><i>Trypeta unicolor</i> Loew, 1862</td> </tr> <tr> <td><i>Anthomyia frutalis</i> Weyenbergh, 1874</td> </tr> <tr> <td><i>Anastrepha fraterculus</i> var. <i>soluta</i> Bezzi, 1909</td> </tr> <tr> <td><i>Anastrepha peruviana</i> Townsend, 1913</td> </tr> <tr> <td><i>Anastrepha braziliensis</i> Greene, 1934</td> </tr> <tr> <td><i>Anastrepha costarukmanii</i> Capoor, 1954</td> </tr> <tr> <td><i>Anastrepha scholae</i> Capoor, 1955</td> </tr> <tr> <td></td> <td></td> <td><i>Anastrepha pseudofraterculus</i> Capoor, 1955</td> </tr> <tr> <td></td> <td></td> <td><i>Anastrepha lambayecae</i> Korytkowski and Ojeda, 1968</td> </tr> <tr> <td>Melon fruit fly</td> <td><i>Anastrepha</i></td> <td><i>Anastrepha schineri</i> Hendel.</td> </tr> </tbody> </table>	Common name	<i>Anastrepha</i> species	Synonyms	South American fruit fly	<i>Anastrepha fraterculus</i> (Wiedemann, 1830)	<i>Tephritis mellea</i> Walker, 1837	<i>Trypeta unicolor</i> Loew, 1862	<i>Anthomyia frutalis</i> Weyenbergh, 1874	<i>Anastrepha fraterculus</i> var. <i>soluta</i> Bezzi, 1909	<i>Anastrepha peruviana</i> Townsend, 1913	<i>Anastrepha braziliensis</i> Greene, 1934	<i>Anastrepha costarukmanii</i> Capoor, 1954	<i>Anastrepha scholae</i> Capoor, 1955			<i>Anastrepha pseudofraterculus</i> Capoor, 1955			<i>Anastrepha lambayecae</i> Korytkowski and Ojeda, 1968	Melon fruit fly	<i>Anastrepha</i>	<i>Anastrepha schineri</i> Hendel.	The correct scientific name is " <i>Anastrepha fraterculus</i> var. <i>mombinpraeproptans</i> Sein". We propose to add other synonyms.	COSAVE, Uruguay, Brazil, Peru, Chile, Argentina
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20.	<a href="#">22</a>	Technical	<b>Inspection of fruits.</b> Infested fruits can be found in imported or exported shipments, in baggage, and even on aeroplanes or terrestrial transportation vehicles. Fruits with soft areas, dark stains, rot, orifices or injuries that might have originated from female oviposition or larval feeding activities are targeted for inspection. In order to detect punctures made by female flies during	1. Cf. ISPM 5. 2. Clarity. The paragraph is specifically on detection.	EPPO, European Union, Georgia, Serbia																		

Comm no.	Para no.	Comment type	Comment	Explanation	Country
			oviposition, the <del>visual examination test</del> should be done under a microscope by a specialist. If larval exit holes are observed, the fruit containers should be inspected for pupae. Second and third instar larvae and pupae are not likely to occur when unripe fruits are collected and packed; however, these fruits might host eggs and first instar larvae, which are more difficult to detect. Potentially infested fruits that show typical punctures made by ovipositioning female flies should be opened to search for eggs or larvae inside. The success of <del>detection phytosanitary measures</del> depends on careful sampling and examination of fruits.		
21.	23	Editorial	<b>Inspection of traps.</b> Guidance on trapping <i>Anastrepha</i> fruit flies for establishment of pest free areas is given in Appendix 1 of ISPM 26:2006. In general, monitoring systems established for the detection of fruit fly adults in trees, either in fruit-growing regions or in border areas between countries, require the utilization of McPhail traps baited with food attractants or synthetic lures. The baits, often with rich sources of ammonium, should be recognized and approved internationally (e.g. ISPM 26:2006). The specific methods of trap deployment and time of service of the traps must be in agreement with the <del>national</del> phytosanitary regulations <del>in use by each country</del> .	Simpler.	EPPO, European Union, Georgia, Serbia
22.	23	Technical	<b>Inspection of traps.</b> Guidance on trapping <i>Anastrepha</i> fruit flies <del>for establishment of pest free areas</del> is given in Appendix 1 of ISPM 26:2006. In general, monitoring systems established for the detection of fruit fly adults in trees, either in fruit-growing regions or in border areas between countries, require the utilization of McPhail traps baited with food attractants or synthetic lures. The baits, often with rich sources of ammonium, should be recognized and approved internationally (e.g. ISPM 26:2006). The specific methods of trap deployment and time of service of the traps must be in agreement with the phytosanitary regulations in use by each country.	Appendix 1 to ISPM 26 provides detailed information for trapping procedures for fruit fly species (Tephritidae) of economic importance under different pest statuses	COSAVE, Uruguay, Brazil, Peru, Chile, Argentina
23.	28	Technical	To study this idea further, the International Atomic Energy Agency (IAEA) is coordinating an international research project to describe the cryptic species in the <i>Anastrepha fraterculus</i> complex. As part of this project, molecular methods are being examined for diagnostic utility within the genus. Based on available data, methods such as DNA barcoding using the <i>cytochrome oxidase I</i> gene cannot reliably diagnose several important pest species. Some progress was made by internal transcribed spacer (ITS)1 analysis (e.g. Sonvico <i>et al.</i> , 2004: GenBank AY686689). This information was associated with morphological characterization of specimens and karyotypic analysis, along with cross-mating studies (Basso, 2003).	A reference should be given for the lack of species discrimination of economically important species using the COI gene (i.e. DNA Barcoding), as there is a large number of species represented on the Barcode of Life Database (BOLD), with 82 x species currently with DNA Barcodes (BOLD, accessed Aug 2014)	Australia
24.	32	Editorial	The fruits <del>to be examined</del> are placed in cages covered with cloth or fine mesh and that have a sterile pupation medium (e.g. damp vermiculite, sand or sawdust) at the bottom. Once the larvae emerge from the fruit, they will move	Simpler wording	EPPO, European Union, Georgia, Serbia

Comm no.	Para no.	Comment type	Comment	Explanation	Country
			to the substratum for pupation. It is recommended to incubate each fruit separately. Each sample must be observed and pupae gathered daily. The pupae are placed in containers with the pupation medium, and the containers are covered with a tight lid that enables proper ventilation. Once the adults emerge, they must be kept alive for 48–72 h to ensure that the tegument and wings acquire the rigidity and characteristic coloration of the species. The adults are then killed and preserved by placing them in 70% ethanol, or they are killed with ethyl acetate or another agent and then mounted on pins. For female flies, immediately after killing them (before they harden) it is useful to gently squeeze the apical part of the preabdomen with forceps, then squeeze the base and apex of the oviscape to expose the aculeus tip (so that it does not need to be dissected later).		
25.	32	Technical	The fruits to be examined are placed in cages covered with cloth or fine mesh and that have a sterile pupation medium (e.g. damp vermiculite, sand or sawdust) at the bottom. Once the larvae emerge from the fruit, they will move to the substratum for pupation. It is recommended to incubate each fruit separately. Each sample must be observed and pupae gathered daily. The pupae are placed in containers with the pupation medium, and the containers are covered with a tight lid that enables proper ventilation. Once the adults emerge, they must be kept alive for 48–72 h to ensure that the tegument and wings acquire the rigidity and characteristic coloration of the species. The adults are then killed and preserved by placing them in 70% ethanol, <a href="#">96% ethanol for molecular studies (ADN)</a> or they are killed with ethyl acetate or another agent and then mounted on pins. For female flies, immediately after killing them (before they harden) it is useful to gently squeeze the apical part of the preabdomen with forceps, then squeeze the base and apex of the oviscape to expose the aculeus tip (so that it does not need to be dissected later).	For molecular studies the percentage of ethanol used is 96.	COSAVE, Uruguay, Brazil, Peru, Chile, Argentina
26.	36	Technical	It is preferable to cut off the whole abdomen from a female to dissect the oviscape (syntergosternite 7), the eversible membrane and the aculeus. For preserved dry (pinned) specimens, fine dissection scissors are recommended to remove the abdomen. The abdomen needs to be cleared. This can be accomplished by placing it in a 10% sodium hydroxide (NaOH) <a href="#">or a 10% potassium hydroxide (KOH)</a> solution and heating it in a boiling water bath for 10–15 min, washing the structure with distilled water, and then removing internal contents under a stereomicroscope with the help of dissection forceps. The aculeus and the eversible membrane should be exposed. At this step it is possible to examine the aculeus directly in one or two drops of glycerine under a microscope. Afterwards, the structure can be	Potassium hydroxide is also used to remove the internal contents.	Japan

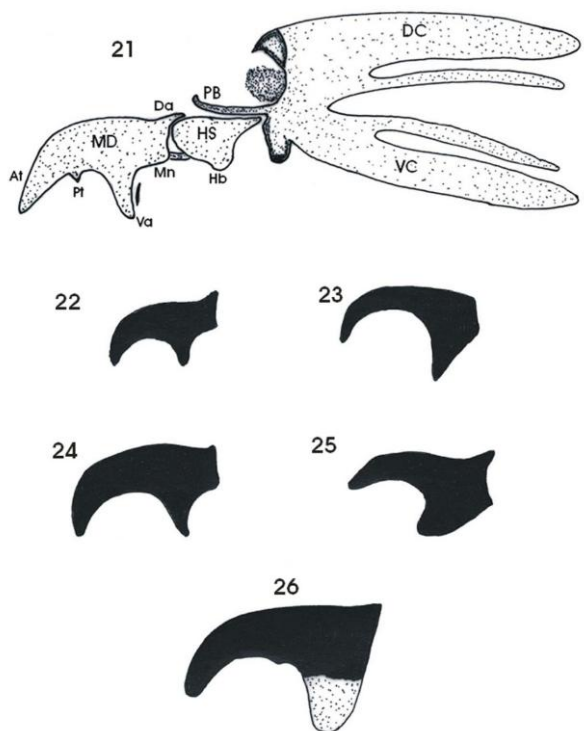
Comm no.	Para no.	Comment type	Comment	Explanation	Country
			transferred to a microvial with glycerine and pinned under the mounted dry specimen. For permanent slides, proceed as described in section 4.1.2. Mounting the aculeus permanently in the ventral position prevents the observation of some characters better seen in lateral view. For this reason, preservation in glycerine in a microvial is often preferable.		
27.	38	Substantive	<del>For permanent slides, proceed as described in section 4.1.2.1, avoiding the NaOH solution.</del> Wing characters can usually be observed without mounting, so mounting is not recommended as a general practice. It may be necessary for morphometric studies, but it is not necessary for observation of the characters used in the key in section 4.3.2. If permanent mounts are made, it is recommended to cut off one of the wings from its base (the right wing is preferred because it facilitates comparison with images reported in the literature and this diagnostic protocol).	Section 4.1.2.1 does not have any information applicable to the preparation of wings for microscopic examination.	Jamaica, Trinidad and Tobago, Saint Kitts And Nevis, Dominica, Barbados, Antigua and Barbuda
28.	42	Technical	Morphological examination of larvae (section 4.2.2) can be performed on unmounted larvae using a stereomicroscope, on slide-mounted larvae using a <a href="#">compound</a> microscope, or on critical-point dried larvae using a scanning electron microscope (SEM). Slide mounting larvae can preclude subsequent analysis of morphological characters. On slide-mounted larvae it is possible to examine external morphology (e.g. anterior and posterior spiracles, oral ridges) as well as internal structures such as the cephalopharyngeal skeleton (Figures 21–44), using an optical microscope with objective 20x, 40x or higher. Detailed, high resolution observation of the external morphology of larvae is only possible using an SEM (Figures 45–61). It is therefore not recommended to slide mount all specimens representing a sample or the only larva available for diagnosis; unmounted larvae should be kept for future analysis.	Compound microscopes are used for slide mounted specimens.	Jamaica, Trinidad and Tobago, Saint Kitts And Nevis, Dominica, Barbados, Antigua and Barbuda
29.	44	Editorial	To prepare specimens for examination, the larvae must be treated in hot water, which can be accomplished by placing live larvae in water <del>at</del> approximately 65° C for 2–4 min. The larvae are cooled to room temperature and then immersed in 50% alcohol for 15–30 min. The specimens are transferred to a hermetic vial (15–25 ml) filled with 70% alcohol. It is advisable to include a label on the vial with all sampling information. These samples are ready for examination under a stereomicroscope or subsequent preparation for slide mounting or examining under an SEM.	Clearer	EPPO, European Union, Georgia, Serbia
30.	45	Technical	To prepare specimens for slide mounting, it is necessary to remove (clean) all the internal contents to allow observation of the cuticle, oral opening, cephalopharyngeal skeleton and anterior spiracles, as well as the posterior spiracular plate and anal lobes. This can be accomplished by making two transverse incisions in the larva, one behind the cephalic region and the anterior spiracles, and one before the caudal segment. The incised larva then	Same as paragraph [36].	Japan

Comm no.	Para no.	Comment type	Comment	Explanation	Country
			needs to be immersed in a test tube containing 10% NaOH <u>or KOH</u> solution and heated in a boiling water bath for 10–15 min. The internal contents can then be carefully removed from the specimen using forceps and distilled water under a stereomicroscope (45x magnification or greater).		
31.	46	Technical	Permanent slide mounts can be made using Canada balsam or Euparal. Before doing this, cleaned structures must be dehydrated by placing them for 25 min in each of 50%, 75% and 100% ethanol. For mounting with Canada balsam, the specimens should be transferred to absolute xylene for 3–5 min to clear them and then immediately mounted on a slide with one or two drops of Canada balsam. When Euparal is used as the mounting medium, structures should be transferred from 100% ethanol to clove oil for about 30 min to clear them before mounting. In both cases, slides must be allowed to dry for several days (the time can be reduced by using an oven), but they can be examined under the microscope at low magnification immediately after mounting. Slides should be labelled.	In the third sentence, for health and safety, we suggest recommending a bath in lavender oil (15 minutes? or more) rather than in xylene.	EPPO, European Union, Georgia, Serbia
32.	46	Technical	Permanent slide mounts can be made using Canada balsam or Euparal. Before doing this, cleaned structures must be dehydrated by placing them for 25 min in each of 50%, 75% and 100% ethanol. For mounting with Canada balsam, the specimens should be transferred to absolute xylene for 3–5 min to clear them and then immediately mounted on a slide with one or two drops of Canada balsam. When Euparal is used as the mounting medium, structures should be transferred from 100% ethanol to clove oil for about 30 min to clear them before mounting. In both cases, slides must be allowed to dry for several days (the time can be reduced by using an oven), but they can be examined under the microscope at low magnification immediately after mounting. Slides should be labelled.	Suggest that an alternative to xylene be considered for example histoclear.	Jamaica
33.	48	Substantive	<b>4.3 Morphological identification of adults</b>  <u>Add : the taxonomy index of other approximate genus with the genus <i>Anastrepha</i> in the Tephritidae.</u>	As diagnostic protocol of genus <i>Anastrepha</i> , approximate genus morphology characters of Tephritidae should be provided.	China
34.	51	Substantive	Wings (Figure 4): Subcostal break present; crossvein <del>r-m</del> <u>R-M</u> placed distal to mid-length of discal cell ( <i>dm</i> ); basal cubital cell ( <i>bcu</i> ) with a well-developed posteroapical extension; vein <i>M</i> usually conspicuously curved forwards apically (strongly so in all pest species) and not meeting costa at a 90° angle. Wing pattern with orange to brown coloured bands forming a typical pattern as follows: costal (C)-band on basal costal margin including all of vein <i>R</i> <sub>1</sub> , subcostal cell and the pterostigma; S-band extending from apex of cell <i>bcu</i> across cell <i>dm</i> and crossvein <del>r-m</del> <u>R-M</u> , reaching costal margin, and continuing	Capital letters are used for both longitudinal and cross veins in Fig. 4. Lowercase letters are used for cells of wings in Fig. 4.	Japan

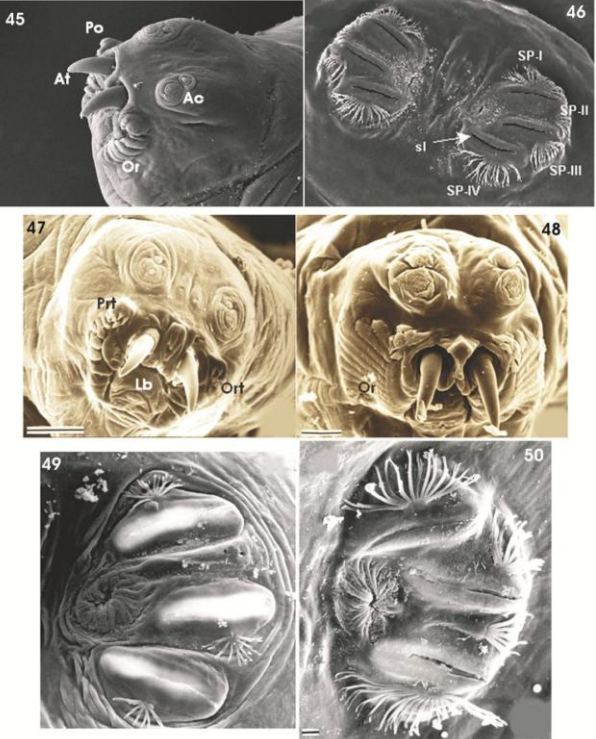
Comm no.	Para no.	Comment type	Comment	Explanation	Country
			to apex of wing; and V-band forming an inverted V shape, comprising the proximal arm (subapical band) along vein <del>dm-cu</del> DM-CU and the distal arm (posterior apical band) arising from cell <i>m</i> , both are convergent in cell $R_{4+5}$ ; distal arm frequently incomplete or absent. The typical wing pattern is modified in some economically important species (see key to species).		
35.	68	Editorial	4- Anterior apical band of wing (=distal section of S-band) narrow to moderately broad, never reaching apex of vein <i>M</i> ; V-band with arms separated anteriorly or if joined, with large hyaline mark between them and vein <i>M</i> ; <del>S</del> scuto-scutellar suture with or without brown spot medially; aculeus variable.	1) Cf. paragraph [70]. 2) Cf. paragraph [70].	EPPO, European Union, Georgia, Serbia
36.	70	Editorial	Anterior apical band of wing (=distal section of S-band) extremely wide, reaching apex of vein <i>M</i> ; V-band broad and complete, with arms widely connected anteriorly, hyaline mark between them and vein <i>M</i> small or absent (Figure 10); scuto-scutellar suture usually with large rounded brown spot medially; female aculeus 1.4–1.6 mm long ( <del>Figure 17</del> ), tip 0.19–0.23 mm long, 0.10–0.13 mm wide, lateral margins serrate on distal 0.50–0.65 (Figure 17).	Cf. paragraph [66] and Figure 17 (paragraph [213]).	EPPO, European Union, Georgia, Serbia
37.	78	Editorial	Both mediotergite and subscutellum with broad dark brown to black markings on sides (Figure 3A); brown spot on scuto-scutellar suture usually present; aculeus 1.4–1.9 mm long; aculeus tip 0.20–0.28 mm long; lateral margins with 8 to 14 teeth on distal two-fifths to three-fifths (Figure 20); wing pattern variable (Figure 13).	Consistency with paragraph 70	EPPO, European Union, Georgia, Serbia
38.	81	Substantive	<a href="#">Add the taxonomy of <i>Dacus</i> genus to index.</a>  <b>4.4.1 Key to third instar larvae of major economically important genera of Tephritidae in the Americas</b>	The <i>Dacus</i> genus is one of important quarantine fruit fly groups in the world.	China
39.	100	Editorial	Key adapted from Steck <i>et al.</i> (1990). *Geographic distribution and hosts are quoted only as additional information of the common source of origin for the species.	Why is there a "*"?	EPPO, European Union, Georgia, Serbia
40.	105	Substantive	2- Prominent chitinized preoral teeth (=stomal guards) adjacent to oral opening, or dental sclerite conspicuous (Figures 45, 47); and/or caudal tubercles strongly developed; or larva taken from papaya with caudal <del>tubercles</del> ridges lacking and caudal sensilla strongly reduced.	The term "caudal ridges" is used in Figs. 59 and 60. Change "caudal tubercles" to "caudal ridges" based on White <i>et al.</i> (2000) Glossary, pp. 881-924. M. Aluja & A.L. Norrbom (ed.), Fruit Flies (Tephritidae): Phylogeny and Evolution of Behavior.	Japan
41.	111	Editorial	Dorsal spinules absent on all abdominal segments, or if present, only in segment A1 ( <a href="#">Abdominal segment</a> )(some specimens of <i>A. ludens</i> ).	For more clarity.	Japan
42.	121	Editorial	6- Oral ridges in 11 to 17 rows, usually with margins entire; anterior spiracles with 12 to 20 tubules (Figures 33, 51); posterior spiracular slits 3.1–4.6 times longer than wide (Figure 34). Cephalopharyngeal skeleton as in Figure 27. (Main hosts: larvae breed in fruits of <i>Citrus</i> spp. (Rutaceae) or <i>Mangifera</i>	Clearer.	EPPO, European Union, Georgia, Serbia




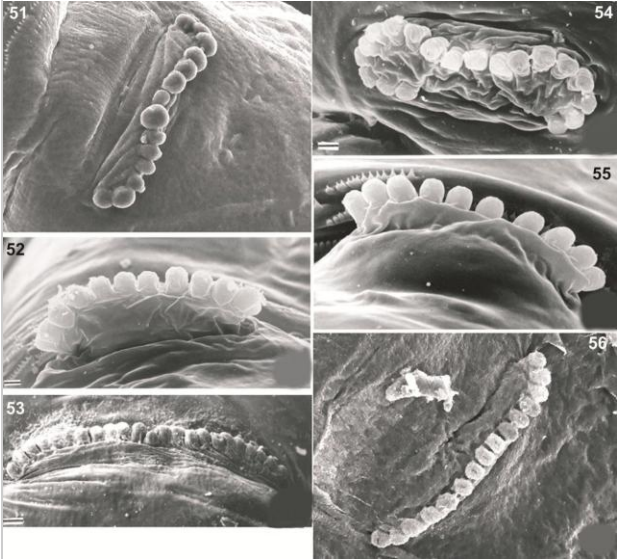
Comm no.	Para no.	Comment type	Comment	Explanation	Country
			<i>indica</i> ; distribution: southern Texas, (USA) to Panama.)		
43.	123	Editorial	Oral ridges in 8 to 11 rows with stout, bluntly rounded, widely spaced teeth; anterior spiracles with 9 to 15 tubules (Figure 41); posterior spiracular slits 2.5–3.5 times longer than wide (Figure 42). Cephalopharyngeal skeleton as in Figure 29. (Main hosts: larvae breed in fruits of Myrtaceae; distribution: Florida, (USA) and Antilles.)	Clearer.	EPPO, European Union, Georgia, Serbia
44.	125	Substantive	7- Posterior spiracular processes SP-I and SP-IV with 5 to 11 short trunks (average, 8) (Figure 36); oral ridges usually in 12 to 14 rows; anterior spiracle with 13 to 19 tubules in a single row (Figure 35); anal lobes usually bilobed (as in Figure 57). Cephalopharyngeal skeleton as in Figure 30. (Main hosts: larvae breed in fruits of Sapotaceae; distribution: tropical Americas.)	Indicate the position of trunks in any of Figs. 46, 49 or 50 because the number of trunks differs between basal and apical branched parts.	Japan
45.	153	Editorial	- Allen L. Norrbom (Systematic Entomology Laboratory (SEL), United States Department of Agriculture (USDA), Smithsonian Institution, Washington, DC, USA)	1) More precise (cf. paragraph [2]). 2) More precise (cf. paragraphs [2] et [156]).	EPPO, European Union, Georgia, Serbia
46.	157	Editorial	- Gary Steck (Florida Department of Agriculture and Consumer Services, Division of Plant Industry, Gainesville, FL, USA)	Consistency	EPPO, European Union, Georgia, Serbia
47.	159	Editorial	- Mallik Malipatil (La Trobe University, Bioprotection, Biosciences Research Division, Department of Primary Industries, Knoxfield Centre, Melbourne, Victoria, Australia):  - Valérie Balmès (Anses, Laboratoire de la santé des végétaux, Unité entomologie et plantes invasives, Montpellier, France).	New paragraph [159]bis suggested if relevant: please see paragraph [2], "Consultation on technical level": has Ms Valérie Balmès been forgotten in the section "7. Acknowledgements" or has she commented to a lesser extent than the other experts?	EPPO, European Union, Georgia, Serbia
48.	160	Editorial	<b>8. References</b>	Check the order of references (alphabetical) e.g. rows 175 and 176 should be after row 181. Also check the order of rows 186, 189, 190.	EPPO, European Union, Georgia, Serbia
49.	190	Editorial	Norrbom, A.L., Korytkowski, C.A., Zucchi, R.A., Uramoto, K., Venable, G.L., McCormick, J. & Dallwitz, M.J. 2012. Onwards. <i>Anastrepha</i> and <i>Toxotrypana</i> : descriptions, illustrations, and interactive keys. Version 31 August 2012. Available at <a href="http://delta-intkey.com">http://delta-intkey.com</a> (last accessed <del>xxx</del> date ???).	Last accessed at which date?	EPPO, European Union, Georgia, Serbia
50.	198	Editorial	<b>9. Figures</b>	The legend of the figures should be below and not above the figures.	EPPO, European Union, Georgia, Serbia


Comm. no.	Para. no.	Comment type	Comment	Explanation	Country
51.	203	Editorial	Source: Figure 1(A) adapted from Hernández-Ortiz <i>et al.</i> (2010); Figures 2 and 3 adapted from Hernández-Ortiz (1992).	See paragraph [202].	EPPO, European Union, Georgia, Serbia
52.	214	Substantive	<p><b>Figures 21–26. (21)</b> Morphology of the cephalopharyngeal skeleton of third instar larvae: mandible hook of third instar larvae, lateral view; <b>(22)</b> <i>Ceratitis capitata</i>; <b>(23)</b> <i>Anastrepha obliqua</i>; <b>(24)</b> <i>Baeobrycon sarsi</i>; <b>(25)</b> <i>Rhagoletis tomatis</i>; <b>(26)</b> <i>Toxotrypana</i> sp. At, apical tooth; DC, dorsal cornu; HS, hypopharyngeal sclerite; MD, mandible; Mn, mandibular neck; PB, parastomal bar; Pt, preapical tooth; Va, ventral Apodeme; VC, ventral cornu.</p> <p>Source: All figures adapted from Frías <i>et al.</i> (2006).</p> 	Add the dental sclerite in Fig. 21. The features of the dental sclerite are explained in paragraphs [105] and [107], but the dental sclerite is not indicated in Fig. 21.	Japan

Comm no.	Para no.	Comment type	Comment	Explanation	Country
53.	221	Technical	<b>Figures 45–50</b> <del>51</del> . <b>(45, 47, 48)</b> Cephalic segment of third instar larvae. <b>(46, 49, 50)</b> Spiracular plates of caudal segment. <b>(45)</b> <i>Rhagoletis sp.</i> <b>(46)</b> <i>Anastrepha fraterculus</i> . <b>(47)</b> <i>Rhagoletis brncici</i> . <b>(48)</b> <i>Ceratitis capitata</i> . <b>(49)</b> <i>Toxotrypana sp.</i> <b>(50)</b> <i>Anastrepha obliqua</i> . <i>Ac</i> , anteno-maxillary complex; <i>At</i> , apical tooth; <i>Lb</i> , labium; <i>Or</i> , oral ridges; <i>Ort</i> , oral teeth; <i>Po</i> , preoral organ; <i>Prt</i> , preoral teeth; <i>sl</i> , spiracular slits. Spiracular processes (=spiracular hairs): <i>SP-I</i> dorsal, <i>SP-II</i> and <i>SP-III</i> medials, <i>SP-IV</i> posterior. <b>(51)</b> <i>Anastrepha fraterculus</i> spiracular slits. Spiracular processes (=spiracular hairs): <i>SP-II</i> and <i>SP-III</i> (left), <i>SP-I</i> (right) under optical microscope	To adjust numeration and because a new figure is proposed to be added.	COSAVE, Uruguay, Brazil, Peru
54.	221	Technical	<b>Figures 45–50</b> <del>51</del> . <b>(45, 47, 48)</b> Cephalic segment of third instar larvae. <b>(46, 49, 50)</b> Spiracular plates of caudal segment. <b>(45)</b> <i>Rhagoletis sp.</i> <b>(46)</b> <i>Anastrepha fraterculus</i> . <b>(47)</b> <i>Rhagoletis brncici</i> . <b>(48)</b> <i>Ceratitis capitata</i> . <b>(49)</b> <i>Toxotrypana sp.</i> <b>(50)</b> <i>Anastrepha obliqua</i> . <i>Ac</i> , anteno-maxillary complex; <i>At</i> , apical tooth; <i>Lb</i> , labium; <i>Or</i> , oral ridges; <i>Ort</i> , oral teeth; <i>Po</i> , preoral organ; <i>Prt</i> , preoral teeth; <i>sl</i> , spiracular slits. Spiracular processes (=spiracular hairs): <i>SP-I</i> dorsal, <i>SP-II</i> and <i>SP-III</i> medials, <i>SP-IV</i> posterior. <b>(51)</b> <i>Anastrepha fraterculus</i> spiracular slits. Spiracular processes (=spiracular hairs): <i>SP-II</i> and <i>SP-III</i> (left), <i>SP-I</i> (right) under optical microscope	To adjust numeration and because a new figure is proposed to be added.	Chile
53.	221	Technical	<b>Figures 45–50</b> <del>51</del> . <b>(45, 47, 48)</b> Cephalic segment of third instar larvae. <b>(46, 49, 50)</b> Spiracular plates of caudal segment. <b>(45)</b> <i>Rhagoletis sp.</i> <b>(46)</b> <i>Anastrepha fraterculus</i> . <b>(47)</b> <i>Rhagoletis brncici</i> . <b>(48)</b> <i>Ceratitis capitata</i> . <b>(49)</b> <i>Toxotrypana sp.</i> <b>(50)</b> <i>Anastrepha obliqua</i> . <i>Ac</i> , anteno-maxillary complex; <i>At</i> , apical tooth; <i>Lb</i> , labium; <i>Or</i> , oral ridges; <i>Ort</i> , oral teeth; <i>Po</i> , preoral organ; <i>Prt</i> , preoral teeth; <i>sl</i> , spiracular slits. Spiracular processes (=spiracular hairs): <i>SP-I</i> dorsal, <i>SP-II</i> and <i>SP-III</i> medials, <i>SP-IV</i> posterior. <b>(51)</b> <i>Anastrepha fraterculus</i> spiracular slits. Spiracular processes (=spiracular hairs): <i>SP-II</i> and <i>SP-III</i> (left), <i>SP-I</i> (right) under optical microscope	To adjust numeration and because a new figure is proposed to be added.	Argentina

Comm no.	Para no.	Comment type	Comment	Explanation	Country
56.	223	Technical	 <p data-bbox="432 1098 566 1129"><a href="#">New Figure</a></p>	New figure 51 is being proposed to be added.	COSAVE, Uruguay, Brazil, Peru, Chile, Argentina

Comm no.	Para no.	Comment type	Comment	Explanation	Country
					
57.	<a href="#">224</a>	Technical	<p><b>Figures 51–56.</b> Anterior spiracles of the first thoracic segment, third instar larvae: <b>(51)</b><i>Anastrepha ludens</i>; <b>(52)</b><i>Anastrepha fraterculus</i>; <b>(53)</b><i>Toxotrypana curvicauda</i>; <b>(54)</b><i>Rhagoletis conversa</i>; <b>(55)</b> <i>Ceratitis capitata</i>; <b>(56)</b><i>Bactrocera cucurbitae</i>. <a href="#">New Figure: <i>Anastrepha fraterculus</i> under optical microscope</a></p>	New figure is proposed to be added. It is necessary to adjust the numbers of figures.	COSAVE, Uruguay, Brazil, Peru

Comm. no.	Para. no.	Comment type	Comment	Explanation	Country
58.	224	Technical	<b>Figures 51–56.</b> Anterior spiracles of the first thoracic segment, third instar larvae: <b>(51)</b> <i>Anastrepha ludens</i> ; <b>(52)</b> <i>Anastrepha fraterculus</i> ; <b>(53)</b> <i>Toxotrypana curvicauda</i> ; <b>(54)</b> <i>Rhagoletis conversa</i> ; <b>(55)</b> <i>Ceratitis capitata</i> ; <b>(56)</b> <i>Bactrocera cucurbitae</i> . <a href="#">New Figure: <i>Anastrepha fraterculus</i> under optical microscope</a>	New figure is proposed to be added. It is necessary to adjust the numbers of figures.	Chile
57.	224	Technical	<b>Figures 51–56.</b> Anterior spiracles of the first thoracic segment, third instar larvae: <b>(51)</b> <i>Anastrepha ludens</i> ; <b>(52)</b> <i>Anastrepha fraterculus</i> ; <b>(53)</b> <i>Toxotrypana curvicauda</i> ; <b>(54)</b> <i>Rhagoletis conversa</i> ; <b>(55)</b> <i>Ceratitis capitata</i> ; <b>(56)</b> <i>Bactrocera cucurbitae</i> . <a href="#">New Figure: <i>Anastrepha fraterculus</i> under optical microscope</a>	New figure is proposed to be added. It is necessary to adjust the numbers of figures.	Argentina
60.	226	Technical	 <p><a href="#">New Figure</a></p>	New figure was added. It is necessary to adjust the number of figures.	COSAVE, Uruguay, Brazil, Peru, Chile, Argentina

Comm no.	Para no.	Comment type	Comment	Explanation	Country
					
61.	<a href="#">227</a>	Technical	<b>Figures 57–61.</b> (57) Anal lobes bifids, <i>Anastrepha striata</i> ; (58) Anal lobes entire, <i>Anastrepha obliqua</i> ; (59) caudal ridges absent, <i>Anastrepha suspensa</i> ; (60) caudal ridges present, <i>Bactrocera carambolae</i> ; (61) <i>Anastrepha striata</i> , dorsal view of third instar larva showing rows of dorsal spinules. <a href="#">New Figure: <i>Anastrepha fraterculus</i>, dorsal view of third instar larva showing dorsal spinules</a>	New figure was added. It is necessary to adjust the numbers of figures.	COSAVE, Uruguay, Brazil, Peru
62.	<a href="#">227</a>	Technical	<b>Figures 57–61.</b> (57) Anal lobes bifids, <i>Anastrepha striata</i> ; (58) Anal lobes entire, <i>Anastrepha obliqua</i> ; (59) caudal ridges absent, <i>Anastrepha suspensa</i> ; (60) caudal ridges present, <i>Bactrocera carambolae</i> ; (61) <i>Anastrepha striata</i> , dorsal view of third instar larva showing rows of dorsal spinules. <a href="#">New Figure: <i>Anastrepha fraterculus</i>, dorsal view of third instar larva showing dorsal spinules</a>	New figure was added. It is necessary to adjust the numbers of figures.	Chile
61.	<a href="#">227</a>	Technical	<b>Figures 57–61.</b> (57) Anal lobes bifids, <i>Anastrepha striata</i> ; (58) Anal lobes entire, <i>Anastrepha obliqua</i> ; (59) caudal ridges absent, <i>Anastrepha suspensa</i> ; (60) caudal ridges present, <i>Bactrocera carambolae</i> ; (61) <i>Anastrepha striata</i> , dorsal view of third instar larva showing rows of dorsal spinules. <a href="#">New Figure: <i>Anastrepha fraterculus</i>, dorsal view of third instar larva showing dorsal spinules</a>	New figure was added. It is necessary to adjust the numbers of figures.	Argentina



Comm no.	Para no.	Comment type	Comment	Explanation	Country
64.	229	Technical	 <p data-bbox="432 1270 566 1294"><a href="#">New Figure</a></p>	New figure was added. It is necessary to adjust the numbers of the figures.	COSAVE, Uruguay, Brazil, Peru, Chile, Argentina



Comm no.	Para no.	Comment type	Comment	Explanation	Country
					